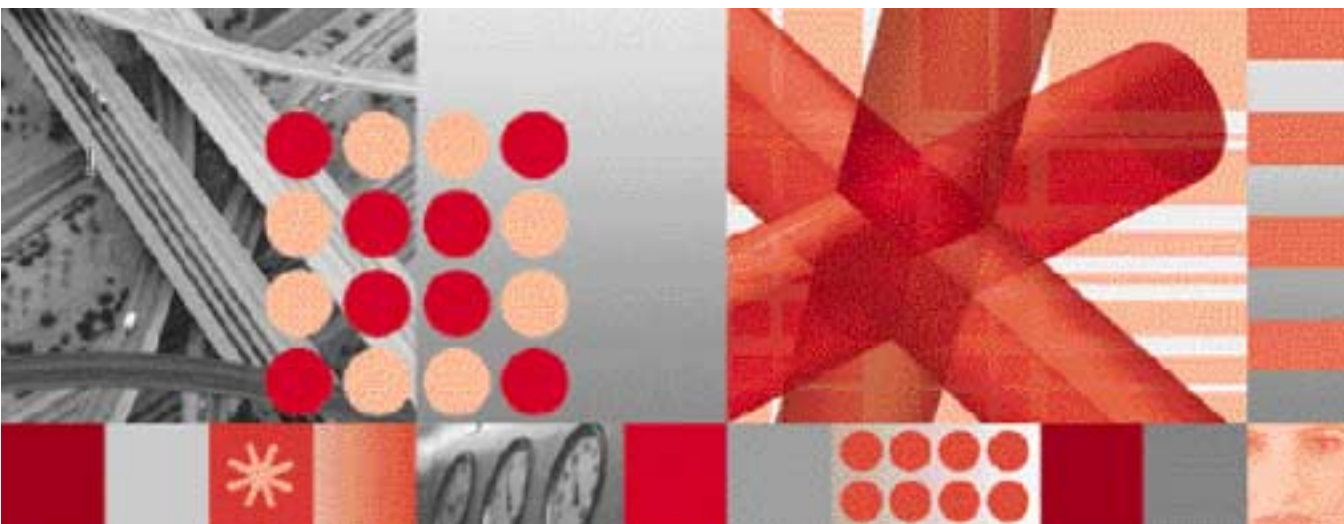


Version 2.2



Administration Guide



Note

Before using this information and the product it supports, read the information in Appendix I. "Notices" on page 276.

Edition Notices

This edition only applies to IBM Tivoli Netcool/Reporter 2.2 (5724-S47) that has been patched with Fix Pack 2.2.0.6 and to all subsequent releases and modifications until otherwise indicated in new editions.

© Copyright International Business Machines Corporation, 2008. All rights reserved.

US Government Users Restricted Rights - Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Preface	1
About This Guide	1
Audience	3
Typographical notation	3
Note, Tip, and Warning information	4
Syntax and Sample subheadings.	5
Netcool®/OMNIBus™ Publications	5
Netcool®/OMNIBus™ Installation Guide	5
Netcool®/OMNIBus™ User Guide	5
Netcool®/OMNIBus™ Administration Guide	6
Operating System Considerations	6
How to send your comments	6
 Chapter 1. Introduction to Netcool Reporter	 7
Overview	7
Netcool Reporter Architecture	8
Components of Netcool Reporter	8
Component Locations	9
Overview of Instructions for Installation and Configuration	10
 Chapter 2. System Requirements ..	 12
Netcool Reporter Components	12
Netcool Reporter Server	13
Required Operating System Patches	13
Host Web Server	13
Client for a Web Server to Repository Database Connection	14
Netcool Reporter Client Browser	15
Java Plugin for Netcool Reporter Clients.	15
JRun	16
Netcool Reporter Database	16
Setting the DISPLAY Variable on UNIX and LINUX	17
Memory Requirements	17
 Chapter 3. Repository Database Configuration	 18
Database and Data Schema Configuration	18
Database Configuration	18
Data Schema Configuration	19
Repository Schema Configuration	19
Creating the Repository Schema on Oracle ..	19
Creating the Repository Schema on Microsoft SQL Server ..	20
Setting the System DSN for Microsoft SQL Server ..	22
Creating the Repository Schema on DB2	26
Netcool Reporter User Administrator Modifications	27
Repository Login	28
Netcool Reporter Repository Scripts	29
Save Report Files into the Repository Database ..	30
Selecting Each Data Source for Each Report For Each User ..	31
Selecting a Different Data Source Per User ..	32
Selecting Only One User to Upload and Select a Data Source for it ..	32
Selecting a Single Data Source for All the Reports for All the Users ..	33
 Chapter 4. Netcool Reporter Server Installation on UNIX	 34
Environment Variables	34
INFOHOME Environment Variable	34
Database Related Environment Variables ..	35
Library Path Environment Variables	35

REPORTERHOME Environment Variable ..	36
JRUN_HOME Environment Variable.....	36
Creating a UNIX User and Group	36
Using UNIX Commands to Create New Groups and Users	36
Installation on UNIX	37
Pre-Install Checks	37
Running the Installation Script—Selecting All Default Options	37
Running the Installation Script—Selecting Alternative Options	44
Installation Information File	51
Repository Login	51
Configuring JRUN	51
Running Netcool Reporter	51
Creating an SSL Certificate	52
Manually Importing the SSL Certificate	52

Chapter 5. Netcool Reporter Server Installation on Windows Systems .. 53

Environment Variables	53
Pre-Install Tasks	54
Web Server Installation	54
Standard Apache Web Server Installation...	54
Secure Apache Web Server Installation.....	57
Netcool Reporter Server Installation	57
Installation Information File	82
Configuring JRUN on Windows and UNIX.....	82
Starting the JRUN Application Management Console on Windows	82
Starting the JRUN Application Management Console on UNIX	83
Using the JRUN Connection Wizard	84
JRUN Reference.....	86
Repository Login and Starting Netcool Reporter	87

Chapter 6. Netcool Reporter Server Installation on Redhat LINUX 88

Creating a LINUX User and Group (Optional) ..	88
Installation on LINUX	88
Pre-Install Checks	89

Running the Installation Script	89
Post-Installation Steps	97
Setting ulimit	97
Creating Environment Variables on LINUX ..	97
Editing the odbc.ini Configuration File	98
Installation Information File	100
Repository Login	101
Additional Configurations for Specific Report Types	101
Running Netcool Reporter	101

Chapter 7. Migrating to Reporter 2.2 .. 102

Upgrading from Netcool Reporter 2.0/2.1 to Netcool Reporter 2.2.....	102
Migrating to Netcool Reporter 2.2 on Windows Systems	103
Migrating to Netcool Reporter 2.2 on UNIX Systems	107
Running Netcool Reporter Components.....	114
Running Netcool Reporter Server on UNIX Systems	114
Running Netcool Reporter Server on Windows Systems	116
Running Netcool Reporter Server on LINUX Systems	117
Running the Netcool Reporter Administration Server	117
Restarting the Netcool Reporter FTP Server	118
Running the Netcool Reporter Client.....	119
Running the Netcool Reporter Gateway ...	120
Changing the Password for the Administrator Account	121
Support for Netcool Reporter	121

Chapter 8. Globalization of Netcool Reporter..... 122

Overview	122
Applying the G11N Language Package	123
Operating System, Locale and Charset Configurations.....	125
English.....	125

Simplified Chinese	126
Traditional Chinese	127
Japanese	128
Korean	129
Chapter 9. User Administration ...	130
Introduction	130
About Data Sources and Netcool Reporter Users	130
About User Groups	131
Launching the User Administrator	132
LDAP Importing	133
System Security Settings	133
Managing Users	135
Using the Users Tab	136
LDAP Restrictions	136
Creating and Editing Netcool Reporter Users .	137
Parent Groups	138
Roles, Groups, and Channels	140
Roles	141
Setting Portlets	142
Setting User Privileges	142
Selecting SQL Data Sources for a User	143
Deleting Users	144
Importing Existing Users from a Database .	145
Managing Groups	147
Using the Groups Tab	147
Creating and Editing Groups	148
Deleting Groups	151
Managing Roles	151
Using the Roles Tab	151
Creating and Editing Roles	152
Deleting Roles	154
Managing Portlets	155
Using the Portlet Tab	155
Creating and Editing Portlets	156
Deleting Portlets	162
Managing File Types	162
Using the File Types Tab	163

Creating and Editing File Types	164
Associating File Types with Portlets.	165
Associating File Types with Applications .	165
Associating Icons with File Types	166
Managing Data Sources	166
Using the Data Sources Tab	166
Planning Data Sources	167
Creating and Editing SQL Data Sources ...	168
Deleting Data Sources	169

Chapter 10. Server Administration 170

Introduction to the Server Administrator	170
The Server Administrator	170
Starting the Netcool Reporter Administration	Server171
Opening the Server Administrator Window	171
Managing the Netcool Reporter Server ...	171
The Details Panel	172
Disconnecting Users	174
Miscellaneous Functions of the Server	
Administrator	174
Sorting Rows	174
Rearranging Columns	174
Resizing Columns	175
Exiting the Server Administrator Applet .	175
Deleting Temp Files	175

Appendix A. Database Schemas . 177

Data Schema Tables	177
Derived Audit Tables: Severity, Acknowledge,	OwnerUID, OwnerGID177
Static Data Tables: Members, Classes,	Conversions, Groups, Names, Types178
Dynamic Tables	178
Audit Tables	182
Static Tables	184
Database Triggers	187
Stored Procedures	187
Repository Schema Tables	188

Appendix B. FTP Server Reference

190

Introduction	190
Using the FTP Server	190
FTP Server Behavior	191
Supported FTP Commands	191
Uploading using FTP	192
Reference	192
FTP Server Parameters	192

Appendix C. LDAP Reference 194

Introduction	194
Changing the Authentication Setting	195
Importing the LDAP Information	195
Running the Importer Script	196
LDAP Reference	197
Authentication	198
LDAP Importer Script Log Files	198
LDAP Importer Script Properties	199
Search Bases and Filter Properties	200
LDAP Fields to Map	201
LDAP Terms	204
Scheduling Importer Script Updates	204

Appendix D. Netcool Reporter Predefined Reports 205

Introduction	205
Event Summaries	205
Operational Performance	206
Fault Diagnosis	206
Service Level Management	206
Reporter 2.2 Sample Reports and Freeform Reports	206
Parameterization of Predefined Reports ..	206
Tips on Building Customized Reports against Netcool Event Data	206
Tip 1: Structure and Modify Originating Data to Support Reporting	206
Tip 2: Manage the Size and Length of Queries .	207
Tip 3: Set Up a Logical User Environment. .	209
Tip 4: Format Reports for Maximum Impact	211

List of Predefined Reports	213
Event Summary Reports	213
Operational Performance Reports	214
Fault Diagnosis Reports	215
Service Level Management Reports	216
Reporter 2.2 Sample Reports and Freeform Reports	216

Appendix E. Advanced Server Configuration 222

Introduction	222
Auditing and Logging Netcool Reporter Usage 222	
Netcool Reporter Parameters to Change the Default Functionality	223
Parameters Related to Installation	224
Parameters Related to General Operations .	225
Parameters Related to Logging In.	227
Parameters Related to Auditing	228
Session-Related Server Parameters	229
Server Parameters Related to Objects.	229
Server Parameters Related to Applet Operation 230	
HTTP Server-Related Parameter	231
Authenticator Parameter	231
Netcool Reporter Parameters to Configure the Database Driver	231
Parameters for Configuring Database Engine Drivers	231
Netcool Reporter Miscellaneous Configuration Parameters	235
reportDS	236
MMColorList	236
Netcool Reporter Parameters to Configure Freeform Report Designer	237
stylereport.properties	237
FontConfig.xml	239

Appendix F. Middleware Testing. . 240

Testing Oracle SQL*Net Connections	240
Testing the Database and the Connection ..	240

Testing the Netcool/Reporter Connection to Oracle on a Windows System	241
Testing the Netcool/Reporter Connection to Oracle on UNIX	242
Testing Microsoft SQL Server Connections . . .	242
Testing the ODBC Connection for Microsoft SQL Server	242
Testing the Netcool/Reporter Back-End ODBC Driver Manually	243

Appendix G. Troubleshooting. 244

Troubleshooting	244
How to Troubleshoot Netool Reporter . . .	244
Netcool Reporter Directory Structure	245
Clearing the Temporary File Directory . . .	247
Setting the Display Environment for X Servers/XVFB	247
Port Conflicts	248
Netcool Reporter Components	249
Netcool Reporter Java Server - infomanager	250
Using INFOSRV.CONF to Control Logging	252
Debugging JRun Servlet Connections	254
Testing the Connection to the Netcool Reporter Repository Database	255
Orphan Infosql.	256
Server Error Codes	257
ISRV-0001:Port: my_port is unavailable, kill InfoSrv process	257
ISRV-0002:InfoSrv: infoSrvInit() error, Shutdown	257
ISRV-0003:System.memory too low	257
ISRV-0004:Exception while getting socket streams	257
ISRV-0005:Connection limitation is reached	258
ISRV-0006:Invalid input	258
ISRV-0007:request: .. Not supported	258
ISRV-0008:Incorrect Input String	258

ISRV-0009:Incorrect Input String: no end of para	258
ISRV-0010:Illegal dir name.	258
ISRV-0011:Mkdir fail for Drammen	258
ISRV-0012:file: filename couldn't start	258
ISRV-0013:File Type: filetype is not supported.	259
ISRV-0014:Couldn't start engine. Check data base/Engine executable code	259
ISRV-0015:Cmd buffer full, Please extend it	259
ISRV-0018:Out stream is not set	259
ISRV-0026:InfoSrv Shutdown for Exception on listening	259
ISRV-0030:Unrecognized connection	259
Key User Messages and Errors	260
Connection Failed:INFO-0000: infosql command error, number of command = %d not 6.	260
Cannot run reports in Netcool Reporter - 'INFO-0151 Connection failed'	260
Error: INFO-0001: Cannot allocate memory, driver terminated	260
Error: INFO-0040: Out of memory	260
Error: INFO-0446: Connection failed	260
Job list failed to be loaded.	260
Applet loading error. Please contact your system administrator.	260
Could not upload file.	260

Appendix H. Frequently Asked Questions 262

Netcool Reporter Queries and Reports	262
Netcool Reporter Administration.	267
Netcool Reporter Problems and Solutions . . .	271

Appendix I. Notices 276

Notices	276
Trademarks	278

Tables

1. Typographical Notation and Conventions . . 3	24. Session View Tab Columns 174
2. Java Plugin Versions 16	25. Fields in the REPORTER_STATUS table . . 178
3. Data Source Connection Strings 27	26. Fields in the REPORTER_DETAILS table . 180
4. Data Source Connection Strings 28	27. Fields in the REPORTER_JOURNAL table 181
5. Netcool Reporter Scripts 29	28. Fields in the REP_AUDIT_SEVERITY table . . 182
6. Default user names and Passwords 120	29. Fields in the REP_AUDIT_ACK table . . . 182
7. OS, Locale and Charset Settings for English . . 125	30. Fields in the REP_AUDIT_OWNERGID table 183
8. OS, Locale and Charset Settings for Simplified Chinese Environment 126	31. Fields in the REP_AUDIT_OWNERUID table 184
9. OS, Locale and Charset Settings for Traditional Chinese Environment 127	32. Fields in the REPORTER_NAMES table . . 184
10. OS, Locale and Charset Settings for Japanese Environment 128	33. Fields in the REPORTER_GROUPS table . 185
11. OS, Locale and Charset Settings for Korean Environment 129	34. Fields in the REPORTER_MEMBERS table 185
12. Predefined Users 131	35. Fields in the REPORTER_CLASSES table . 185
13. System Settings Window Options 134	36. Fields in the REPORTER_CONVERSIONS table 186
14. Required User Information 137	37. Fields in the REP_SEVERITY_TYPES table 186
15. Selected Parent Groups Options 139	38. Fields in the REP_TIME_PERIODS table . 186
16. Netcool Reporter Groups, Roles, and Channels 140	39. Database Triggers 187
17. User Groups and Roles 141	40. Stored Procedures 187
18. Window Parameters Field Descriptions . . 158	41. Supported FTP Commands 191
19. Reserved File Extensions 159	42. Importer Script Parameters 197
20. Dynamic URL Parameter Descriptions . . 162	43. LDAP Authentication Variable Descriptions . 198
21. File Type Info Tab Descriptions 164	44. RPGROUP Mappings 201
22. Required Data Source Information 168	45. RPUSER Mappings 202
23. Server Summary Tab Description 173	46. LDAP Term Descriptions 204

Figures

1. Netcool Reporter Architecture	8	41. User Administrator Window.	133
2. Create a New Data Source Window.	23	42. System Settings Window	134
3. Select the Login Authentication	24	43. User Administrator Window Users Tab . .	136
4. Changing the Default Database	25	44. User Info Tab	137
5. Data Source Settings	25	45. Parent Groups Tab	139
6. Testing the Data Source	26	46. Edit Group Administrator Privileges window	140
7. Welcome Window.	55	47. Role Tab	141
8. Server Information Window	56	48. Privileges Tab.	142
9. Welcome Window.	58	49. SQL Data Sources Tab	143
10. Software Information and Requirements		50. View of a Deleted User's Files After They are	
Window59		Reassigned to Another User145	
11. Software License Agreement Window	60	51. Database DBA Login Window	146
12. Confirm Home Directory Window.	61	52. Users from the Database	146
13. Select Program Folder Window	62	53. Groups Tab.	147
14. Choose Repository Database Window. . . .	63	54. Group Info Tab	148
15. Database Driver Window	64	55. Users Tab	148
16. Adding a Menu Pane	65	56. Sub Groups Tab.	149
17. Choose HTTP Configuration Window	66	57. Roles Tab.	150
18. Enter Web Server Information Window . . .	67	58. SQL Data Sources Tab	150
19. Enter Reporter Information Window.	68	59. Roles Tab.	151
20. Enter Mail Server Information Window . . .	69	60. Role Info Tab	152
21. Enter Cgi-bin Location Window.	70	61. Users Tab	153
22. Enter FTP Ports Window	71	62. Groups Tab.	153
23. Choose Authentication Service Window. . .	72	63. Portlets Tab.	154
24. LDAP Server Information Window	73	64. Portlet Tab	155
25. LDAP User Search Information Window . .	73	65. Portlet Info Tab	156
26. LDAP Group Search Information Window. .	74	66. Actions Tab.	157
27. Choose Destination Location Window . . .	75	67. File Type Tab	159
28. JRun Directory	76	68. File Types Tab	163
29. Enter Repository Login Information	77	69. File Type Info Tab	164
30. Confirm Settings Window	78	70. SQL Data Sources Tab	167
31. Choosing Temporary File Deletion Option.	79	71. New/Edit Data Source Window.	168
32. Migration	80	72. Server Administrator Window	171
33. Setup Complete Window.	81	73. Netcool Reporter Server.	172
34. Management Console Welcome Page	83	74. Shut Down Server icon.	172
35. JRun Connection Wizard - Page 1.	84	75. Start Up Server icon	172
36. JRun Connection Wizard - Page 2.	85	76. Session View	173
37. JRun Connection Wizard - Page 3.	86	77. Disconnect User icon.	174
38. Map Network Drive	104	78. Temp File Manager Window.	175
39. Netcool Reporter Login Page	120	79. Cookie Counter page	250
40. Administration Page.	132		

80. Management Console Page254

81. Edit Window255

Preface

This guide describes how to install and administer Netcool Reporter.

It contains the following sections:

- "About This Guide" on page 1
- "Audience" on page 3
- "Typographical notation" on page 3
- "Netcool®/OMNIBus™ Publications" on page 5
- "Operating System Considerations" on page 6
- "How to send your comments" on page 6

About This Guide

This book comprises this preface, chapters, appendices and an index. The chapters are organized as follows:

- **Chapter 1.** *"Introduction to Netcool Reporter"* on page 7 - This chapter describes the features and components of Netcool Reporter. It covers the architecture and how this integrates with the Netcool/OMNIBus ObjectServer. It also describes the process of starting and stopping all Netcool Reporter components.
- **Chapter 2.** *"System Requirements"* on page 12 - This chapter describes the system requirements for the Netcool Reporter server and repository. It also described the requirements for the Netcool Reporter client.
- **Chapter 3.** *"Repository Database Configuration"* on page 18 - This chapter describes the process of configuring the Netcool Reporter repository schema before you start to install Netcool Reporter.
- **Chapter 4.** *"Netcool Reporter Server Installation on UNIX"* on page 34 - This chapter describes how to install, configure and start the components of the Netcool Reporter Server on UNIX.
- **Chapter 5.** *"Netcool Reporter Server Installation on Windows Systems"* on page 53 - This chapter describes how to install, configure and start the components of the Netcool Reporter Server on Windows.

- **Chapter 6.** *"Netcool Reporter Server Installation on Redhat LINUX"* on page 88 - This chapter describes how to install, configure and start the components of the Netcool Reporter Server on LINUX.
- **Chapter 7.** *"Migrating to Reporter 2.2"* on page 102 - This chapter discusses how to migrate an existing Netcool Reporter install to 2.2.
- **Chapter 8.** *"Globalization of Netcool Reporter"* on page 122 - This chapter describes the globalization of Netcool Reporter to enable it to work under other languages than English.
- **Chapter 9.** *"User Administration"* on page 130 - This chapter describes how to use the User Administrator to configure user data within Netcool Reporter.
- **Chapter 10.** *"Server Administration"* on page 170 - This chapter describes how to manage the Netcool Reporter servers using the Server Administrator.
- **Appendix A.** *"Database Schemas"* on page 177 - This appendix describes the database tables in the Netcool Reporter schemas and lists the fields in the ObjectServer.
- **Appendix B.** *"FTP Server Reference"* on page 190 - This appendix describes the Netcool Reporter FTP server. It also describes how to upload files to the repository using FTP.
- **Appendix C.** *"LDAP Reference"* on page 194 - This appendix describes the Netcool Reporter LDAP authentication. It includes the configuration of LDAP and the use of the importer script.
- **Appendix D.** *"Netcool Reporter Predefined Reports"* on page 205 - This chapter describes the predefined reports that are supplied with Netcool Reporter.
- **Appendix E.** *"Advanced Server Configuration"* on page 222 - This appendix describes how to configure and customize the Netcool Reporter server.
- **Appendix F.** *"Middleware Testing"* on page 240 - This appendix describes how to test the middleware that can be used to connect the Netcool Reporter server with the database engines if the applications are installed on separate machines.
- **Appendix G.** *"Troubleshooting"* on page 244 - This appendix describes any errors and problems that may arise when using Netcool Reporter, with possible solutions.
- **Appendix H.** *"Frequently Asked Questions"* on page 262 - This appendix lists some of the most asked questions that Netcool Reporter users have had.
- **Appendix I.** *"Notices"* on page 276 - This appendix lists some notices and copyright information that the user must read when using Netcool Reporter.

Audience

This guide is intended for anyone who needs to install and configure Netcool Reporter. The expected audience is database administrators (DBAs) and Netcool Reporter system administrators. DBAs should have access to the target database in order to prepare the database prior to installing Netcool Reporter. System administrators should be familiar with Netcool/OMNIBus and the standard IBM publications before attempting to install the components described here.

Typographical notation

Table 1 shows the typographical notation and conventions used to describe commands, SQL syntax, and graphical user interface (GUI) features. This notation is used throughout this book and other IBM Tivoli Netcool® publications.

Table 1. *Typographical Notation and Conventions (1 of 2)*

Example	Description
Monospace	<p>The following are described in a monospace font:</p> <ul style="list-style-type: none">• Commands and command line options• Screen representations• Source code• Object names• Program names• SQL syntax elements• File, path, and directory names <p>Italicized monospace text indicates a variable that the user must populate. For example, <code>-password password</code>.</p>
Bold	<p>The following application characteristics are described in a bold font style:</p> <ul style="list-style-type: none">• Buttons• Frames• Text fields• Menu entries <p>A bold arrow symbol indicates a menu entry selection. For example, File → Save.</p>
<i>Italic</i>	<p>The following are described in an italic font style:</p> <ul style="list-style-type: none">• An application window name; for example, the <i>Login</i> window• Information that the user must enter• The introduction of a new term or definition• Emphasized text

Table 1. Typographical Notation and Conventions (2 of 2)

Example	Description
[1]	Code or command examples are occasionally prefixed with a line number in square brackets. For example: [1] First command... [2] Second command... [3] Third command...
{ a b }	In SQL syntax notation, curly brackets enclose two or more required alternative choices, separated by vertical bars.
[]	In SQL syntax notation, square brackets indicate an optional element or clause. Multiple elements or clauses are separated by vertical bars.
	In SQL syntax notation, vertical bars separate two or more alternative syntax elements.
...	In SQL syntax notation, ellipses indicate that the preceding element can be repeated. The repetition is unlimited unless otherwise indicated.
, ...	In SQL syntax notation, ellipses preceded by a comma indicate that the preceding element can be repeated, with each repeated element separated from the last by a comma. The repetition is unlimited unless otherwise indicated.
<u>a</u>	In SQL syntax notation, an underlined element indicates a default option.
()	In SQL syntax notation, parentheses appearing within the statement syntax are part of the syntax and should be typed as shown unless otherwise indicated.

Many IBM Tivoli Netcool commands have one or more command line options that can be specified following a hyphen (-).

Command line options can be `string`, `integer`, or `BOOLEAN` types:

- A `string` can contain alphanumeric characters. If the string has spaces in it, enclose it in quotation (") marks.
- An `integer` must contain a positive whole number or zero (0).
- A `BOOLEAN` must be set to `TRUE` or `FALSE`.

SQL keywords are not case-sensitive, and may appear in uppercase, lowercase, or mixed case. Names of ObjectServer objects and identifiers are case-sensitive.

Note, Tip, and Warning information

The following types of information are used in the documentation:



Note: Note is used for extra information about the feature or operation that is being described. Essentially, this is for extra data that is important but not vital to the user.



Tip: Tip is used for additional information that might be useful for the user. For example, when describing an installation process, there might be a shortcut that could be used instead of following the standard installation instructions.



Attention: Attention is used for highlighting vital instructions, cautions, or critical information. Pay close attention to this information, as it is vital to the successful use of IBM's products.

Syntax and Sample subheadings

The following types of constrained subheading are used in the documentation:

Syntax:

Syntax subheadings contain examples of ObjectServer SQL syntax commands and their usage. For example:

```
CREATE DATABASE database_name ;
```

Sample:

Sample subheadings describe typical or generic scenarios, or samples of code. For example:

```
[1] <body>
[2]     
[6] </body>
```

Netcool[®]/OMNIbus[™] Publications

Netcool[®]/OMNIbus[™] Installation Guide

This book is intended for Netcool[®] administrators who need to install and configure Netcool/OMNIbus. It includes installation procedures for all supported operating systems as well as configuration, upgrade, and licensing information.

Netcool[®]/OMNIbus[™] User Guide

This book is intended for anyone who needs to use Netcool/OMNIbus desktop tools on UNIX or Windows operating systems. It provides an overview of Netcool/OMNIbus components, as well as a description of the operator tasks related to event management using the desktop tools.

Netcool®/OMNIBus™ Administration Guide

This book is intended for system administrators who need to manage Netcool/OMNIBus. It describes how to perform administrative tasks using the Configuration Manager and Objective View Map Editor, as well as command line tools and process control. It also contains descriptions and examples of ObjectServer SQL syntax and automations.

This guide contains introductory and reference information about probes and gateways, including probe rules file syntax and gateway commands. For more information about specific probes and gateways, refer to the documentation available for each probe and gateway on the IBM Support Site.

Operating System Considerations

All command line formats and examples are for the standard UNIX or LINUX shell.

UNIX and LINUX are case-sensitive. You must type commands in the case shown in the book.

Unless otherwise specified, command files are located in the `$INFOHOME/bin` directory, where `INFOHOME` is the environment variable that contains the path to the `infospc` directory. This directory is located under the document root directory of the web server, for example:

```
/opt/netcool/reporter/apache/htdocs/infospc
```

How to send your comments

Your feedback is important in helping to provide the most accurate and highest quality information. If you have any comments about this book or any other IBM Tivoli Netcool documentation:

- Go to the Tivoli Support home page at <http://www.tivoli.com/support>. There you will find the feedback page where you can enter and submit comments.
- Send your comments by e-mail to pubs@tivoli.com. Be sure to include the name of the book, the part number of the book, the version of the product, and, if applicable, the specific location of the text you are commenting on (for example, a page number or table number).

Chapter 1. Introduction to Netcool Reporter

This chapter describes the features and components of Netcool Reporter. It covers the architecture and how this integrates with the Netcool/OMNIbus ObjectServer.

It contains the following sections:

- "Overview" on page 7
- "Netcool Reporter Architecture" on page 8
- "Overview of Instructions for Installation and Configuration" on page 10

Overview

Netcool Reporter is a real-time, web-based, client-server application that provides accurate reporting on a database data repository.

Netcool Reporter includes a set of predefined reports for ObjectServer data. The architecture and examples in this guide are all based on the data retrieved from the reporter data schema, populated by the Netcool Reporter gateway.

Netcool Reporter can also generate reports from data sources populated by gateways supplied with other Netcool products.

When used with the Netcool Reporter gateway, Netcool Reporter delivers reporting functionality and supplements Netcool/OMNIbus for users wanting to view network event data after it has been cleared from the real-time ObjectServer. Netcool Reporter efficiently captures, stores, analyzes, and displays Netcool event data to help network managers and operators understand and enhance network behavior.

Netcool Reporter provides network managers with not only real-time but also long-term, retrospective information about the behavior of devices, links, and services within their networks. Internal and external users of network services often want reports on event data to analyze the impact of alarms and the overall service quality. Netcool Reporter Version 2.2 performs these functions as it receives network event data from the ObjectServer and translates the raw data into numerous meaningful reports.

Meaningful reports start by gathering data from myriad devices throughout a large, distributed network. The Netcool product suite captures event data from more than 150 network management environments and devices, through a wide range of off-the-shelf probes. As a result, Netcool Reporter Version 2.2 allows operators to analyze and display service-level reports from diverse environments, including standard SNMP and TCP-IP managed devices, element management systems, user applications (for example, Oracle, Remedy), computing systems (Windows 2000, UNIX, and mainframe), and legacy voice hardware.

Netcool Reporter Architecture

Figure 1 shows the architecture of Netcool Reporter in relation to the Netcool Reporter gateway and the ObjectServer.

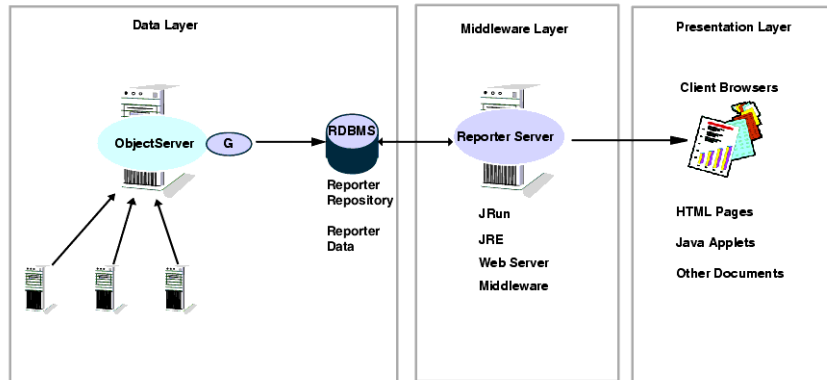


Figure 1. Netcool Reporter Architecture

Components of Netcool Reporter

The major components of Netcool Reporter are:

- Netcool Reporter server
- Netcool Reporter clients
- Repository schema for the database
- Netcool Reporter gateway (optional)
- Data schema for the database (created for the Netcool Reporter gateway)

The Netcool Reporter Server

The Netcool Reporter server queries the tables in the Netcool Reporter data and repository schemas to generate report files. It then stores these report files in the `websqlbr` directory. Netcool Reporter also manages the report applets and files using the underlying web server and JRun.

JRun is an application for supporting servlet-enabled web servers. JRun is supplied with Netcool Reporter to support its web server components.

The Netcool Reporter Client

The Netcool Reporter client is opened in a web browser. Using the client, you can administer Netcool Reporter and design and view reports and forms. The access levels of the server are controlled by the user's login, password, and the selected data sources.

The Repository Schema

A script is used to create the repository schema in the host database. The repository schema contains tables that are used to:

- Store details of predefined users, groups, and channels.
- Store details of predefined report categories and definitions.
- Store all user-generated information.

The repository schema is accessed by the repository datasource.

The Netcool Reporter Gateway

The Netcool Reporter gateway is an optional component. The Netcool Reporter server can process data stored in the database using gateways from other Netcool applications.

The Netcool Reporter gateway is only required if you wish to populate the database with the alerts from a standard configuration of the Netcool/OMNIBus ObjectServer.

The Data Schema

The script to create the data schema in the host database is provided with the gateway. The data schema defines tables that are used to store event data.

Component Locations

The Netcool Reporter package contains the following components:

- Netcool Reporter server
- Netcool Reporter repository scripts
- Netcool Reporter predefined reports and JSP forms
- Apache Web server
- XVFB for Solaris only (Virtual Framebuffer X Server)
- Java Plugin 1.4.2_06 for web browser

The following components are required by Netcool Reporter and are not supplied in the package.

- Netcool Reporter gateway (optional)
- Supported relational database
- Supported web browser

Overview of Instructions for Installation and Configuration

This section describes the process a system administrator must follow in order to fully install and configure Netcool Reporter 2.2. It includes cross references to the chapters and sections in this guide.

1. Ensure the existing hardware complies with the system requirements for Netcool Reporter, as described in Chapter 2. *System Requirements* on page 12.
2. Prepare the database that is to act as the Netcool Reporter data store. This involves: creating a data schema, a repository schema and setting up views for predefined reports. The Netcool Reporter repository schema is described in Chapter 3. *Repository Database Configuration* on page 18. For information on configuring the data schema, see the gateway documentation.
3. If you are going to update the database with events from a Netcool/OMNIBus ObjectServer, you must install, configure and start a Netcool Reporter gateway, as described in the gateway documentation. The Netcool Reporter gateway is optional and Netcool Reporter can produce reports on existing data without the gateway installed.
4. If you are using the Netcool Reporter gateway you must transfer the ObjectServer tables to the Netcool Reporter database, as described in the gateway documentation.
5. IBM recommends you install the supplied Apache web server during installation.
6. If you wish to use an alternative unsupported web server, you must ensure this is installed before you start the Netcool Reporter server installation. You must also run the JRun connector wizard, as described in "Configuring JRun on Windows and UNIX" on page 82.
7. During the installation of the Netcool Reporter server on a Windows system IBM recommends that you install the supplied JRun. If you do not wish to install this version of JRun during the server installation you must ensure it is installed before you start the Netcool Reporter server installation.

IBM recommends you install the supplied version of JRun when prompted during the installation.
8. Install and configure the Netcool Reporter server on UNIX systems, as described in Chapter 4. *Netcool Reporter Server Installation on UNIX* on page 34.
9. If necessary, migrate an earlier version of Netcool Reporter to 2.2 on UNIX systems, as described in "Migrating to Netcool Reporter 2.2 on UNIX Systems" on page 107.
10. Install and configure the Netcool Reporter server on a Windows system, as described in Chapter 5. *Netcool Reporter Server Installation on Windows Systems* on page 53.
11. If necessary, migrate an earlier version of Netcool Reporter to 2.2 on a Windows system, as described in "Migrating to Netcool Reporter 2.2 on Windows Systems" on page 103.
12. Install and configure the Netcool Reporter server on a LINUX system, as described in Chapter 6. *Netcool Reporter Server Installation on Redhat LINUX* on page 88.

13. Start the Netcool Reporter server, as described in "Running Netcool Reporter Server on UNIX Systems" on page 114 and "Running Netcool Reporter Server on Windows Systems" on page 116.
14. Start the Netcool Reporter Admin server, as described in "Running the Netcool Reporter Administration Server" on page 117, if you want to access the Netcool Reporter *Server Administrator* window.
15. Start the Netcool Reporter client and use the User Administrator applet to configure users, groups and data sources, as described in "Configuring JRun on Windows and UNIX" on page 82.

Chapter 2. System Requirements

This chapter describes the system requirements for the Netcool Reporter server and the repository. It also described the requirements for the Netcool Reporter client.

It contains the following sections:

- "Netcool Reporter Components" on page 12
- "Memory Requirements" on page 17

Netcool Reporter Components

You must ensure that each component of Netcool Reporter is supported on the host machine before installation. The requirements in this chapter cover:

- "Netcool Reporter Server" on page 13
- "Required Operating System Patches" on page 13
- "Host Web Server" on page 13
- "Client for a Web Server to Repository Database Connection" on page 14
- "Java Plugin for Netcool Reporter Clients" on page 15
- "JRun" on page 16
- "Netcool Reporter Database" on page 16
- "Netcool Reporter Client Browser" on page 15

Netcool Reporter Server

The following operating systems are supported:

- Windows Server 2003
- Sun Solaris 9 Sparc
- Sun Solaris 10 Sparc
- AIX 5.2
- AIX 5.3
- HP-UX 11i v.11.23 PA-RISC
- Redhat Linux ES 4.0

Required Operating System Patches

Some UNIX system versions require patches in order to correctly support the Java Runtime Environment (JRE).

For Solaris systems, please refer to Sun Microsystems for a list of required patches. These patches are available from <http://www.sun.com/solaris/java> or obtained from your operating system vendor.

Host Web Server

The machine that hosts the Netcool Reporter server needs to run a supported version of the Apache web server. IBM recommends that you install the supplied Apache web server.

Netcool Reporter is supplied with the versions of the Apache web server listed below. If you require more components in your web server, you must match the specifications below and compile in the additional features you require. If you use an alternative web server it must be installed prior to installing the Netcool Reporter server.

UNIX - Without SSL

Apache web server version 1.3.37 compiled with JRun 3.0 Service pack 2a.

UNIX - With SSL

Apache web server version 1.3.37.

Compiled with:

- Mod SSL 2.8.12
- OpenSSL 0.9.6g
- JRun 3.0 Service pack 2a

Windows - Without SSL

Apache web server version 1.3.37 compiled with JRun 3.0 Service pack 2a.

Windows - With SSL

Apache web server version 1.3.37.

Compiled with:

- Mod SSL 2.8.9
- OpenSSL 0.9.6d
- JRun 3.0 Service pack 2a

LINUX - Without SSL

Apache web server version 1.3.37 compiled with JRun 3.0 Service pack 2a.

LINUX - With SSL

Apache web server version 1.3.37.

Compiled with:

- Mod SSL 2.8.25-1.3.37
- OpenSSL 0.9.8b
- JRun 3.0 Service pack 2a

Checking the mod.so Option

If you have chosen to install a version of the Apache web server other than the version supplied with Netcool Reporter, you must ensure it is compiled to support the `mod.so` option. To check that it is supported, enter the following at the command line:

```
httpd -l |grep mod_so
```

Client for a Web Server to Repository Database Connection

If your Netcool Reporter server and repository database server are running on separate machines, you need the appropriate client to connect these machines, in line with your database requirements. The client component must be installed on the same machine as your Netcool Reporter server, and the server component must be installed on the machine running the repository database server. For more information, contact your system administrator or DBA before proceeding.

Netcool Reporter Client Browser

You must use a Java-enabled browser in order to use Netcool Reporter. The following browsers are supported:

- Mozilla Firefox 1.5
- Mozilla Firefox 2.0
- Microsoft Internet Explorer 6.0.x (not supported on Windows Vista operating systems)
- Microsoft Internet Explorer 7.0

The Netcool Reporter client browser is not supported on the Windows 95 and Windows 98 operating systems.

Note about Browser Caches

Web browsers automatically store recent versions of web pages and Java applets. However, this cache capability may prevent Netcool Reporter from displaying correct report output for you. To solve this, it is important that your web browser be configured to disable its cache capability such that it always reads the latest version of a report and does not use an older version in the web browser cache.

The following examples describe how to configure your web browser to refresh its cache. You may see different names on your web browser interface. For correct information on changing the cache settings specific to your web browser, see your web browser documentation.

Internet Explorer

1. On the **Tools** menu select **Internet Options**.
2. Select the **General** tab in the *Internet Options* dialog box.
3. Select **Settings** in the **Temporary Internet Files** section.
4. Select **Every visit to the page** in the *Settings* dialog box.
5. Select the **Advanced** tab in the *Internet Options* dialog box.
6. Check **Use JRE 1.5.0_11 for <applet>(requires restart-ON)** (make sure that JRE 1.5.0_11 has been installed).

Firefox

1. On the **Tools** menu select **Options**.
2. Select the **Content** tab in the *Options* dialog box.
3. Check **Enable Java**.

Java Plugin for Netcool Reporter Clients

The Netcool Reporter client web browsers require a Java plugin to operate correctly.

The required version of the Java plugin is listed in the following table.

Table 2. *Java Plugin Versions*

Client Operating System	Java Plugin Version
Windows XP	<ul style="list-style-type: none">• Sun JRE 1.5.0_11_b03• IBM J2RE 1.5.0 (only supported on IBM hardware)
Windows Server 2003	<ul style="list-style-type: none">• Sun JRE 1.5.0_11_b03• IBM J2RE 1.5.0 (only supported on IBM hardware)
Windows Vista	<ul style="list-style-type: none">• Sun JRE 1.5.0_11_b03• IBM J2RE 1.5.0 (only supported on IBM hardware)



Note: Java plugin version 1.4 is not supported in this version of Netcool Reporter.

JRun

On UNIX Netcool Reporter requires JRun version 3.0 with Service Pack 2a (Supplied).

To check the version and build of an existing JRun installation, stop and restart JRun. On UNIX systems, the startup message includes this information. For details of stopping and starting JRun on UNIX see "Running Netcool Reporter Server on UNIX Systems" on page 114. For details of stopping and starting JRun on a Windows system see "Running Netcool Reporter Server on Windows Systems" on page 116.

Netcool Reporter Database

Netcool Reporter supports the following databases:

- Oracle 9.2 (32-bit) - Supported on all Netcool Reporter server operating systems.
- Oracle 9.2 (64-bit) - Supported on all server operating systems except for Windows Server 2003, using a 32-bit library.
- Oracle 10g Release 1 (32-bit) - Supported on Windows and Solaris operating systems.
- Oracle 10g Release 1 (64-bit) - Supported on Solaris operating systems using a 32-bit library.
- IBM DB2 9.1 - Supported on all server operating systems.
- Sybase 12.5 (32-bit) - Supported on all server operating systems except for Redhat Linux.
- Microsoft SQL Server 2000/2005 - Supported on Windows Server 2003 (ODBC support).

Netcool Reporter provides a script to create the repository schema. This schema contains tables that are used to store information about users, groups, datasources, reports, privileges, preferences, and other defined variables and objects. The tables in the repository schema remains small.

The Netcool Reporter reads data from a data schema. The tables in the data schema expand depending on the number of rows of data and the amount of database optimization. The database administrator (DBA) must be asked to setup and optimize these tables. For more information on the data schema created by the Netcool Reporter gateway, see "Data Schema Tables" on page 177.

Setting the DISPLAY Variable on UNIX and LINUX

If the Netcool Reporter server is deployed on UNIX or LINUX operating systems, the DISPLAY variable of the Netcool Reporter server needs to be set to a machine running an X server. This enables chart reports to be run and viewed properly in GIF or PDF format. If this is not the machine running the Netcool Reporter server, then the environment variable DISPLAY must be set to a remote machine running an X server.

You have two ways to set the DISPLAY variable:

- Type the following command to set a temporary environment variable:

```
xhost + localmachinename
```

Or,

```
xhost + Remotemachinename
```

Where *localmachinename* or *Remotemachinename* is the name of the local machine or remote machine. If setting to the remote machine, the remote machine must be configured to accept connections from the Reporter server machine.

- Edit `$INFOHOME/server/infosrvorg` and change the DISPLAY environment variable to point to the proper machine.

Memory Requirements

In order to install all of the components of the Netcool Reporter server you must have at least 350 MB of disk space and 256 MB of memory available on the machine on which you are installing Netcool Reporter.

In order to run the Netcool Reporter server on a Windows system with 10 users, it is recommended that 128 MB of memory is available on the computer where Netcool Reporter server is installed. It is recommended that an additional 10 MB of computer memory is available for each additional concurrent user.

In order to run the Netcool Reporter server on UNIX with 10 users, it is recommended that at least 270 MB of memory is available on the computer where Netcool Reporter server is installed. It is recommended that an additional 10 MB of computer memory is available for each additional concurrent user.

Chapter 3. Repository Database Configuration

This chapter describes the process of configuring the Netcool Reporter repository schema before you start to install Netcool Reporter. You need to have Database Administrator (DBA) access to perform the tasks in this chapter. It is recommended therefore that you schedule time with your DBA to run the setup scripts.

This chapter contains the following sections:

- "Database and Data Schema Configuration" on page 18
- "Repository Schema Configuration" on page 19
- "Netcool Reporter User Administrator Modifications" on page 27
- "Repository Login" on page 28
- "Netcool Reporter Repository Scripts" on page 29
- "Save Report Files into the Repository Database" on page 30

Database and Data Schema Configuration

The list of supported databases has increased in Netcool Reporter version 2.2, as described in "Netcool Reporter Database" on page 16.

Netcool Reporter requires a database with two schemas:

- Data schema - stores the data you want to create reports from.
- Repository schema - stores all user-generated information and all predefined users, groups, and channels.

The configuration of the repository schema is described in "Repository Schema Configuration" on page 19. This section lists other requirements for the database and the data schema, and identifies the technical documentation you must refer to for information.

Database Configuration

You must configure your database before you can run the data schema and repository schema scripts.

For all supported databases, you must set the correct environment variable for your selected database.



Note: The Netcool Reporter gateway for the Oracle database also requires configuration of the gateway to Oracle processing to enable store and forward. You must add parameters to the initialization file and run a number of scripts, as described in the gateway documentation.

This guide does not include instructions for the configuration of your database. Please refer to your database documentation for information.

Data Schema Configuration

A number of gateways exist for different Netcool products. The Netcool Reporter gateway populates a database with data from the default fields in the Netcool/OMNIBus ObjectServer.

You must run a database script to create a data schema that matches the data provided by your selected gateway. This script is provided with the gateway or with the Netcool product which ships the gateway.

Refer to the documentation for your selected gateway or the documentation for the Netcool product which includes the gateway, for information on the use of this script.

The data schema for the Netcool Reporter gateway is described in "Data Schema Tables" on page 177.

Repository Schema Configuration

This section describes the configuration of the repository schema on each of the supported databases.

Creating the Repository Schema on Oracle

Netcool Reporter uses a back-end repository schema that stores information about the Netcool Reporter application. This repository schema must be created in a separate tablespace called `rep_repository_two`. This repository must be installed in your database.

To create the repository and the user, you need to run the `oracle.repository.sql` script, which is contained in the Netcool Reporter package. This script:

- Creates a tablespace (`rep_repository_two`).
- Creates a user called `repository_two` with a password of `repository_two`.
- Creates schema objects using the `repository_two` user name and password.
- Creates the indexes for the repository.

To run this script:

1. Access the directory in the Netcool Reporter package that contains the `oracle.repository.sql` script.

For UNIX systems, the script is in:

```
unix/database/oracle/scripts/
```

For Windows systems, the script is in:

```
windows\database\oracle\scripts\
```

For LINUX systems, the script is in:

```
$INFOHOME/sql
```

2. Launch `sqlplus` to run the script.

For UNIX and LINUX systems `sqlplus` is located in the `$ORACLE_HOME/bin` directory.

For Windows systems `sqlplus` is located in the `%ORACLE_HOME%\bin` directory.

3. Enter the Oracle administrator user name (for example: `system`).
4. Enter the Oracle administrator password (for example: `manager`).
5. At the `sqlplus` prompt on UNIX, enter:

```
@package/unix/database/oracle/scripts/oracle.repository.sql;
```

At the `sqlplus` prompt on Windows, enter:

```
@X:\windows\database\oracle\scripts\oracle.repository.sql;
```

Where *package* is the path to the Netcool Reporter package on UNIX, and *x* is the drive letter mapped to the Netcool Reporter package on Windows.

At the `sqlplus` prompt on LINUX, change the directory to `$INFOHOME/sql` and enter:

```
@oracle.repository.sql;
```

When you run the script, it creates the tablespaces required for the user `repository_two`, creates a unique user name to own the user-repository tables, and creates the indexes for the repository. This user needs to have privileges to create and populate tables in the tablespace that hold the user-repository tables. The script also inserts values into the tables, reflecting the Netcool Reporter users, groups, links, channels, reports, and forms.

The user repository tables are automatically registered when you install Netcool Reporter. For more information on registering, see "Repository Login" on page 28.

Creating the Repository Schema on Microsoft SQL Server

The Netcool Reporter repository data is stored in database tables. These tables must be installed in your database. To create the repository, you need to run either of the following scripts located in the Netcool Reporter package, depending on the authentication method you use for database login:

- `mssql.repository.sql` - For user authentication login. This script:
 - Creates a database called `rep_repository_two`.
 - Creates a user called `repository_two` with a password of `repository_two`.
 - Creates the indexes for the repository.
 - Creates schema objects using the `repository_two` user name and password.
- `mssql-ntauth.repository.sql` - For Windows authentication login. This script:
 - Creates a database called `rep_repository_two`.
 - Creates the indexes for the repository.
 - Creates schema objects using the Windows user.

To run the script:

1. Start the Query Analyser by selecting **Program Files—MS SQL Server 2005—Query Analyser**. The *Query Analyser* window appears.
2. Log in as the `sa` user or the Windows login user.
3. Click the **Open Query File** button on the toolbar to load the correct script into the window.

The directory in the Netcool Reporter package that contains the sql script is:

```
windows\database\mssql\scripts\mssql.repository.sql
```

or

```
windows\database\mssql\scripts\mssql-ntauth.repository.sql
```

4. Click the **Execute** button to run the script. The resulting output from the script is displayed in the lower window.

When you run the script, it creates the database, creates a unique user name to own the user-repository tables (user authentication only), and creates the indexes for the repository. This user needs to have privileges to create and populate tables in the database that holds the user repository tables. The script also inserts values into the tables, reflecting the Netcool Reporter users, groups, links, channels, reports, and forms.

You must set the system data source name before you can run Netcool Reporter against the Microsoft SQL Server, as described in the following section.

The user repository tables are automatically registered when you install Netcool Reporter. For more information on registering, see "Repository Login" on page 28.

Additional Settings for MS SQL Server WINNT Authentication

If you use Windows authentication on MS SQL Server, you must set up the Windows Scheduler a bit such that scheduled jobs that are created using the Scheduler module in Reporter can run properly.

To do this,

1. Start the Control Panel in Windows by **Start->Settings->Control Panel**.
2. Double-click on **Scheduled Tasks** to start it.
3. Select **Advanced->At Service Account**.
4. Select **This Account**.
5. Type the required Windows user name and password.
6. Click **OK** to confirm the new setting.

Setting the System DSN for Microsoft SQL Server



Note: When configuring ODBC for MSSQL on Windows 64-bit servers, use `odbcad32` under `OS_disk\WINDOWS\SysWOW64`; using Control Panel -> Administrative Tools does not work for ODCB configuration on 64-bit Windows.

Before you can run Netcool Reporter against Microsoft SQL Server, you must:

- Set the Data Source Name (DSN) in the control panel's Data Source Administrator on the machine that is running SQL Server.
- Set up the repository data source.
- Set up the data source for your data schema. For example, if you have installed the Netcool Reporter gateway for the Microsoft SQL Server you must also set up the `reporter` data source.

The following procedure describes how to set up the data source for the repository.

To configure the DSN:

1. Click the **ODBC Data Sources** icon in the *Control Panel* window.
2. Select the **System DSN** tab and click the **Add** button. The *Create a New Data Source* window is displayed.
3. Scroll down the list and select the type **SQL Server** and click the **Finish** button.

4. In the *New Data Sources* window, shown below, enter the data source details.

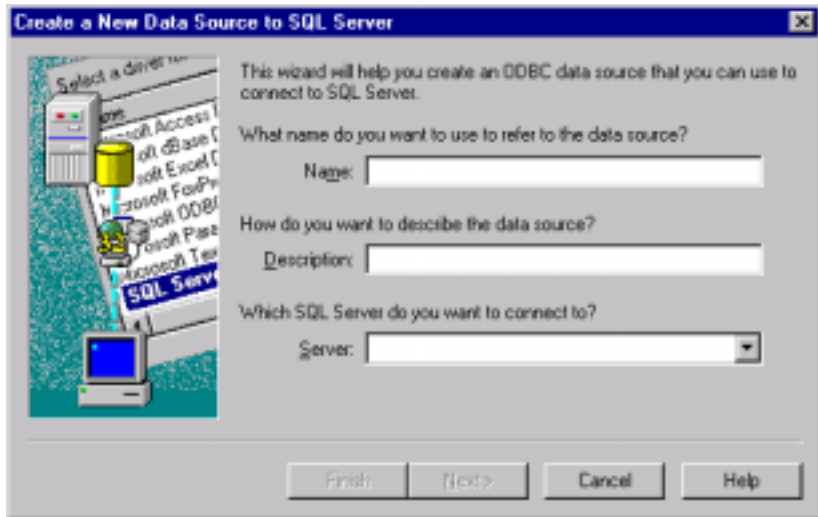


Figure 2. *Create a New Data Source Window*

5. Enter the name and a description of the data source. For example, enter the name `repository` then a description of repository database.
Use the drop-down list to select the SQL Server you want to connect to. For example, select **local**. Then click the **Next** button.
6. In the window shown below, select how the SQL Server verifies the authenticity of a login.

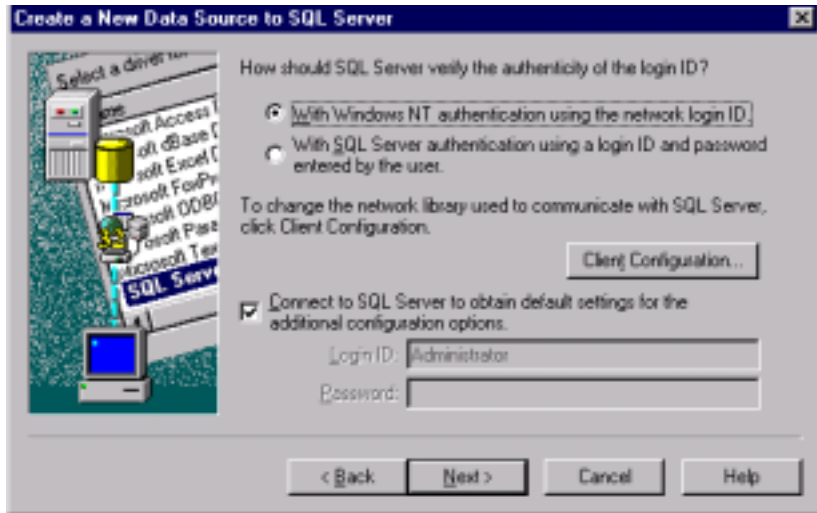


Figure 3. *Select the Login Authentication*

Select the radio button for **With SQL Server authentication using a login ID and password entered by the user**.

Select the checkbox for **Connect to the SQL Server to obtain default settings for the additional configuration options**.

Enter `repository_two` in the **LoginID** field and `repository_two` in the **Password** field.

When you have finished entering the details of the login authenticity, click the **Next** button.

7. In the next window, shown below, select the checkbox for **Change the default database to:** and select reporter, then click the **Next** button.

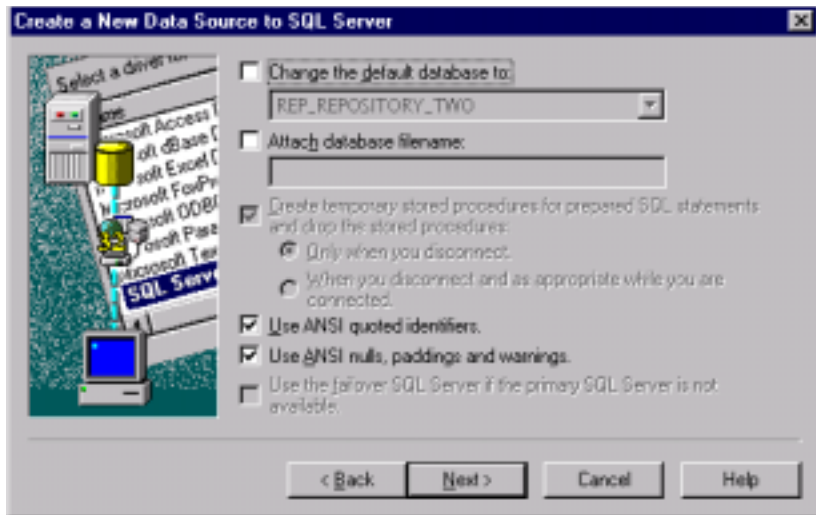


Figure 4. Changing the Default Database

8. You do not need to make any changes to the default settings in the next window, shown below.

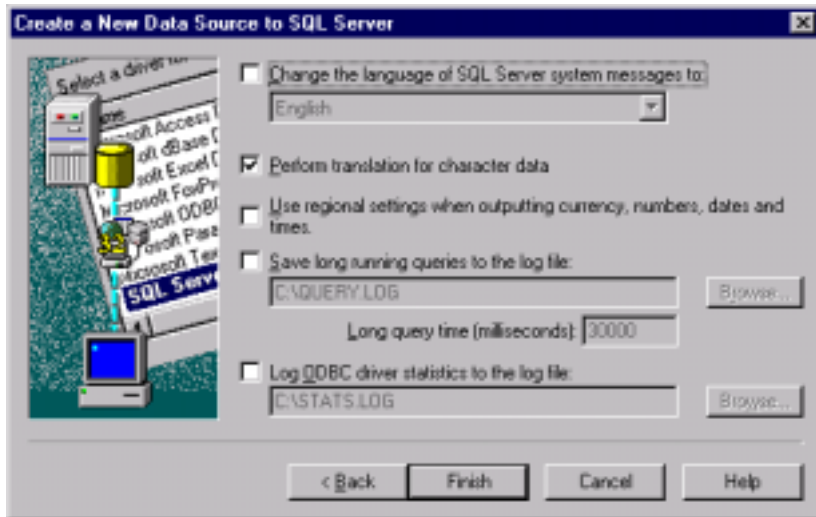


Figure 5. Data Source Settings

9. Click the **Finish** button. When you have finished the DSN changes, the *Summary* window is displayed containing the summary of your DSN settings.
10. To test that you can connect to the data source, click the **Test Data Source** button. When you click this button, a status window appears providing information about the connectivity to the data source, as shown below. Click the **OK** button when you have finished with the test information.

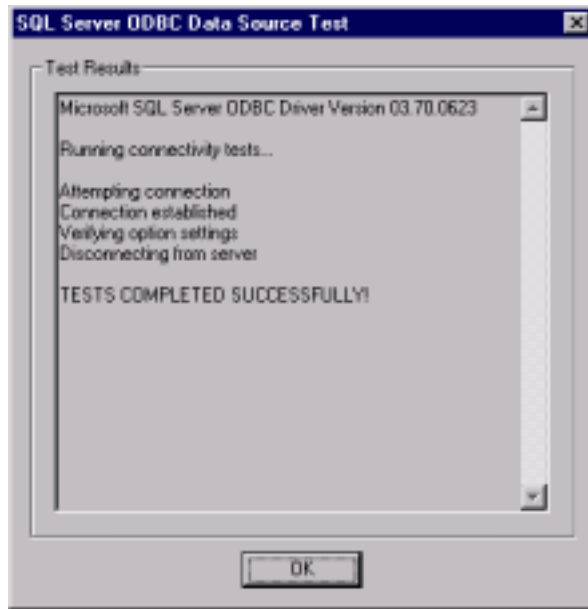


Figure 6. *Testing the Data Source*



Note: You must repeat these steps for the data source which you have configured for the data schema. If you are using the Netcool Reporter gateway, this is the `reporter` data source.

Creating the Repository Schema on DB2

The Netcool Reporter repository data is stored in database tables. These tables must be installed in your database. To create the repository, you need to run the `db2.repository.sql` script, which is located in the Netcool Reporter package. This script:

- Creates a database called `REPREPOS`.
- Creates schema objects.
- Creates the indexes for the repository.

Before running the script, the DB2 system administrator must determine a dedicated database user who is to be used as the Reporter repository owner. This user could be an existing user who has privileges of creating and populating tables in the database. If no such user is available, create a new user, for example, named `repository_two` with a password of `repository_two`. Then use this user to run the script using command line tool or the Command Editor tool.

The `db2.repository.sql` script is located in the following directory in the Netcool Reporter package:

- For UNIX systems, the script is in:

```
unix/database/db2/scripts/
```

- For Windows systems, the script is in:

```
windows\database\db2\scripts\
```

For LINUX systems, the script is in:

```
$INFOHOME/sql
```

When you run the script, it creates the database required for the repository user, and creates the indexes for the repository. This user needs to have privileges to create and populate tables in the database that holds the user repository tables. The script also inserts values into the tables, reflecting the Netcool Reporter users, groups, links, channels, reports, and forms.

The user repository tables are automatically registered when you install Netcool Reporter. For more information on registering, see "Repository Login" on page 28.

Netcool Reporter User Administrator Modifications

You must make changes to the Netcool Reporter *User Admin* window **SQL Datasources** tab for all MS SQL installations. You only need to make these changes for Oracle installations when the database is on a remote machine.

After you have completed all the preparation for the database environment and installation of Netcool Reporter, you must login as `administrator` and edit the data sources.

Select the repository data source and fill in the relevant connection string. The default strings are listed in the following table.

Table 3. *Data Source Connection Strings*

Database	String
Oracle	<code>oracle_sid</code>
MS SQL	The DSN for the MS SQL repository database.

For more information on changing the DSN for a user, see "Managing Data Sources" on page 166.

You must also edit the data source for the data schema you are using. If you are using the Netcool Reporter gateway this is the `reporter` data source.

Repository Login

For Netcool Reporter to operate correctly, information about the owner of the user repository tables and related database connection information must be stored within Netcool Reporter. This information is stored automatically during the installation. If the user name or password of the owner of the user repository tables is changed, you must run the `SetRepLogin` script to manually update the stored information.

The `SetRepLogin` script is installed in `$INFOHOME/util` on UNIX systems or `%INFOHOME%\util` on Windows systems.

When running the `SetRepLogin` script, you must provide the user name and password of the user who owns these repository tables. If the database that holds the user repository tables resides on a different machine from the Netcool Reporter server, then you also need to specify a connection string. ODBC-based repositories that reside on the same machine as the server also require a connection string.

The connection string is the same string that you would use to connect through the database middleware. Some databases use a machine name or connect string. Others use a combination of the machine name and the database. If you are using an MS SQL repository, then this parameter is the system DSN name, configured for that data source. Your database administrator can provide you with the correct connect string.

The default connection strings are listed in the following table.

Table 4. *Data Source Connection Strings*

Database	String
Oracle	<code>oracle_sid</code>
MS SQL	The DSN for the MS SQL repository database
DB2	Repository database name
Sybase	Repository database name

The following example shows the values to enter when manually running the `SetRepLogin` on UNIX/LINUX systems when the user repository tables are on a remote machine, with the default user name and password `repository_two`:

```
$INFOHOME/util/SetRepLogin repository_two repository_two connectstring
```

Where *connectstring* is required for remote machine connection. The default value is `" "`.

The following example shows the information to enter when manually running the SetRepLogin on a Windows system when the user-repository tables are on a remote computer, with the user name and password repository_two:

```
%INFOHOME%\util\SetRepLogin repository_two repository_two connectstring
```

Where *connectstring* is required for remote machine connection. The default value is " ".

The following example shows the values to enter when manually running the SetRepLogin for ODBC-based repositories, with the default user name and password repository_two:

```
$INFOHOME/util/SetRepLogin repository_two repository_two
ODBC_Datasource_name
```

Where *ODBC_Datasource_name* refers to the name of the ODBC datasource.

Netcool Reporter Repository Scripts

Netcool Reporter is supplied with a set of scripts that create the Netcool Reporter repository.

The following table shows all the scripts that are available for each database, and which database user must run the script.

Table 5. *Netcool Reporter Scripts*

Database	Script Name	Run As...	Purpose
Oracle	oracle.repository.sql	DBA	Creates the tablespace, the user repository_two, and sets up the indexes for the repository. It also sets up the table objects.
Oracle	oracle.drop_repository.sql	repository	Optionally used to clear out the database by dropping all tables and indexes related to the repository data.
MS SQL Server (User Authentication)	mssql.repository.sql	DBA	Creates the database and the user repository_two. It also sets up the table objects.
	mssql.drop_repository.sql	repository	Optionally used to clear out the database by dropping all tables and indexes related to the repository data.

Table 5. Netcool Reporter Scripts

Database	Script Name	Run As...	Purpose
MS SQL Server (NT Authentication)	mssql-ntauth.repository.sql	Windows user	Creates the database and sets up the table objects.
	mssql-ntauth.drop_repository.sql	Windows user	Optionally used to clear out the database by dropping all tables and indexes related to the repository data.
IBM DB2	db2.repository.sql	DBA	Creates the tablespace, the user repository_two, and sets up the indexes for the repository. It also sets up the table objects.
IBM DB2	db2.drop_repository.sql	repository	Optionally used to clear out the database by dropping all tables and indexes related to the repository data.
Sybase 12.5	sybase.repository.sql	DBA	Creates the tablespace, the user repository_two, and sets up the indexes for the repository. It also sets up the table objects.
Sybase 12.5	sybase.drop_repository.sql	repository	Optionally used to clear out the database by dropping all tables and indexes related to the repository data.



Note: There are two sets of scripts for Oracle. Those starting with Oracle9i are for Oracle9i, and those starting with Oracle are for Oracle10g. There are also two sets of scripts for MS SQL Server. See "Creating the Repository Schema on Microsoft SQL Server" on page 20 for more explanation.

Save Report Files into the Repository Database

You can use the script `SaveFilesIntoRepository` to transfer reports between different Netcool Reporter implementations.

- For UNIX and LINUX systems the script is:

```
$INFOHOME/util/SaveFilesIntoRepository
```

- For Windows systems the script is:

```
%INFOHOME%\util\SaveFilesIntoRepository.bat
```

Copy the required report definition files into your `rpt` directory.

- For UNIX and LINUX systems the directory is located in:

```
$INFOHOME/websqlbr/user/username/rpt
```

- For Windows systems the directory is located in:

```
%INFOHOME%\websqlbr\user\username\rpt
```

Where *username* is the Netcool Reporter name given to each user.

Before running the script you must ensure the Netcool Reporter server is running.

To save the report files:

1. Run the script `SaveFilesIntoRepository`
2. Select the English language.
3. Choose one of the following save options:
 - **Selecting each data source for each report for each user** (default)
 - **Selecting a different data source per user**
 - **Selecting only one user to upload and select a data source for it**
 - **Selecting a single data source for all the reports for all the users**

The description of the script operations continues in the following sections.

When the script has finished, the new report definitions are displayed the next time you log into Netcool Reporter.

Selecting Each Data Source for Each Report For Each User

The default option is **Selecting each data source for each report for each user**. If you select this option, you are shown each user one by one and asked whether you want to upload the reports from this user. If you select *y* (yes), you are shown the list of reports in the users *rpt* directory.

For example:

```
Do you want to upload files for user: administrator (y/n)?n

Do you want to upload files for user: netcool (y/n)?y
User: [netcool] - Saving file form/Oracle_Avg_Ack_Time_Group.html
User: [netcool] - Saving file form/Oracle_Avg_Ack_Time_Owner.html
User: [netcool] - Saving file form/Oracle_Events_by_AlertGroup.html
User: [netcool] - Saving file form/Oracle_Events_by_Class.html
```



Note: You cannot select specific reports from this list. All reports are uploaded.

You must select a data source for each report in turn.

For example:

```
Please select a data source ID for this user (netcool):
File Found: /opt/Netcool
Reporter/apache/htdocs/infospc/websqlbr/user/netcool/rpt/Oracle_Events_
by_AlertGroup.car
```

```
DataSource ID - DataSource Name
-----
      13              reporter
Enter datasource ID : 13
```

```
User: [netcool] - Saving file rpt/Oracle_Events_by_AlertGroup.car
```

The script finishes with a report of the number of files saved.

Selecting a Different Data Source Per User

The **Selecting a different data source per user** option allows you to upload all the reports in the `rpt` directory of a user to the selected data source.

If you select this option, you are shown each user one by one and asked whether you want to upload the reports from this user.

For example:

```
Do you want to upload files for user: administrator (y/n)?n
Do you want to upload files for user: netcool (y/n)?y
```

If you select `y` (yes), you are asked for the data source to send all the reports in the users `rpt` directory. For example:

```
Please select a data source ID for this user (netcool):
DataSource ID - DataSource Name
-----
      13              reporter
Enter datasource ID : 13
```

The reports are listed as they are saved to the selected data source. The script finishes with a report of the number of files saved.

Selecting Only One User to Upload and Select a Data Source for it

The **Selecting only one user to upload and select a data source for it** option asks you to enter the name of a user and the database to send all of the reports in the users `rpt` directory.

For example:

```
Please type the user name: netcool

Please select a data source ID for this user (netcool):
```

```

DataSource ID - DataSource Name
-----
      13              reporter
Enter datasource ID : 13

```

The reports are listed as they are saved to the selected data source. The script finishes with a report of the number of files saved.

Selecting a Single Data Source for All the Reports for All the Users

The **Selecting a single data source for all the reports for all the users** option saves all the reports in all the users `rpt` directories to the selected data source.

A list of all the reports from all the users `rpt` directories is displayed. Select the data source.

For example:

```

Please select a data source ID for this user (netcool):

File Found: /opt/Netcool
Reporter/apache/htdocs/infospc/websqlbr/user/netcool/rpt/Oracle_Avg_Ack
_Time_by_Group.par

DataSource ID - DataSource Name
-----
      13              reporter
Enter datasource ID : 13

```

The reports are listed again as they are saved to the selected data source. The script finishes with a report of the number of files saved.

Chapter 4. Netcool Reporter Server Installation on UNIX

This chapter describes how to install and configure the components of the Netcool Reporter Server.

It contains the following sections:

- "Environment Variables" on page 34
- "Creating a UNIX User and Group" on page 36
- "Installation on UNIX" on page 37
- "Creating an SSL Certificate" on page 52

Environment Variables

You must set the environment variable `INFOHOME` and the operating system dependent variable defining the dynamic library paths, before you can use Netcool Reporter.

IBM recommends that you also create the environment variables `REPORTERHOME` and `JRUN_HOME`. These are optional environment variables for convenience only and are used within this guide to simplify the path descriptions to web server locations and JRun locations.

INFOHOME Environment Variable

Set the `INFOHOME` environment variable to the `infospc` directory. This directory is located under the document root directory of the web server.

Change the environment variable using the appropriate method for your shell. For example, if you use the C shell and your HTTP directory is `/opt/apache/htdocs`, add the following line to the `$HOME/.login` file for the account:

```
setenv INFOHOME /opt/apache/htdocs/infospc
```

If you use the Bourne or Korn shell, put these command in the account's `$HOME/.profile` file:

```
INFOHOME=/opt/apache/htdocs/infospc
export INFOHOME
```

Database Related Environment Variables

Ensure the environment variables related to the database are set on the Netcool Reporter server. Some of those environment variables are set automatically after the database is installed, but some need to be created manually.

Here below lists some of the database environment variables:

- `$ORACLE_HOME`
- `$ORACLE_SID`
- `$SYBASE`

You may need to consult your database administrator for information on the required environment variables for your database.

Library Path Environment Variables

You must update the library path environment variable of the Netcool Reporter server. This environment variable varies depending on the type of UNIX operating systems, as listed below.

- `LD_LIBRARY_PATH` - Solaris
- `SHLIB_PATH` - HP/UX
- `LIBPATH` - AIX

Append the path `$INFOHOME/bin` and the database library locations to the environment variable.

For example, on Solaris, if your database is Oracle 9.2 64 bit using a 32-bit library, you need to add `$ORACLE_HOME/lib32` to the `LD_LIBRARY_PATH` environment variable. You could change the `LD_LIBRARY_PATH` line to:

```
LD_LIBRARY_PATH = .:$INFOHOME/bin: /$database/lib32:$LD_LIBRARY_PATH
```

Where *database* is `ORACLE_HOME`.

If you are using the Netcool Reporter gateway or you want to report against an alternative ODBC data source, you must also set the `LD_LIBRARY_PATH` environment variable to point to the ODBC libraries and drivers.

These are located in the following directory:

```
$OMNIHOME/platform/arch/merant/lib
```

Where *arch* is `solaris2`.



Note: If `LD_LIBRARY_PATH`, `SHLIB_PATH`, or `LIBPATH` has already been set by another application, the library paths must be appended to existing library paths. Replacing library paths may result in the failure of other applications, including components of Netcool/OMNIBus.

REPORTERHOME Environment Variable

This is an optional environment variable. It is used for convenience in this guide to simplify the path descriptions to Netcool Reporter server file locations. Set `REPORTERHOME` to the document directory under the top level of the Netcool Reporter installation.

JRUN_HOME Environment Variable

This is an optional environment variable. It is used for convenience in this guide to simplify the path descriptions to JRun file locations. Set `JRUN_HOME` to the document directory where JRun is installed.

Creating a UNIX User and Group

It is important that you use a user account that has the privilege to install software and to access all databases that Netcool Reporter is to query. If you do not have a user already configured with these privileges this section describes how you can create a UNIX user called:

```
repadmin
```

In order to run Netcool Reporter successfully, you need to install it under the document root directory of your web server. For this reason, the `repadmin` user needs to have privileges to create directories under your document root directory. The `repadmin` user also needs to be able to write files under the `cgi-bin` directory. This user must also have permission to create `cron` jobs.

You must assign the `repadmin` user account to the group that administers your web site. If you do not have a special group with privileges to administer your web site, it is recommended that you create a new `webadmin` group with these privileges and assign the `repadmin` user to that group. You can use the following UNIX commands to create the new user and group. (You can also use any graphical user-management utility available on your system.)

Using UNIX Commands to Create New Groups and Users

Open a UNIX shell window and use the `groupadd [-g gid [-o]] group` command. The group ID (`gid`) needs to be a positive integer greater than 99. If you do not use the `gid` option, the system assigns a group ID by incrementing the highest group ID already assigned on that system. The `-o` option allows you to duplicate a group ID. For example, following command creates a `webadmin` group with group ID 5001:

```
groupadd -g 5001 webadmin
```

To create a new user, use the `useradd` command:

```
useradd [-c comment] [-d dir] [-e expire]
[-f inactive] [-g group] [-G group [,group...]]
[-m[-k skel_dir]] [-u uid [-o]] [-s shell] login
```

The user ID needs to be a positive integer greater than 99. The `-o` option allows you to duplicate a user ID.

The following command is available on Solaris. It creates a new user account called `administrator` to administer the Netcool Reporter server:

```
useradd -c "Netcool Reporter administrator account" -d /u/administrator  
-e 0 -f 30 -g webadmin -m -k /etc/skel -u 5001 -s csh repadmin
```

The new `repadmin` user account that the command created has the following properties:

- The home directory for `repadmin` is `/u/administrator`.
- The account never expires.
- The account can stay inactive for a maximum of 30 days.
- The user belongs to the primary group `webadmin`.
- The `.login` and `.cshrc` files for `repadmin` are created from the skeleton files in the `/etc/skel` directory.
- The user ID of the user is 5001.
- The default login shell of the user is the C shell.

Installation on UNIX

This section describes the installation process on UNIX.

Pre-Install Checks

Perform the following checks:

1. Check you are installing the Netcool Reporter server on a supported operating system, as described in "Netcool Reporter Server" on page 13.
2. Check there is sufficient memory on the host machine to install the Netcool Reporter server, as described in "Memory Requirements" on page 17.
3. By default the installation installs the supplied Apache web server. If you do not intend to install it as part of the Netcool Reporter server installation please read the section "Host Web Server" on page 13.
4. Check the user you are logged in as has permission to write to the installation directory. By default this location is `/opt/netcool/reporter`. For details of creating a new user, see "Creating a UNIX User and Group" on page 36.

Running the Installation Script—Selecting All Default Options

This section describes the installation sequence when you select the default option at each prompt.



Note: For an Netcool Reporter Oracle repository, the Oracle OCI JDBC Drivers must be installed prior to installing 2.2. The installation of the OCI version of the JDBC drivers may require a custom install of Oracle.

To install Netcool Reporter:

1. Run the install script. The script is located in the Netcool Reporter package in `unix/install-reporter.sh`.
2. The `install-reporter.sh` script displays a welcome message and a list of installation requirements. The list varies between operating systems.

The following text is taken from the installation on Solaris.

```
=====

Welcome to IBM Tivoli Netcool/Reporter 2.2 Installation for Solaris Sparc

=====

Welcome to IBM Tivoli Netcool/Reporter 2.2, the first Java-based query,
reporting, and charting tool for web access to relational databases.


INSTALLATION REQUIREMENTS
-----

To have a proper installation, you will need:

- Solaris 9 or 10.
- At least 341M of disk space.
- A Java-enabled web browser (such as Firefox 1.5+).
- If you choose not to install the supplied Web Server (Apache 1.3.37),
  then Web Server software is required (such as Apache HTTP Server, version
  1.3.37 or higher, compiled with DSO support, --enable-module=so).
- A video adapter card in the server machine. If you do not have a video
  card then you will need to install and run, before starting the Reporter
  server, the X virtual frame buffer server (Xvfb) on screen 0:0

You will need to fulfill these requirements to have a proper
installation.

Proceed with the installation (y/n)? [y]
```

3. You are shown the Netcool Reporter license agreement, and asked if you accept it. Enter yes to continue the installation.

4. You are asked whether you wish to install the supplied Apache web server. IBM recommends that you do install the server during the Netcool Reporter installation and sets the default option to *y* (yes).

WEB SERVER CONFIGURATION

IBM Tivoli Netcool/Reporter needs to be installed in the context of a Web Server.

Do you wish to install the supplied Web Server (Apache 1.3.37) (y/n)? [y]

The following steps in this installation section assume you have elected to install the Apache web sever.

5. Enter the host name for your web server.

Enter the hostname for your web server (Example: www.myserver.com)
Default value is "hostname.domain_name":

Where the default values of *hostname* and *domain_name* are taken from the system information on your machine.

6. Enter the host name for your Netcool Reporter server.

Enter the hostname of your Reporter server
Default value is "hostname":

Where the default value of *hostname* is taken from the value entered in the preceding step.

7. You are asked whether you want to install the Apache server with the HTTPS secure protocol.

Would you like to use HTTPS protocol for the Reporter server (y/n)? [n] n

8. Enter the HTTP port number for your web server.

Enter the http port number of your Web Server (Example: 8080)
Please use the default value unless you are confident to use a different value.
Default value is "80":

The installation validates the port before it continues.

9. Enter the name of the user to run the HTTP daemon as.

Enter the name (or #number) of the user to run httpd as (Example: nobody)
Default value is "nobody":

The default is *nobody* on Solaris.

10. Enter the group ID to run the HTTP daemon as. This question is preceded by an important note about groups.

Important Note

Some kernels refuse to `setgid(Group)` or `semctl(IPC_SET)` when the value of `(unsigned)Group` is above 60000; don't use `Group nogroup` on these systems!

Enter the name (or #number) of the group to run `httpd` as (Example: `nogroup`).

Default value is `"nogroup"`:

11. Enter the name of the SMTP mail server.

Enter the name of your SMTP mail server

(Example: `mail.yourcompany.com`):

Default value is `"mailhost.domain_name"`:

Where the default value of `domain_name` is taken from the system information on your machine.

12. After you complete these steps, the install script displays a summary and asks you to confirm what you have entered. At this point you can choose to continue, go back or abort the installation.

13. Enter the directory where you wish to install Netcool Reporter.

Enter the physical path to where you wish IBM Tivoli Netcool/Reporter 2.2 to be installed.

Default value is `"/opt/netcool/reporter"`:

If the directory does not exist, you are asked whether you wish the install to create the directory. You can also go back or abort at this point. This step is followed by a summary of the Netcool Reporter 2.2 installation.

14. Enter the location for CGI-BIN.

Enter the URL that maps to your `cgi-bin` location.

At a later time, if you wish to configure your drill-chart capabilities, this URL will aid in optional post-installation steps.

(Example: `http://mycomputer.mydomain.com:portnumber/cgi-bin/`)

Default value is `"http://hostname/cgi-bin"`:

Where the default value of `hostname` is taken from the Netcool Reporter server host name.

15. Enter the address from which the alerts are to be sent.

Please specify a fully qualified email address (e.g. `joe@yourcompany.com`) from which scheduling and conditional alerts are sent.

Default value is `"mailhost@domain_name"`:

Where the default value of `mailhost` is taken from the value entered in step 13, and the default value of `domain_name` is taken from the system information on your machine.

16. After you complete these steps, the install script displays a summary of your CGI-BIN and e-mail server answers and asks you to confirm what you have entered. At this point you can choose to continue, go back or abort the installation.

17. Select the database type you wish to use for the repository.

Please choose one of the following database types.

- (1) Oracle 9i
- (2) Oracle 10g
- (3) Sybase 12.5
- (4) DB2 9.1

Select (1), (2), (3), or (4) ? [1]

18. The installation starts the process of configuring the JRun servlet Engine. It displays the following warning.

```
*****
* Note:  If you have already Installed JRun Servlet Engine, *
*        You must stop your JRun server before proceeding  *
*****
```

19. You are asked whether JRun version 3.0 is installed.

Do you have JRun 3.0 installed in your machine (y/n)? [n]

20. If you accept the default option n, you are asked for a location to install JRun.

Enter the full path where you want to install JRun
(Example: /opt/netcool/reporter/jrun)
Default value is "/opt/netcool/reporter/jrun":
/opt/netcool/reporter/jrun

The path is checked and if it does not already exist, the script offers to create it.

21. The script displays a summary list for the repository database and servlet runner.

22. The script now configures the JRun servlet. You are asked for the proxy host and port.

Enter the JRun servlet connector proxy host.
Please use the default value unless you are confident to use a different value.
Default value is "127.0.0.1": 127.0.0.1

Enter the JRun servlet connector proxy port.
Please use the default value unless you are confident to use a different value.
Default value is "8081": 8081

After the port number has been entered the installation validates the port.

23. The script displays a summary for the JRun 3.0 servlet runner.

24. You are asked to choose a method of authentication.

Please select one of the following Authentication Methods.
Please refer to the IBM Tivoli Netcool/Reporter documentation for more detail information on using LDAP.

- (1) Internal
- (2) LDAP

Select (1), or (2) ? [1] 1

You must confirm your selection.

25. You are asked for the INFOPORT number for the Netcool Reporter server.

Please enter the port number for the Netcool Reporter Server:
Please use the default value unless you are confident to use a different value.
Default value is "6889":

The script validates the port.

26. You are asked for the port number for the Netcool Reporter Administration Server.

Please enter the port number for the Netcool Reporter Administration Server:
Please use the default value unless you are confident to use a different value.
Default value is "7777":

The script validates the port then displays a summary showing the numbers entered.

27. You are asked for the Netcool Reporter FTP server port number.

Warning: If you already have an FTP Server running on your system or wish to change these values you need to read FTP section of the IBM Tivoli Netcool/Reporter documentation before proceeding.

Please enter the FTP port numbers

Default value for Listener is 2001:

Default value for Data Port is 2000:

Each port is validated after you enter the number. The script then displays a summary showing the numbers entered.

28. You have a final chance to abort the installation before the files are copied.

We are now ready to copy files to the destination. Choose "Continue" to proceed.

The Supplied Web Server (Apache 1.3.37) will be installed under:
/opt/netcool/reporter/apache

(C)ontinue or (A)bort installation (c/a)? [c]

29. Once the files have been copied you can configure Netcool Reporter to setup the automatic deletion of temporary files.

IBM Tivoli Netcool/Reporter 2.2 uses the following temporary directory to store previewed reports, charts, and graphs:

```
/opt/netcool/reporter/apache/htdocs/infospc/websqlbr/tmp
```

This directory can grow in size very rapidly unless it is emptied periodically. The contents of this directory can be automatically deleted every day at 1:00 AM. The "crontab" command is used, and you must have system privileges for this job to be scheduled properly.

Please enter a number (1 or 2) to select one of the following options:

- (1) Automatically empty the temporary directory at 1:00 AM daily
- (2) Do not automatically empty the temporary directory

Select (1) or (2)? [1] 2

The default option is not to delete these files.

30. You must now complete the repository login.

```
NETCOOL REPORTER 2.2 REPOSITORY LOGIN
-----
```

Netcool Reporter requires details to login to its repository in the database.

This information will be encoded and used whenever the Netcool Reporter server starts.

31. You are asked to enter the repository login user name, password and connection string. These three values allow Netcool Reporter to connect to the repository tables created in "Repository Database Configuration" on page 18. The database name displayed matches the database selected. The following prompts are displayed if Oracle is selected.

Enter the Netcool Reporter 2.2 repository username for your Oracle database.

Default value is "repository_two":

Enter the Netcool Reporter 2.2 repository password for your Oracle database.

Default value is "repository_two":

Enter the connect string for your Oracle database

Default value is "":

The name of the database in the text matches the type of database in use. The script then displays a summary showing the repository login details entered.



Note: The connection string for Oracle must be the same as the value of ORACLE_SID.

32. When the installation is complete the install script provides some post installation advice. This includes instructions on how to launch the Netcool Reporter server and where to find a copy of the Netcool Reporter Administration Guide.

```
POST-INSTALLATION ACTIONS
-----
```

Congratulations, you have finished installing IBM Tivoli Netcool/Reporter 2.2.

Please be reminded that you will need to start the Netcool Reporter server to perform database connection and operations.

Here are some possible actions you might take from here as you use IBM Tivoli Netcool/Reporter 2.2:

If you have not chosen to install the Apache web server without JRun compiled in, you must manually configure JRun, as described in "Configuring JRun on Windows and UNIX" on page 82.

33. You are asked if you want to migrate a previous version of Netcool Reporter to the newly installed Netcool Reporter version 2.2.

Would you like to migrate your previous version of Netcool Reporter (2.0 or 2.1) to your newly installed Netcool Reporter 2.2 (y/n)? [n]

The default option is no. The installer will exit directly since it has successfully finished installing Netcool Reporter 2.2.

If you select yes, the installer will go through sequences for the migration. Refer to the following sections to get a thorough understanding of migration and the required procedures.

- "Upgrading from Netcool Reporter 2.0/2.1 to Netcool Reporter 2.2" on page 102
- "Migrating to Netcool Reporter 2.2 on UNIX Systems" on page 107



Note: For installation on HP-UX operating systems, you need to increase the kernel parameter value for `max_thread_proc`.

Running the Installation Script—Selecting Alternative Options

This section describes the installation process when you choose not to install the Apache web server supplied with Netcool Reporter. It also describes the process when you select LDAP as your method of authentication.



Note: For an Netcool Reporter Oracle repository, the Oracle OCI JDBC Drivers must be installed prior to installing 2.2. The installation of the OCI version of the JDBC drivers may require a custom install of Oracle.

To install Netcool Reporter:

1. Run the install script. The script is located in the Netcool Reporter package at `unix/install-reporter.sh`.
2. The `install-reporter.sh` script displays a welcome message and a list of installation requirements. The list varies between operating systems. See step 2 of the section "Running the Installation Script—Selecting All Default Options" on page 37 for the requirement text from the installation on each operating system.
3. You are shown the Netcool Reporter license agreement, and asked if you accept it. Enter `yes` to continue the installation.

4. You are asked whether you wish to install the supplied Apache web server.

WEB SERVER CONFIGURATION

IBM Tivoli Netcool/Reporter needs to be installed in the context of a Web Server.

Do you wish to install the supplied Web Server (Apache 1.3.37) (y/n)? [y]

The following steps in this installation section assume you have elected not to install the Apache web sever.

5. The script asks for information about your existing web server. Enter the document root directory of the web server you wish to use as your Netcool Reporter server.

To ensure a proper installation, some information about your server is gathered here.

Please specify the document root directory of your Web Server under which Netcool Reporter 2.2 will be installed (example:
/usr/local/etc/httpd/htdocs).

The default value is "/usr/local/apache/htdocs":

6. The script asks for the hostname of your web server and the hostname of your Netcool Reporter server.

Enter the hostname of your web server (Example: www.myserver.com)
Default value is "hostname":

Enter the hostname of your Netcool Reporter server
Default value is "hostname":

Where the default value of *hostname* is taken from the system information on your machine.

7. The script asks whether your web server has HTTPS capability and whether you wish to use this protocol.

Has your web server been configured to use the HTTPS protocol (y/n)? [n]
Would you like to use the HTTPS protocol for the Reporter server (y/n)? [n]

8. Enter the HTTP port number of your web server.

Enter the http port number of your Web Server (Example: 8080)
Please use the default value unless your Web server has been configured for a different port. The default value is "80":

The script verifies the port.

9. Enter the name of your SMTP mail server.

Enter the name of your SMTP mail server
(Example: mail.yourcompany.com).
Default value is "mailhost.domain_name":

Where the default value of *domain_name* is taken from the system information on your machine. The script then displays a summary showing the web server values entered.

10. The script asks where you would like the Netcool Reporter scripts and documents to be installed.

Enter the physical path to where you wish IBM Tivoli Netcool/Reporter 2.2 scripts to be installed.

Default value is "/opt/netcool/reporter/bin":

Enter the physical path to where you wish IBM Tivoli Netcool/Reporter 2.2 documents to be installed.

Default value is "/opt/netcool/reporter/docs":

If the directories do not exist, you are asked whether you wish the install to create the directory. You can also go back or abort at this point. This step is followed by a summary of the Netcool Reporter 2.2 install locations.

11. Enter the locations for CGI-BIN.

Enter the physical path of your cgi-bin location.
(Example: /export/home/cgi-bin/)

Default value is "/tmp/reporter/apache/cgi-bin":

Enter the URL that maps to your cgi-bin location.

At a later time, if you wish to configure your drill-chart capabilities, this URL will aid in optional post-installation steps.

(Example: https://mycomputer.mydomain.com:portnumber/cgi-bin/)
Default value is "https://hostname/cgi-bin":

Where the default value of *hostname* is taken from the Netcool Reporter server host name.

12. Enter the address from which the alerts are to be sent.

Please specify a fully qualified email address (e.g. joe@yourcompany.com) from which scheduling and conditional alerts are sent.
Default value is "mailhost@domain_name":

Where the default value of *mailhost* is taken from the value entered in step 11, and the default value of *domain_name* is taken from the system information on your machine.

13. After you complete these steps, the install script displays a summary of your CGI-BIN and e-mail server answers and asks you to confirm what you have entered. At this point you can choose to continue, go back or abort the installation.

14. Select the database type you wish to use for the repository.

Please choose one of the following database types.

- (1) Oracle 9i
- (2) Oracle 10g
- (3) Sybase 12.5
- (4) DB2 9.1

Select (1), (2), (3), or (4) ? [1] 3

15. If you selected one of the Sybase database types in the last step, select the version of the Oracle database driver to use for the reporting data source.

Please select the version of the Oracle database driver that will be used for the Report engine.

- (1) Oracle 9i
- (2) Oracle 10g

Select (1), or (2) ? [1]

16. The installation starts the process of configuring the JRun servlet Engine. It displays the following warning.

```
*****
* Note:  If you have already Installed JRun Servlet Engine, *
*          You must stop your JRun server before proceeding  *
*****
```

17. You are asked whether JRun version 3.0 has already been installed.

Do you have JRun 3.0 installed in your machine (y/n)? [n]

18. If you already have JRun installed, you are asked for the location of JRun.

Enter the full path where your JRun 3.0 is located
(Example: /disk2/jrun):
Default value is "/usr/local/jrun":

The script checks for JRun at the location entered. This step is followed by a summary of the database settings and JRun locations.

19. The script now checks and displays the setting of your preinstalled JRun servlet.

Summary for the JRun 3.0 servlet runner
Proxy Port is: 8081
Proxy Host is: 127.0.0.1

20. The script displays a summary for the JRun 3.0 servlet runner.

21. You are asked to choose a method of authentication.

Please select one of the following Authentication Methods.
Please refer to the IBM Tivoli Netcool/Reporter documentation for more detailed information on using LDAP.

- (1) Internal
- (2) LDAP

Select (1), or (2) ? [1]

You must confirm your selection.

22. If you have selected the LDAP as your method of authentication, you are asked for the LDAP details.

LDAP SERVER HOST NAME

Please enter the LDAP Server Host Name or IP address
Host Name or IP address:

LDAP SERVER PORT NUMBER

Please enter the LDAP Server Port Number
Port Number:

LDAP USER SEARCH BASE

Please enter the LDAP User Search Base
For example: ou=People,o=yourcompany.com
User Search Base:

LDAP USER SEARCH FILTER

Please enter the LDAP User Search Filter
For example: uid=*
User Search Filter:

LDAP GROUP SEARCH BASE

Please enter the LDAP Group Search Base
For example: ou=groups,o=yourcompany.com
Group Search Base:

LDAP GROUP SEARCH FILTER

Please enter the LDAP Group Search Filter
For example: cn=*
Group Search Filter:

The script displays a summary for the LDAP settings entered.

23. You are asked for the INFOPORT number for the Netcool Reporter server.

```
Please enter the port number for the Netcool Reporter Server:
Please use the default value unless you are confident to use a different
value.
Default value is "6889":
```

The script validates the port then displays a summary showing the number entered.

24. You are asked for the port number for the Netcool Reporter Administration Server.

```
Please enter the port number for the Netcool Reporter Administration
Server:
Please use the default value unless you are confident to use a different
value.

Default value is "7777":
```

The script validates the port then displays a summary showing the numbers entered.

25. You are asked for the Netcool Reporter FTP server port number.

```
Warning:  If you already have an FTP Server running on your system or
wish to change these values you need to read FTP section of the IBM Tivoli
Netcool/Reporter documentation before proceeding.
```

```
Please enter the FTP port numbers
```

```
Default value for Listener is 2001:
```

```
Default value for Data Port is 2000:
```

Each port is validated after you enter the number. The script then displays a summary showing the numbers entered.

26. You have a final chance to abort the installation before the files are copied.

```
We are now ready to copy files to the destination. Choose "Continue"
to proceed.
```

```
(C)ontinue or (A)bort installation (c/a)? [c] c
```

27. Once the files have been copied you can configure Netcool Reporter to setup the automatic deletion of temporary files.

```
IBM Tivoli Netcool/Reporter 2.2 uses the following temporary directory
to store previewed reports, charts, and graphs:
```

```
/opt/netcool/reporter/apache/htdocs/infospc/websqlbr/tmp
```

```
This directory can grow in size very rapidly unless it is
emptied periodically. The contents of this directory can
be automatically deleted every day at 1:00 AM. The "crontab"
command is used, and you must have system privileges for this
job to be scheduled properly.
```

```
Please enter a number (1 or 2) to select one of the following
options:
```

- (1) Automatically empty the temporary directory at 1:00 AM daily
- (2) Do not automatically empty the temporary directory

Select (1) or (2)? [1] 2

The default option is not to delete these files.

28. You must now complete the repository login.

NETCOOL REPORTER 2.2 REPOSITORY LOGIN

Netcool Reporter requires details to login to its repository in the database.
This information will be encoded and used whenever the Netcool Reporter 2.2 server starts.

29. You are asked to enter the repository login user name, password and connection string. These three values allow Netcool Reporter to connect to the repository tables created in "Repository Database Configuration" on page 18.

Enter the Reporter 2.2 repository username for your Oracle database
Default value is "repository_two":

Enter the Reporter 2.2 repository password for your Oracle database
Default value is "repository_two":

Enter the connect string for your Oracle database
Default value is "":

The name of the database in the text matches the type of database in use. The script then displays a summary showing the repository login details entered.

Please note that the connection string for Oracle must be the same as the value of ORACLE_SID.

30. When the installation is complete the install script provides some post installation advice. This include instructions on how to launch the Netcool Reporter server and where to find a copy of the Netcool Reporter Administration Guide.

POST-INSTALLATION ACTIONS

Congratulations, you have finished installing IBM Tivoli
Netcool/Reporter 2.2.
Please be reminded that you will need to start the Netcool Reporter server to perform database connection and operations.

Here are some possible actions you might take from here as you use
IBM Tivoli Netcool/Reporter 2.2:

If you have not chosen to install the supplied Apache web server, JRE and JRun, you must manually configure JRun, as described in "Configuring JRun on Windows and UNIX" on page 82.

31. You are asked if you want to migrate a previous version of Netcool Reporter to the 2.2 just installed.

Would you like to migrate your previous version of Netcool Reporter (2.0 or 2.1) to your newly installed Netcool Reporter 2.2 (y/n)? [n]

The default option is `no`. The installer will exit directly since it has successfully finished installing Netcool Reporter 2.2.

If you select `yes`, the installer will go through sequences for the migration. Refer to the following sections to get a thorough understanding of migration and the required procedures.

- "Upgrading from Netcool Reporter 2.0/2.1 to Netcool Reporter 2.2" on page 102
- "Migrating to Netcool Reporter 2.2 on UNIX Systems" on page 107

Installation Information File

If you have installed the supplied Apache web server, Netcool Reporter installer automatically creates a file called `FinalInstallInfo.txt` in the directory `$REPORTERHOME/docs`.

If you have not installed the supplied Apache web server this file is saved in `$INFOHOME/docs`.

This file records all the choices you make during the install (for example, the location of the web server, JRun and JRE directories, and the port number). You may find this file useful if you need to check what settings you made.

Repository Login

During the UNIX installation you are asked for information about the owner of the user repository tables and related database connection information with Netcool Reporter. These values are stored automatically and you only need to manually change these values if the repository database user name or password is changed. For a description of manually changing the login details, see "Repository Login" on page 28.

Configuring JRun

If you have not installed the supplied Apache web server or the supplied JRun you must manually configure JRun, as described in "Configuring JRun on Windows and UNIX" on page 82.

Running Netcool Reporter

For a description of starting and stopping the components of Netcool Reporter, see "Running Netcool Reporter Components" on page 114.

Creating an SSL Certificate

Netcool Reporter provides a utility called `httpscertificate` for creating an SSL certificate. This certificate can be used when you install a secure version of your web server.

To start the utility, enter the following command:

```
$REPORTERHOME/bin/httpscertificate
```

For instructions on the operation of this utility, at the opening screen, enter the option `h` to view the online help.

You can choose other approaches instead of using the `httpscertificate` utility to create an SSL certificate, for example, using OpenSSL toolkit. For information about the usage of OpenSSL toolkit, refer to http://www.apache-ssl.org/#Main_Features.

Manually Importing the SSL Certificate

If the `httpscertificate` utility does not import an SSL certificate successfully, you can manually import the SSL certificate. To do so, using the following steps:

1. Save the SSL certificate to a file once you receive it from the Certificate Authority (CA), and name the file using the extension `.crt`, for example, `certreq.crt`.
2. Upload the certificate file just saved onto your server to the directory `$REPORTERHOME/docs/`.
3. Make a backup copy of your Apache.
4. Edit the configuration file `$APACHE_HOME/conf/SSL.conf` on your server.
 - Change the path of Server Private Key (`SSLCertificateFile`) to the directory where your certificate files are located. For example:

```
SSLCertificateFile /prod/netcool/reporter/docs/certreq.crt
```

- Change the path of Server Certificate (`SSLCertificateKeyFile`) to the directory where your certificate files are located. For example:

```
SSLCertificateKeyFile /prod/netcool/reporter/docs/certreq.key
```

Chapter 5. Netcool Reporter Server Installation on Windows Systems

This chapter describes how to install and configure the components of the Netcool Reporter Server.

It contains the following sections:

- "Environment Variables" on page 53
- "Pre-Install Tasks" on page 54
- "Web Server Installation" on page 54
- "Netcool Reporter Server Installation" on page 57
- "Configuring JRun on Windows and UNIX" on page 82
- "Repository Login and Starting Netcool Reporter" on page 87

Environment Variables

You must set the environment variable `INFOHOME` before you can use Netcool Reporter. This variable is set by the installation process. It is recommended that you also create the environment variables `REPORTERHOME` and `JRUN_HOME`. These are optional environment variable for convenience only and are used within this guide to simplify the path descriptions to web server locations and JRun locations.

In addition, ensure the environment variables related to the database are set on the Netcool Reporter server. Some of those environment variables are set automatically after the database is installed, but some need to be created manually.

Here below lists some of the database environment variables:

- `%ORACLE_HOME%`
- `%ORACLE_SID%`
- `%SYBASE%`

You may need to consult your database administrator for information on the required environment variables for your database.

Pre-Install Tasks

Perform the following checks:

1. Check you are installing the Netcool Reporter server on a supported operating system, as described in "Netcool Reporter Server" on page 13.
2. Check there is sufficient memory on the host machine to install the Netcool Reporter server, as described in "Memory Requirements" on page 17.
3. You must start your Schedule Service under a Windows system in order to enable Netcool Reporter's automatic temporary-file cleanup feature (as presented during the installation). Start the Schedule Service before you begin the installation process. Open the Control Panel and click **Services**. Find and select the Schedule Task service. If it is not already started, click **Start**. (You must also change the service's startup option to automatic, to make sure it launches each time you reboot the Windows system.)
4. If you are running the Microsoft Internet Information Server, you must make sure its administration service is shut down.
5. You need a decompression program (such as Winzip or PKUnzip) to install the supplied secure Apache web server.

Web Server Installation

You must have a supported web server installed on the host machine before you install the Netcool Reporter server. IBM recommends that you install the supplied Apache web server. The requirements for the Apache web server are listed in "Host Web Server" on page 13.

Netcool Reporter provides a standard installation and a secure installation of the Apache web server.

Standard Apache Web Server Installation

To install the standard Apache web server version 1.3.37:

1. Move to the directory `X:\windows\components\apache\standard`. Where *X* is the path to the Netcool Reporter package.
2. If you are using a Windows 2000 system and you do not have the MSI Windows installer already installed, you must install it by double-clicking the `instmsi.exe` file. The MSI Windows installer is required to install the Apache web server.

3. Double-click the `apache_1.3.37-win32-X86-no_src.msi` file. The Apache server *Welcome* window is displayed, as shown below.

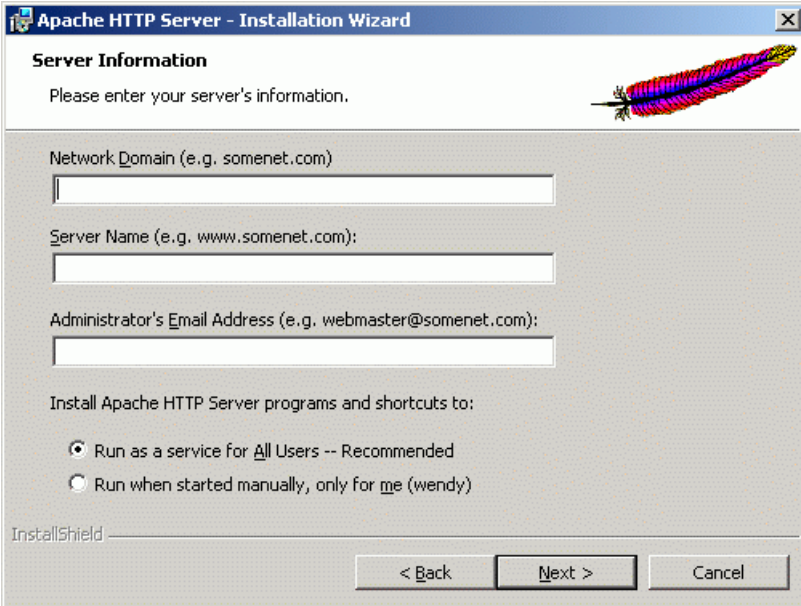


Figure 7. *Welcome Window*

Click the **Next** button to continue with the installation.

4. The *License Agreement* window is displayed. Select the radio button indicating that you accept the terms of the agreement and click the **Next** button.
5. The *Read This First* window is displayed. This window contains pointers to the information on the latest version of Apache, the product documentation, product warnings, installation and configuration details, known problems, licensing and acknowledgements. Click the **Next** button to continue.

6. The *Server Information* window is displayed, as shown below.



Apache HTTP Server - Installation Wizard

Server Information

Please enter your server's information.

Network Domain (e.g. somenet.com):

Server Name (e.g. www.somenet.com):

Administrator's Email Address (e.g. webmaster@somenet.com):

Install Apache HTTP Server programs and shortcuts to:

☒ Run as a service for **A**ll Users -- Recommended

☐ Run when started manually, only for **m**e (wendy)

InstallShield

< Back Next > Cancel

Figure 8. *Server Information Window*

Enter the network domain for the server, the server name and the e-mail address of the server administrator.

7. The *Setup Type* window is displayed. IBM recommends that you select the **Complete** radio button for a complete installation. You can also choose the **Custom** radio button to change the installation options. This guide does not include a description of the customization windows. Click the **Next** button to continue.
8. The *Destination Folder* window is displayed. You can change the default destination folder by clicking the **Change** button. Click the **Next** button to continue.
9. The *Ready to Install the Program* window is displayed. Click the **Install** button to start the installation.
10. When the installation is complete the *Installation Wizard Complete* window is displayed. Click the **Finish** button to end the installation.
11. On Windows 2000 a dialog box is displayed telling you to restart your system for the configuration changes to take effect. Click **Yes** to restart your machine now or **No** to restart your machine later.
12. The Apache web server is automatically installed as a service and the service is started.

Secure Apache Web Server Installation

The installation process for the secure Apache web server is described in full in the file `X:\windows\components\apache\ssl\apache-ssl-win32-howto-V1.2.5.htm` 1. Where *X* is the path to the Netcool Reporter package on your machine.

This HTML file contains a text description of the following processes:

- Complete the Standard installation.
- Decompress the file `Apache_1.3.37_Mod_SSL_2.8.9-OpenSSL-0.9.6d_Win32.zip` to the web server root directory.
- Create a new certificate for your secure Apache web server.



Note: For information about Apache-SSL configuration, refer to `\components\apache\SSL\Apache2-SSL-Howto.txt`, which is provided along with the Netcool reporter installation package.

See also http://www.apache-ssl.org/#Main_Features.

Netcool Reporter Server Installation

To start the installation procedure:



Note: You cannot install the Netcool Reporter server before the Apache web server. For an Netcool Reporter Oracle repository, the Oracle OCI JDBC Drivers must be installed prior to installing 2.2. The installation of the OCI version of the JDBC drivers may require a custom install of Oracle.

1. Move to the directory `X:\windows\reporter_2-2\`. Where `X` is the path to the Netcool Reporter package on your machine.
2. Double-click the `setup.exe` file. The *Welcome to the IBM Netcool Reporter Settings* window is displayed, welcoming you to Netcool Reporter, as shown below. Click the **Next>** button.



Figure 9. *Welcome Window*

3. The *Software Information and Requirements* window is displayed, as shown below. Read the information, then click the **Next>** button.

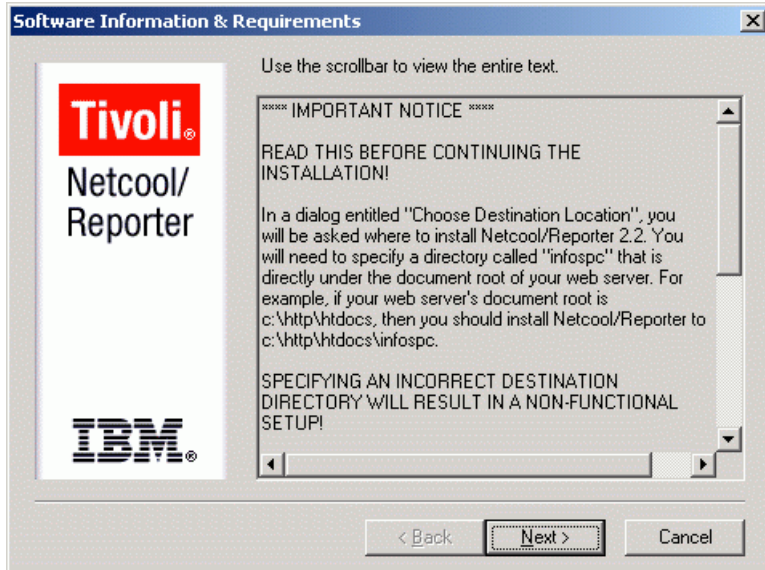


Figure 10. *Software Information and Requirements Window*

(The installation requirements shown at that time take precedence over those listed in this manual to account for operating system distinctions.)

4. A copy of the software license agreement is displayed, as shown below. You must read it before proceeding, and decide whether you wish to accept it or not. If you decide to accept the agreement, click **Yes**.

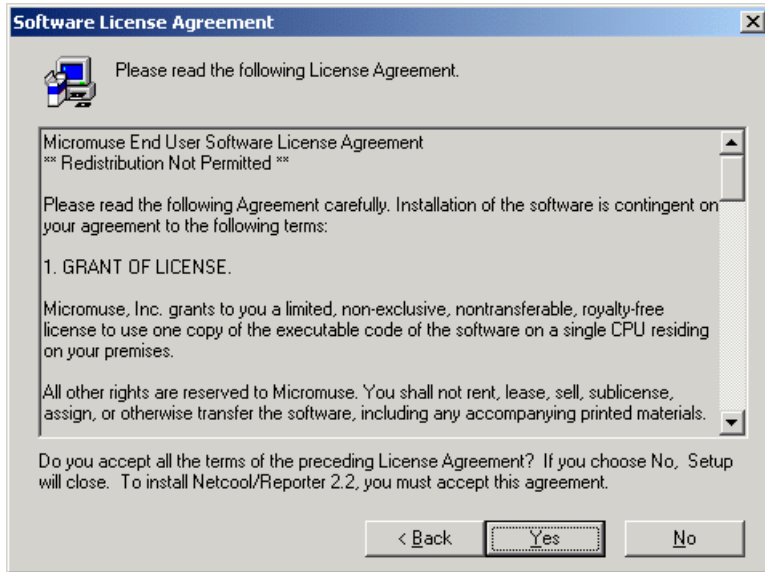


Figure 11. *Software License Agreement Window*

5. You are asked to choose a directory where Netcool Reporter is to be installed (the `infospc` directory), as shown below. You are required to install Netcool Reporter at the document root of the web server. If the default destination is correct, click the **Next>** button.



Figure 12. *Confirm Home Directory Window*

6. The *Select Program Folder* window is displayed, as shown below. The installation asks you how you want the program to be listed in your program group. You can use the default name or give it the name of your choice and click the **Next>** button.

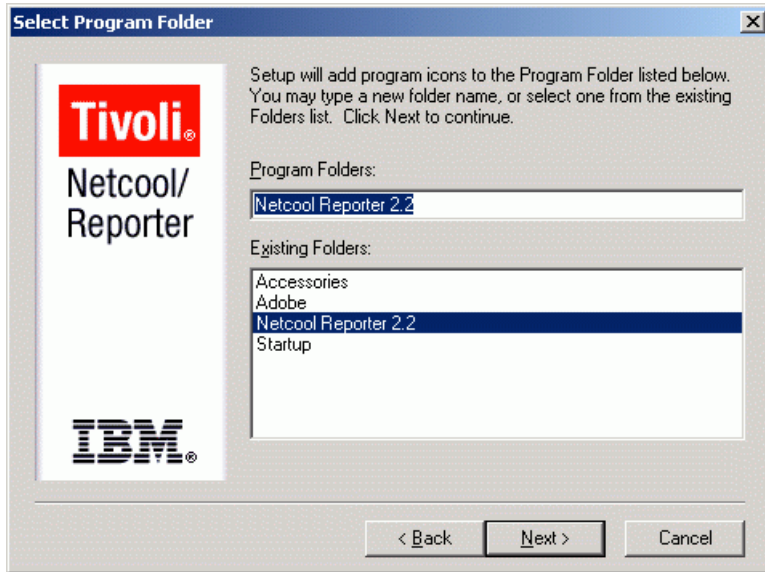


Figure 13. *Select Program Folder Window*

7. In the next window you are asked to choose a database for the repository database, as shown below. The User Management information is stored in a relational database. Select the appropriate database module for this database.

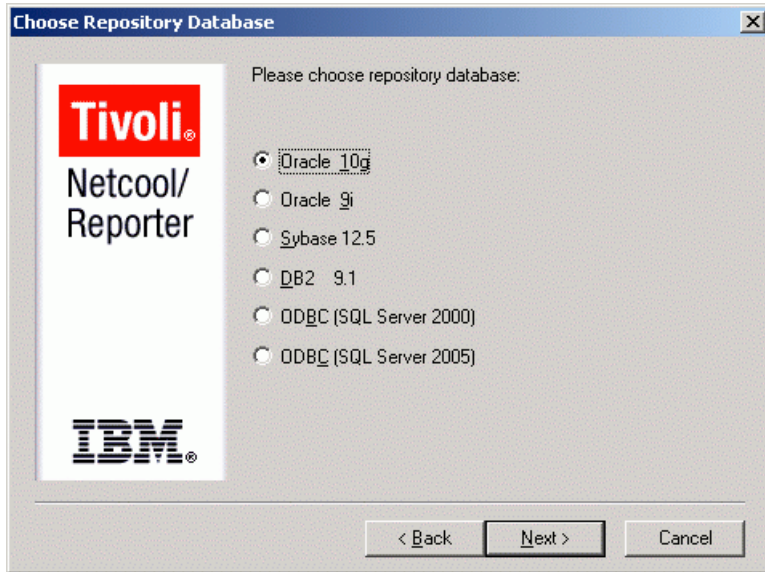


Figure 14. *Choose Repository Database Window*

8. Select the database driver to use, as shown below. This window is shown only when you chose one of the ODBC repository databases.

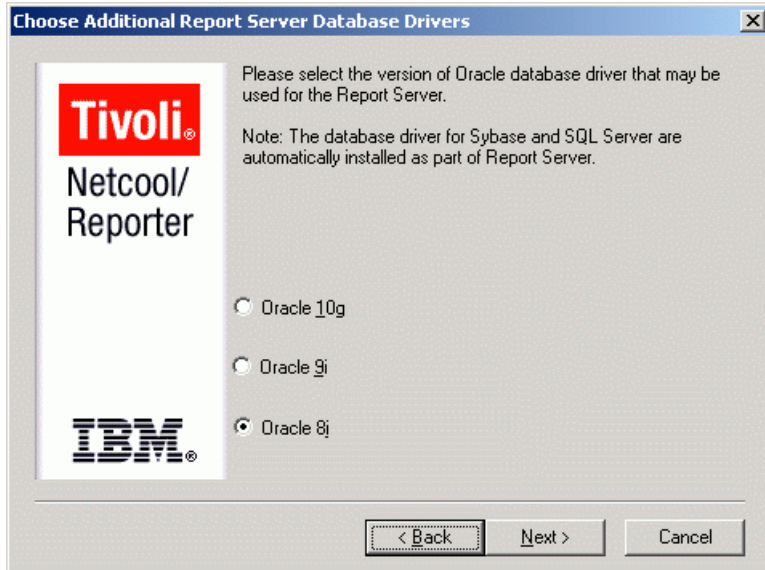


Figure 15. Database Driver Window

9. The *Choose Netcool Reporter Configuration* window is displayed, as shown below. You can choose how you want the Netcool Reporter server to operate.



Figure 16. Adding a Menu Pane

The Netcool Reporter server can run as a Windows service or as a foreground process.

- If you register the Netcool Reporter server as an Windows service, you can start and stop it from the **Services** controller in the Windows Control Panel. Note that the Netcool Reporter server is installed as a manual service. This is because you must follow the post-installation steps in this manual before you launch the Netcool Reporter server. Once you have done this, you can use the **Services** controller to launch the Netcool Reporter server automatically when the server machine boots.
- If you place the Netcool Reporter server in the program and startup groups, it is launched automatically (as an ordinary foreground application) when you log on to the server. Note that you must finish configuring the Netcool Reporter server before you launch it for the first time.
- If you place the server in the program group, it cannot be launched automatically. You must launch it manually every time you log in.

If you are installing Netcool Reporter as an automatic service and are primarily using ODBC connections, make sure that the user who owns the Netcool Reporter server service is the same user that owns the ODBC connection. It is also useful to have any ODBC aliases you want to use with Netcool Reporter set as `system DSN`.

10. You are asked whether you have installed a standard or a secure web server, as shown below.

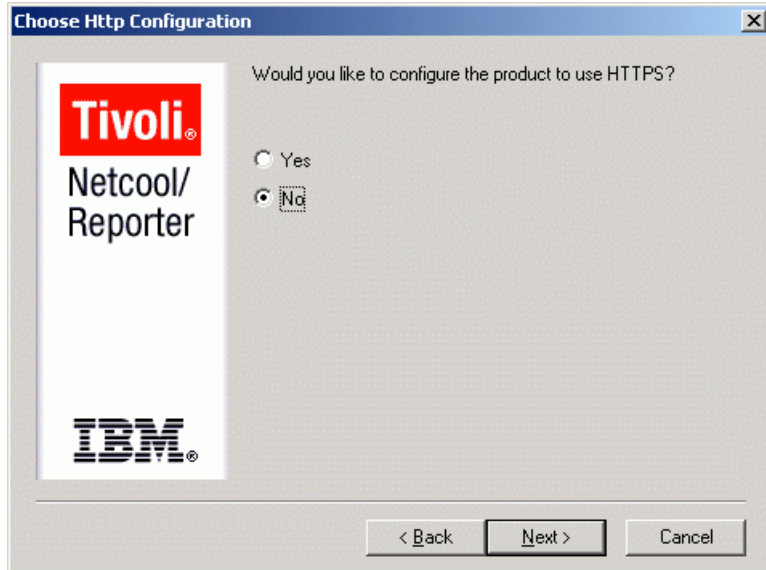
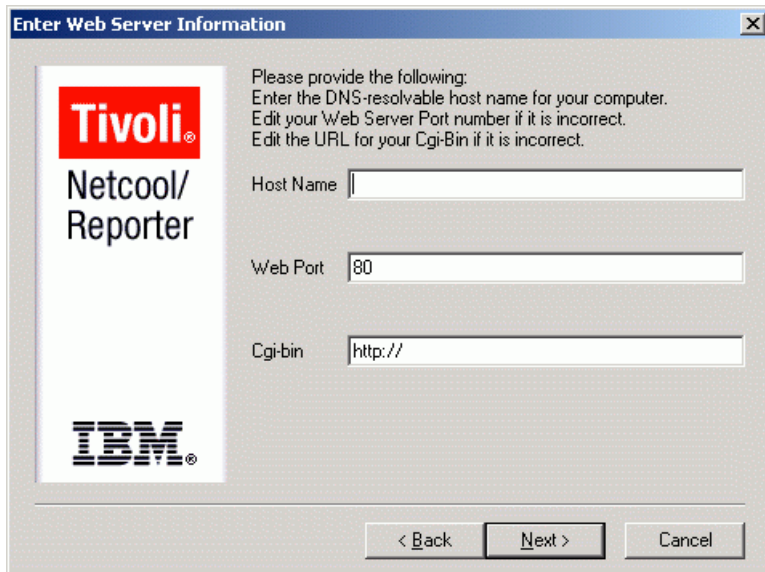


Figure 17. Choose HTTP Configuration Window

Select the **Yes** checkbox if you are using a secure web server.

11. The *Enter Web Server Information* window is displayed, as shown below.



Enter Web Server Information

Please provide the following:
Enter the DNS-resolvable host name for your computer.
Edit your Web Server Port number if it is incorrect.
Edit the URL for your Cgi-Bin if it is incorrect.

Host Name

Web Port

Cgi-bin

< Back Next > Cancel

Figure 18. *Enter Web Server Information Window*

Enter the fully-qualified name of the machine on which you have installed the Apache web server. (For example, if you are installing it on the machine bob in the domain ibm.com, you would enter bob.ibm.com.) The name must match the name that you use to access the machine from the web.

Enter the port number of your web server. The default port number is 80.

Enter the URL of the directory on the web server used to hold CGI executable files. (You can set this directory with your web server's administration tools.)

12. The *Enter Reporter Information* window is displayed, as shown below.



The image shows a Windows-style dialog box titled "Enter Reporter Information". On the left side, there is a vertical panel containing the Tivoli logo (a red square with "Tivoli" in white), the text "Netcool/Reporter" in black, and the IBM logo at the bottom. To the right of this panel, the text "Please enter the following information for the Netcool/Reporter Server." is displayed. Below this text are two input fields: "Host Name" and "Info Port". At the bottom of the dialog box, there are three buttons: "< Back", "Next >", and "Cancel".

Figure 19. *Enter Reporter Information Window*

Enter the hostname and the Info port of the Netcool Reporter server.

13. The *Enter Mail Server Information* window is displayed, as shown below. You can set the Netcool Reporter server to send e-mail periodically, or when specific conditions are met. You must enter an e-mail address that the Netcool Reporter server can use as its return address. (You must set up an account for this address as bounced e-mail is sent there. You must also enter the SMTP mail server name.)

Enter Mail Server Information

Please specify a fully qualified email address (eg. joe@yourcompany.com) from which scheduling and conditional alerts are sent. Please specify a SMTP mail server name.

EMail

SMTP

< Back Next > Cancel

Figure 20. *Enter Mail Server Information Window*

14. The *Enter Cgi-bin Location* window is displayed, as shown below. Enter the actual physical path of the directory used to hold the CGI files. This is the address you would type into a web browser to find the directory over the network. In this step, you are entering the path as it would appear in a file explorer if you navigated to the directory on the actual machine.)

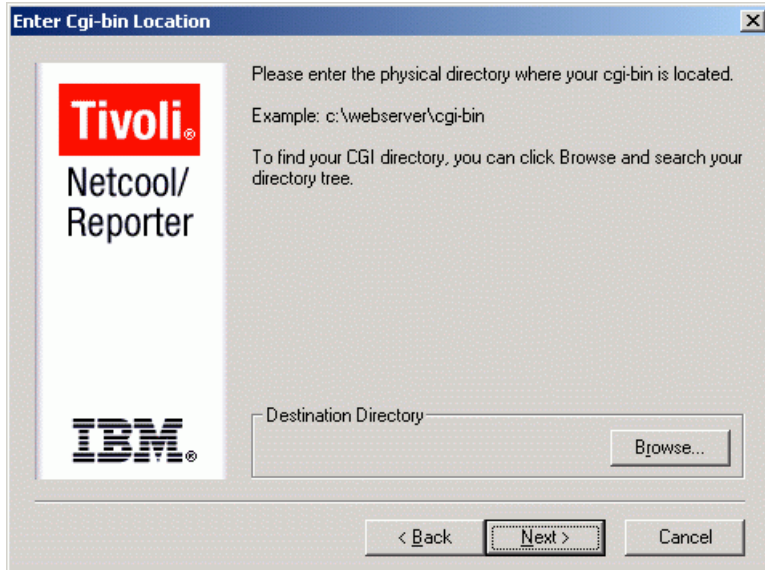


Figure 21. *Enter Cgi-bin Location Window*

The directory is initially blank. When you enter a directory the installation program checks the location. If the directory chosen cannot be found, a warning is displayed and you are asked to enter another directory.

15. The *Enter FTP Ports* window is displayed, as shown below. Enter the FTP ports.

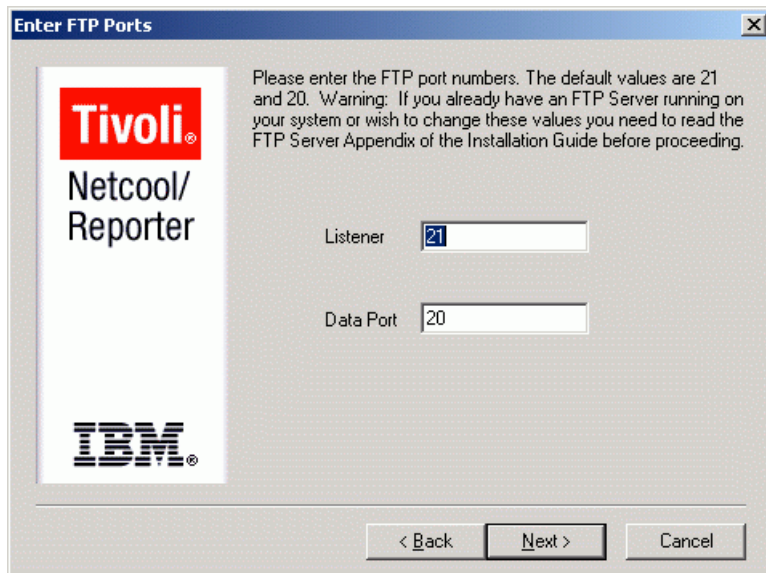


Figure 22. *Enter FTP Ports Window*

16. The *Choose Authentication Service* window is displayed, as shown below. Select the type of authentication to use.

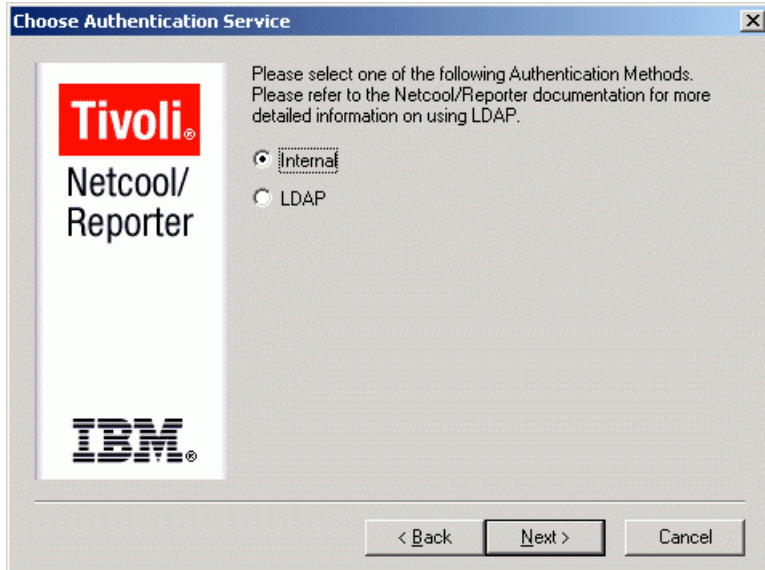
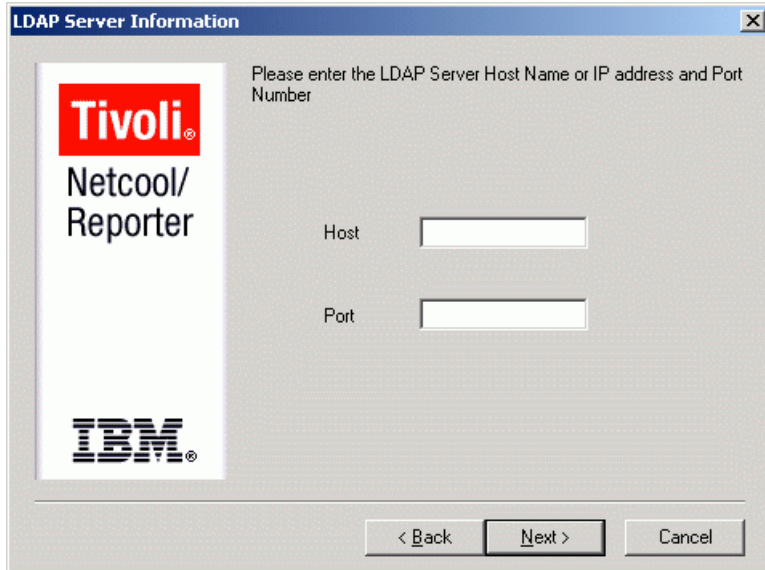


Figure 23. *Choose Authentication Service Window*

If you select the Internal option, the installation continues with step 22.


17. If you selected the LDAP authentication option, the *LDAP Server Information* window is displayed, as shown below. Enter the LDAP server host name and port number.



The image shows a Windows-style dialog box titled "LDAP Server Information". On the left is a vertical banner with the "Tivoli" logo in a red box, "Netcool/Reporter" text, and the "IBM" logo at the bottom. The main area contains the text "Please enter the LDAP Server Host Name or IP address and Port Number". Below this are two input fields: "Host" and "Port". At the bottom are three buttons: "< Back", "Next >", and "Cancel".

Figure 24. *LDAP Server Information Window*

18. The *LDAP User Search Information* window is displayed, as shown below. Enter the LDAP user search settings.



The image shows a Windows-style dialog box titled "LDAP User Search Information". On the left is a vertical banner with the "Tivoli" logo in a red box, "Netcool/Reporter" text, and the "IBM" logo at the bottom. The main area contains the text "Please enter the LDAP User Search Base and Search Filter" and an example: "User Base example: ou=People,o=yourcompany.com". Below this are two input fields: "UserSB" and "UserSF". At the bottom are three buttons: "< Back", "Next >", and "Cancel".

Figure 25. *LDAP User Search Information Window*

19. The *LDAP Group Search Information* window is displayed, as shown below. Enter the LDAP group search settings.

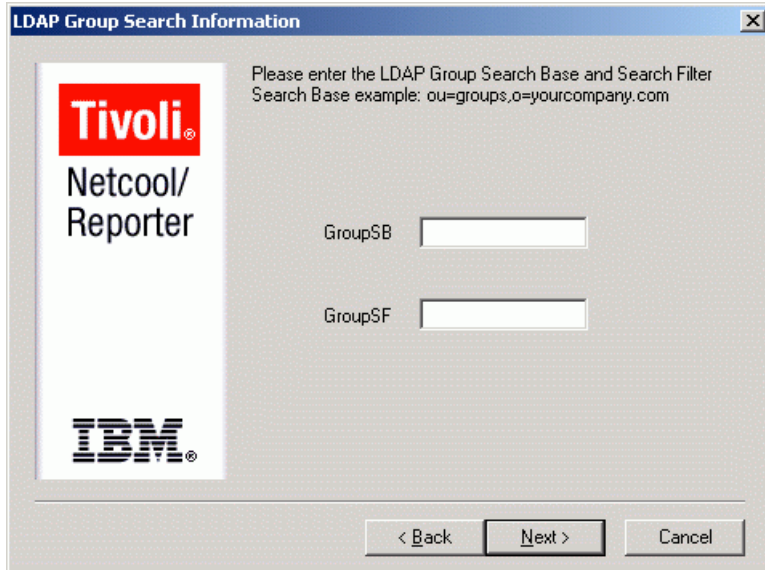


Figure 26. *LDAP Group Search Information Window*

20. You are asked if you would like to install JRun 3.0 (Required to run Netcool Reporter). If you do not have a copy of JRun 3.0, click **Yes**. If you do have a copy of JRun 3.0, click **No**.

21. If you click **Yes** to install JRun, the *Choose Destination Location* window is displayed, as shown below. Choose the install location.



Figure 27. *Choose Destination Location Window*

22. If you click **No**, the *JRun Directory* window is displayed, as shown below. Enter the location of JRun.

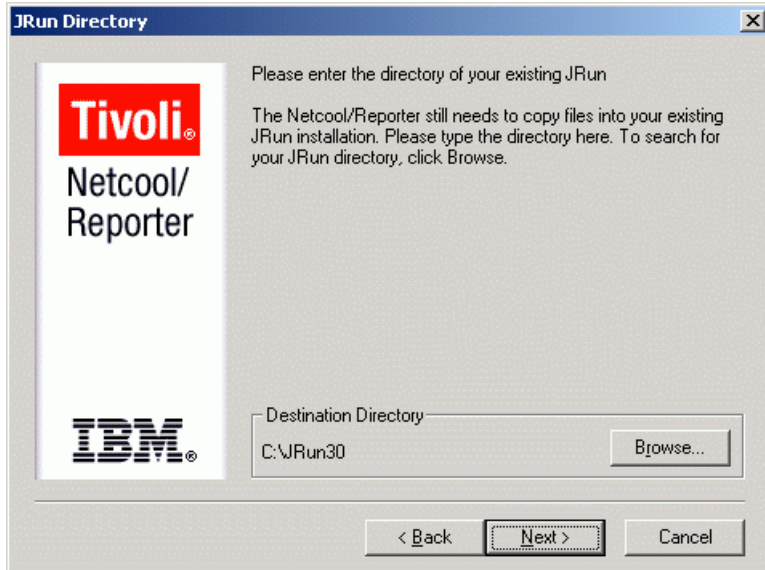


Figure 28. *JRun Directory*

If the directory cannot be found, a warning message is displayed asking you to install JRun.

23. The *Enter Repository Login Information* window is displayed, as shown below. Enter the Netcool Reporter repository login details.



Enter Repository Login Information

Tivoli[®]
Netcool/
Reporter

IBM[®]

Enter user name for repository login
repository_two

Enter password for repository login
repository_two

Enter connect string for repository, if any

< Back Next > Cancel

Figure 29. *Enter Repository Login Information*

The installation completes the Repository Login process. In earlier versions of Netcool Reporter you had to use the SetRepLogin script after installation.

24. You are shown a summary of what you have chosen as the installation options. If these settings are correct, click the **Next>** button to continue.



Figure 30. *Confirm Settings Window*

25. The *Optional Temporary File Deletion* window is displayed, as shown below. As Netcool Reporter runs, the `infospc\websqlbr\tmp` directory is used to hold some of the files created during normal operation. If you want this directory to be automatically emptied on a regular basis, choose the appropriate option.

If you have chosen not to automatically empty the directory, it can become very large. You must manually empty the `infospc\websqlbr\tmp` directory on a regular basis.

Choose an option and click the **Next>** button.

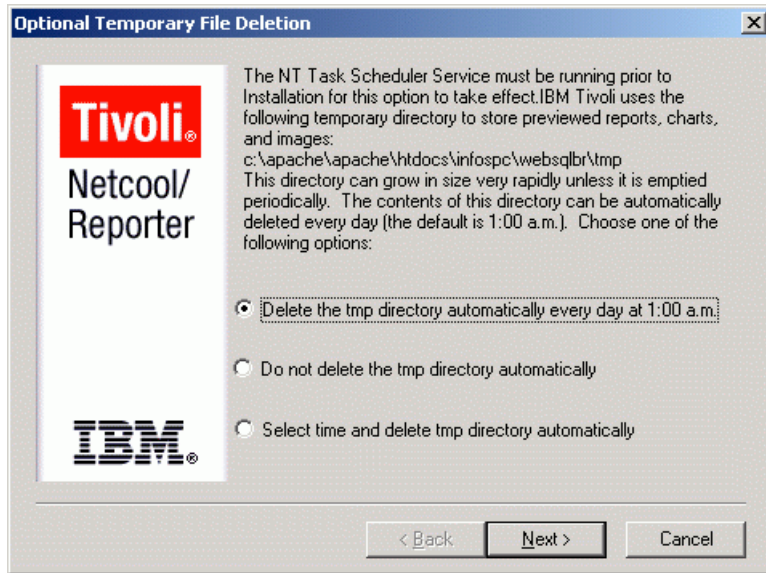


Figure 31. *Choosing Temporary File Deletion Option*

26. The installer begins to install Reporter 2.2 on your machine.

27. When the installation is completed, the installer asks you whether you want to migrate a previous version of Reporter to the newly installed version, as shown in the following figure. Choose an option and click the **Next>** button.

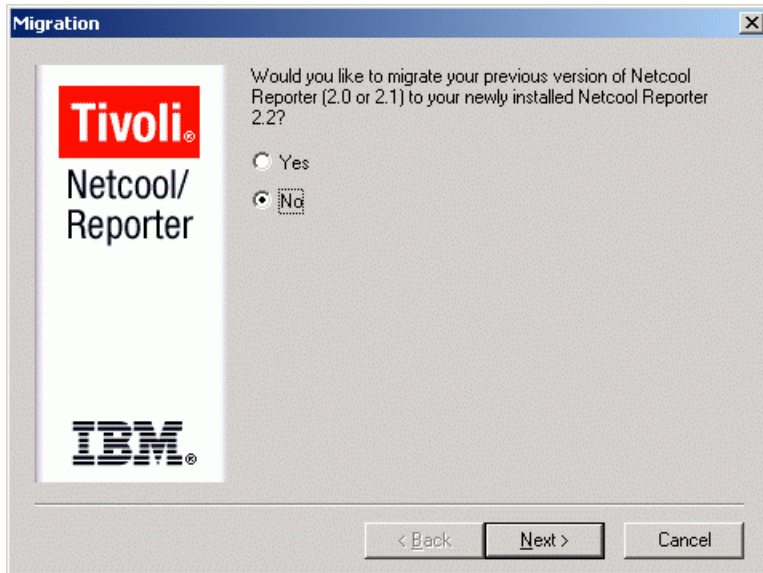


Figure 32. *Migration*

28. The installer prompts you to run the Server Connector Wizard to setup JRun. Details of the Server Connection Wizard can be found in "Configuring JRun on Windows and UNIX" on page 82.

29. The *Setup Complete* window is displayed as shown below. You are asked to reboot your machine and then perform some post-installation steps (for example, configuring JRun).

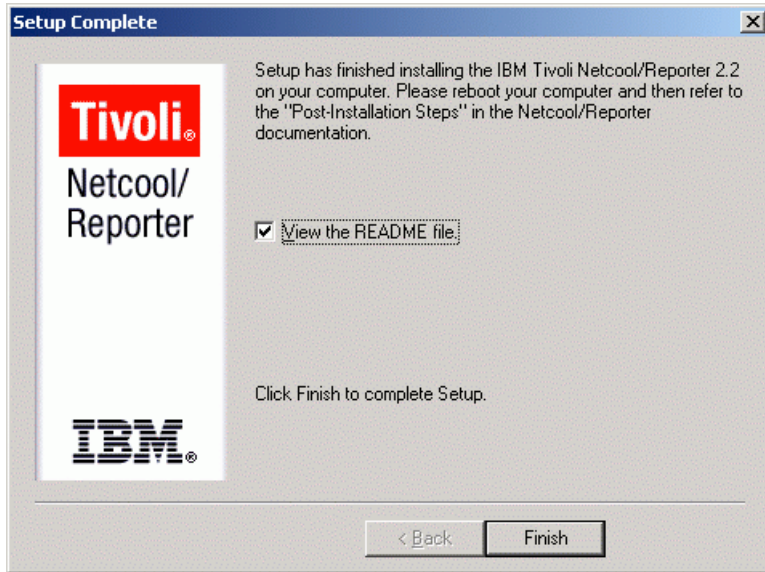


Figure 33. *Setup Complete Window*

There is one checkbox option you can choose:

View the README file. - Opens the readme file of Netcool Reporter 2.2.

30. Click the **Finish** button to complete the installation.

The ReadMe file is opened if you chose to display the file in the previous step.

31. If you chose to migrate your Reporter in step 27, a new command window is then opened on which you may work through the sequences for the migration. Refer to the following sections to get a thorough understanding of migration and the required procedures.
- "Upgrading from Netcool Reporter 2.0/2.1 to Netcool Reporter 2.2" on page 102
 - "Migrating to Netcool Reporter 2.2 on Windows Systems" on page 103

After you finish the installation, you must configure the JRun product, as described in "Configuring JRun on Windows and UNIX" on page 82.



Note: If your web server launches automatically when the machine is rebooted, you must stop the server again before configuring the JRun Server. If you are running the Microsoft Internet Information Server, you must also make sure its administration service is not running before you install JRun.

Installation Information File

The Netcool Reporter installer automatically creates a file called `FinalInstallInfo.txt` in the top level of the Netcool Reporter installation. On Windows systems this directory is `%INFOHOME%`.

This file records all the choices you make during the install (for example, the location of the JRun directory, and the port number). You may find this file useful if you need to check what settings you made.

Configuring JRun on Windows and UNIX

On a Windows system you must configure JRun after completing the Netcool Reporter server installation. Windows systems always install the correct version of JRun during the Netcool Reporter server installation. On UNIX systems you must configure JRun if you have installed a web server without JRun compiled in.

Starting the JRun Application Management Console on Windows



Note: Your browser might not have been set up to allow Active Scripting. This may prevent the JRun Connector Wizard from displaying properly on Windows (64-bit particularly). To enable Active Scripting in your browser, click **Internet Options->Security->Internet->Custom Level->Scripting->Active Scripting** and select **Enable** or **Prompt**.

To start the JRun Application Management Console and Server Administrator on Windows:

1. Shut down the web server before you configure JRun.
2. Start the JRun Admin Server using the Windows **Start** option
Start—Programs—Netcool Reporter 2.2—JRun 3.0—JRun Admin Server.

3. Run the JRun Management Console using the Windows **Start** option **Start—Programs—Netcool Reporter 2.2—JRun 3.0—JRun Management Console**.
4. Login using the user name `admin` and the password `admin`. The *Management Console* page opens in a web browser, as shown below.



Figure 34. Management Console Welcome Page

Starting the JRun Application Management Console on UNIX

To start the JRun Application Management Console and Server Administrator on UNIX:

1. Shut down the web server before you configure JRun.
2. Start the JRun Admin Server using the command:

```
$JRUN_HOME/bin/jrun -start admin
```
3. On Solaris, open a browser window and enter the URL:

```
http://localhost:8000
```


Where *localhost* is the name of the machine running the web server.
4. Login using the user name `admin` and the password `admin`.
5. The *Management Console* page opens in a web browser, as shown in Figure 34.

Using the JRun Connection Wizard

To configure JRun using the connection wizard:

1. On the *Management Console* page, click the **connection wizard** button on the menu bar.
2. The first page of the Wizard is displayed in the main frame. Only the content of this frame is shown below.



Figure 35. JRun Connection Wizard - Page 1

Select the JRun server name option **JRun Default Server** from the list of servers. Select the web server type option **Apache Web Server** and the version **1.3.9+**.

Click **next >** to proceed to the next page.

3. The second page of the Wizard is displayed in the main frame. Only the content of this frame is shown below.

Connector Wizard

Current Step: 1 2 3 4

Step 2 of 4

JRun Server Connection Module Settings:

JRun Server IP Address: 127.0.0.1

JRun Server Connector Port: 8081

< back next > cancel

Wizard Summary

Step 1:

JRun Server Name: JRun Default Server

Web Server Type: Apache Web Server

Figure 36. JRun Connection Wizard - Page 2

The default value is the IP address used to identify the local host machine. IBM recommends you leave the connector port as the default value 8081.

Click **next >** to proceed to the next page.

4. The third page of the Wizard is displayed in the main frame. Only the content of this frame is shown below.



Figure 37. JRun Connection Wizard - Page 3

Use the Browse button to locate the `conf` directory below the root directory of the Apache web server.

Click **next >** to proceed to the next page.

5. The fourth page displays a message saying you have successfully installed the connector for Apache web server. It also displays the summary of the values entered in wizard.

Click the **done** button to exit the wizard.

JRun Reference

This section contains reference information on JRun. A description of the JRun configuration process can be found in "Using the JRun Connection Wizard" on page 84.

JRun is an application for supporting servlet-enabled web servers. JRun is supplied with Netcool Reporter to support its web server components. The main benefit of having JRun is that you can choose the Java Virtual Machine (JVM) that you want to run with the servlets, rather than being restricted to using the JVM supplied with the web server. JRun includes a Java servlet runner, a Java Server Pages (JSPs) compilation engine, and an optional Java web server.

The main component is the JRun Service Manager (JSM), which loads and initializes services, or protocol-independent components that provide specific capabilities. Three services are included in JRun:

- JRun Servlet Engine (JSE) Service: The JSE service is responsible for running and handling Java servlet pages. JSE allows any service to run servlets.
- JRun Connector Proxy Service: The JCP service facilitates communication between JSE and any external source (such as a web server or application server).
- JRun Web Server Service: Not used by Netcool Reporter.

JSM runs as its own process, or as an independent entity. The services included within JSM run independently from the web server, or out-of-process. A web server acts as a client that communicates indirectly to applicable services.

The out-of-process model provides several advantages. Servlet developers can select the type of Java Virtual Machine (JVM) that they want to run with their servlets, independent of the JVM that is supplied by their web server. For example, a servlet developer running Netscape's Enterprise Server can choose to run servlets (including servlets generated from files with the `.jsp` extension) with Sun's or Microsoft's JVM rather than the JVM included with the Netscape server. The out-of-process model includes several additional advantages: increased stability of the web server, the ability to bring a web server up and down independently of JRun, and the ability for a single service (particularly the JSE) to communicate to multiple web servers.

Because a web server acts as a client that communicates indirectly to the services, in order for a web server to communicate to the JSE, it needs to establish some sort of connection. JRun provides and installs a native connector in the web server that is responsible for making the connection from the web server to JSE. When a request is made for a servlet, the native connector opens a socket connection to the JCP service residing within JSM. The JCP service serves as a transparent communicator and translates the request coming from the native connector to the JSE Service. The JSE service handles the request and sends its reply back to the JCP service.

The JRun folder that loads into the system automatically, during the installation of the Netcool Reporter server, contains the directory `JRun/docs`, which includes PDF files that provide more information about how to modify JRun configuration.

Repository Login and Starting Netcool Reporter

In Netcool Reporter version 2.2 the repository login is completed as part of the installation. The details for the login are entered in the *Enter Repository Login Information* window, as shown in Figure 29.

To start and stop the Netcool Reporter components on a Windows system, see the instructions in "Running Netcool Reporter Components" on page 114.

Chapter 6. Netcool Reporter Server Installation on Redhat LINUX

This chapter describes how to install and configure the components of the Netcool Reporter Server on Redhat LINUX.

It contains the following sections:

- "Creating a LINUX User and Group (Optional)" on page 88
- "Installation on LINUX" on page 88
- "Post-Installation Steps" on page 97

Creating a LINUX User and Group (Optional)

It is important that you use a user account that has sufficient privileges to install software and to access all databases that Netcool Reporter is to query. If you do not have a user already configured with these privileges this section describes how you can create a LINUX user called:

```
repadmin
```

In order to run Netcool Reporter successfully, you need to install it under the document root directory of your web server. For this reason, the `repadmin` user needs to have privileges to create directories under your document root directory. The `repadmin` user also needs to be able to write files under the `cgi-bin` directory. This user must also have permission to create `cron` jobs.

You must assign the `repadmin` user account to the group that administers your web site. If you do not have a special group with privileges to administer your web site, it is recommended that you create a new `webadmin` group with these privileges and assign the `repadmin` user to that group.

Please refer to your LINUX system's instructions manual for commands to create new users and groups. You can also use any graphical user-management utility available on your system.

Installation on LINUX

This section describes the installation process on LINUX.

Pre-Install Checks

Perform the following checks:

1. Check if there is sufficient memory on the host machine to install the Netcool Reporter server, as described in "Memory Requirements" on page 17.
2. Check if the user you are logged in as has permission to write to the installation directory. By default this location is `/opt/netcool/reporter`. For details of creating a new user, see "Creating a LINUX User and Group (Optional)" on page 88.
3. The following Redhat Linux packages must be installed before the Netcool Reporter 2.2 installation (you can find these packages in the RedHat Linux installation disks):
 - `compat-libstdc++-33-3.2.3-47.3.i386.rpm`
 - `compat-libstdc++-296-2.96-132.7.2.i386.rpm`
 - `ncompress-4.2.4-40.i386.rpm`
4. The Oracle patch for Bug 3006854 must be installed before installing Netcool Reporter 2.2 (you can find the patch on the Oracle website).

Running the Installation Script

This section describes the installation sequence when you select the default option at each prompt.

To install Netcool Reporter:

1. Run the install script. The script is located in the Netcool Reporter package in `linux/install-reporter.sh`.
2. The `install-reporter.sh` script displays a welcome message and a list of installation requirements.

```
=====
Welcome to IBM Tivoli Netcool/Reporter 2.2 Installation for Linux
=====

Welcome to IBM Tivoli Netcool/Reporter 2.2, the first Java-based query,
reporting, and charting tool for web access to relational databases.

INSTALLATION REQUIREMENTS
-----

To have a proper installation, you will need:

- RedHat Linux AS/ES/WS 2.1 or above.

- At least 341M of disk space.

- A Java-enabled web browser (such as Firefox 1.5+).

- If you choose not to install the supplied Web Server (Apache 1.3.37),
then Web Server software is required (such as Apache HTTP Server, version
1.3.37 or higher, compiled with DSO support, --enable-module=so).

- A video adapter card in the server machine. If you do not have a video
card then you will need to install and run, before starting the Reporter
server, the X virtual frame buffer server (Xvfb) on screen 0:0, which is
available from http://www.xfree86.org, RPM package
XFree86-Xvfb-<version>-<release> where version and release are
appropriate for your kernal.

You will need to fulfil these requirements to have a proper installation.

Proceed with the installation (y/n)? [y] y
```

3. You are shown the Netcool Reporter license agreement, and asked if you accept it. Enter yes to continue the installation.

4. You are asked whether you wish to install the supplied Apache web server. IBM recommends that you do install the server during the Netcool Reporter installation and sets the default option to *y* (yes).

WEB SERVER CONFIGURATION

IBM Tivoli Netcool/Reporter needs to be installed in the context of a Web Server.

Do you wish to install the supplied Web Server (Apache 1.3.37) (y/n)? [y]

The following steps in this installation section assume you have elected to install the Apache web server.

5. Enter the host name for your web server.

Enter the hostname for your web server (Example: www.myserver.com)
Default value is "hostname.domain_name":

Where the default values of *hostname* and *domain_name* are taken from the system information on your machine.

6. Enter the host name for your Netcool Reporter server.

Enter the hostname of your Reporter server
Default value is "hostname":

Where the default value of *hostname* is taken from the value entered in the preceding step.

7. You are asked whether you want to install the Apache server with the HTTPS secure protocol.

Would you like to use HTTPS protocol for the Reporter server (y/n)? [n] n

8. Enter the HTTP port number for your web server.

Enter the http port number of your Web Server (Example: 8080)
Please use the default value unless you are confident to use a different value.
Default value is "443":

The installation validates the port before it continues.

9. Enter the name of the user to run the HTTP daemon as.

Enter the name (or #number) of the user to run httpd as (Example: nobody)
Default value is "nobody":

The default is nobody on LINUX.

10. Enter the group ID to run the HTTP daemon as. This question is preceded by an important note about groups.

Important Note

Some kernels refuse to `setgid(Group)` or `semctl(IPC_SET)` when the value of `(unsigned)Group` is above 60000; don't use `Group nogroup` on these systems!

Enter the name (or #number) of the group to run `httpd` as (Example: `nogroup`).

Default value is `"nogroup"`:

11. Enter the name of the SMTP mail server.

Enter the name of your SMTP mail server

(Example: `mail.yourcompany.com`):

Default value is `"mailhost.domain_name"`:

Where the default value of `domain_name` is taken from the system information on your machine.

12. After you complete these steps, the install script displays a summary and asks you to confirm what you have entered. At this point you can choose to continue, go back or abort the installation.

13. Enter the directory where you wish to install Netcool Reporter.

Enter the physical path to where you wish IBM Tivoli Netcool/Reporter 2.2 to be installed.

Default value is `"/opt/netcool/reporter"`:

If the directory does not exist, you are asked whether you wish the install to create the directory. You can also go back or abort at this point. This step is followed by a summary of the Netcool Reporter 2.2 installation.

14. Enter the location for CGI-BIN.

Enter the URL that maps to your `cgi-bin` location.

At a later time, if you wish to configure your drill-chart capabilities, this URL will aid in optional post-installation steps.

(Example: `https://mycomputer.mydomain.com:portnumber/cgi-bin/`)

Default value is `"https://netcool:443/cgi-bin"`:

Where the default value of `hostname` is taken from the Netcool Reporter server host name.

15. Enter the address from which the alerts are to be sent.

Please specify a fully qualified email address (e.g. `joe@yourcompany.com`) from which scheduling and conditional alerts are sent.

Default value is `"mailhost@domain_name"`:

Where the default value of `mailhost` is taken from the value entered in step 6, and the default value of `domain_name` is taken from the system information on your machine.

16. After you complete these steps, the install script displays a summary of your CGI-BIN and e-mail server answers and asks you to confirm what you have entered. At this point you can choose to continue, go back or abort the installation.

17. Set the ODBCINI location.

ODBCINI LOCATION

Do you wish to use a preexisting odbc.ini file? (y/n)? [y] n

IMPORTANT NOTE

* ODBC Initialization on LINUX

The odbc.ini file is used by the ODBC database drivers for initialization settings that specify the Data Source Name (DSN) for ODBC. Edit the values that are specific to the database connectivity for the Netcool Reporter repository as well as the Netcool Reporter data source.

The odbc.ini file to be reviewed/edited can be found at:

/opt/netcool/reporter/apache/htdocs/infospc/odbc/odbc.ini

Further information on editing the values in this file can be found in Chapter 10 - Configuring the ODBC Client of the DataDirect SequeLink Administrator's Guide:

(<http://www.datadirect.com/download/docs/slnk/admin/slonlinecopyright.html>)

Press <Return> or <Enter> when ready...

18. Select the database type you wish to use for the repository.

Please choose one of the following database types.

(1) Oracle 9i

(2) Oracle 10g

(3) Sybase 12.5

(4) DB2 9.1

Select (1), (2), (3), or (4) ? [1]

19. The installation starts the process of configuring the JRun servlet Engine. It displays the following warning.

```
*****
* Note:  If you have already Installed JRun Servlet Engine, *
*          You must stop your JRun server before proceeding  *
*****
```

20. You are asked whether JRun version 3.0 is installed.

```
Do you have JRun 3.0 installed in your machine (y/n)? [n]
```

21. If you accept the default option n, you are asked for a location to install JRun.

```
Enter the full path where you want to install JRun
(Example: /opt/netcool/reporter/jrun)
Default value is "/opt/netcool/reporter/jrun":
/opt/netcool/reporter/jrun
```

The path is checked and if it does not already exist, the script offers to create it.

22. The script displays a summary list for the repository database and servlet runner.

23. The script now configures the JRun servlet. You are asked for the proxy host and port.

```
Enter the JRun servlet connector proxy host.
Please use the default value unless you are confident to use a different
value.
Default value is "127.0.0.1": 127.0.0.1
```

```
Enter the JRun servlet connector proxy port.
Please use the default value unless you are confident to use a different
value.
Default value is "8081": 8081
```

After the port number has been entered the installation validates the port.

24. The script displays a summary for the JRun 3.0 servlet runner.

25. You are asked to choose a method of authentication.

```
Please select one of the following Authentication Methods.
Please refer to the IBM Tivoli Netcool/Reporter documentation for more
detail information on using LDAP.
```

- (1) Internal
- (2) LDAP

```
Select (1), or (2) ? [1] 1
```

You must confirm your selection.

26. You are asked for the INFOPORT number for the Netcool Reporter server.

```
Please enter the port number for the Netcool Reporter Server:
Please use the default value unless you are confident to use a different
value.
Default value is "6889":
```

The script validates the port.

27. You are asked for the port number for the Netcool Reporter Administration Server.

Please enter the port number for the Netcool Reporter Administration Server:
Please use the default value unless you are confident to use a different value.

Default value is "7777":

The script validates the port then displays a summary showing the numbers entered.

28. You are asked for the Netcool Reporter FTP server port number.

Warning: If you already have an FTP Server running on your system or wish to change these values you need to read FTP section of the IBM Tivoli Netcool/Reporter documentation before proceeding.

Please enter the FTP port numbers

Default value for Listener is 2001:

Default value for Data Port is 2000:

Each port is validated after you enter the number. The script then displays a summary showing the numbers entered.

29. You have a final chance to abort the installation before the files are copied.

We are now ready to copy files to the destination. Choose "Continue" to proceed.

The Supplied Web Server (Apache 1.3.37) will be installed under:
/opt/netcool/reporter/apache

(C)ontinue or (A)abort installation (c/a)? [c]

30. Once the files have been copied you can configure Netcool Reporter to setup the automatic deletion of temporary files.

IBM Tivoli Netcool/Reporter 2.2 uses the following temporary directory to store previewed reports, charts, and graphs:

/opt/netcool/reporter/apache/htdocs/infospc/websqlbr/tmp

This directory can grow in size very rapidly unless it is emptied periodically. The contents of this directory can be automatically deleted every day at 1:00 AM. The "crontab" command is used, and you must have system privileges for this job to be scheduled properly.

Please enter a number (1 or 2) to select one of the following options:

- (1) Automatically empty the temporary directory at 1:00 AM daily
- (2) Do not automatically empty the temporary directory

Select (1) or (2)? [1] 2

The default option is not to delete these files.

31. You must now complete the repository login.

```
NETCOOL REPORTER 2.2 REPOSITORY LOGIN
-----
```

Netcool Reporter requires details to login to its repository in the database.

This information will be encoded and used whenever the Netcool Reporter server starts.

32. You are asked to enter the repository login user name, password and connection string. These three values allow Netcool Reporter to connect to the repository tables created in "Repository Database Configuration" on page 18. The database name displayed matches the database selected. The following prompts are displayed if Oracle is selected.

Enter the Netcool Reporter 2.2 repository username for your Oracle database.

Default value is "repository_two":

Enter the Netcool Reporter 2.2 repository password for your Oracle database.

Default value is "repository_two":

Enter the connect string for your Oracle database

Default value is "":

The name of the database in the text matches the type of database in use. The script then displays a summary showing the repository login details entered.



Note:The connection string for Oracle must be the same as the value of ORACLE_SID.

33. When the installation is complete the install script provides some post installation advice. This includes instructions on how to launch the Netcool Reporter server and where to find a copy of the Netcool Reporter documentation.

```
POST-INSTALLATION ACTIONS
-----
```

Congratulations, you have finished installing IBM Tivoli Netcool/Reporter 2.2.

Please be reminded that you will need to start the Netcool Reporter server to perform database connection and operations.

Here are some possible actions you might take from here as you use IBM Tivoli Netcool/Reporter 2.2:

34. There are some post installation steps you need to perform, as described in *Post-Installation Steps* on page 97.

Post-Installation Steps

This section provides instructions on post installation steps you need to take after installing Netcool Reporter.

Setting ulimit

ulimit specifies how many files may be opened at a time. For Netcool Reporter to work properly, this must be at least 1024. On Redhat Linux, you would find the current ulimit value by entering the command:

```
/bin/ulimit -a
```

If the Open Files is less than 1024, increase it by using the command

```
/bin/ulimit -n 1024
```

Creating Environment Variables on LINUX

You must set the environment variables `INFOHOME` and `ODBCINI` and the operating system dependent variable defining the dynamic library paths, before you can use Netcool Reporter.

IBM recommends that you also create the environment variable `JRUN_HOME`. This optional environment variable is for convenience only and is used within this guide to simplify the path description to the JRun location.

INFOHOME Environment Variable

Set the INFOHOME environment variable to the infospc directory. This directory is located under the document root directory of the web server. For example:

```
/opt/netcool/reporter/apache/htdocs/infospc
```

Change the environment variable using the appropriate method for your shell. For example,

```
INFOHOME=/opt/apache/htdocs/infospc
export INFOHOME
```

Library Path Environment Variable

You must update your LD_LIBRARY_PATH environment variable. Append the path \$INFOHOME/odbc/lib to the environment variable. For example, change the LD_LIBRARY_PATH line to:

```
LD_LIBRARY_PATH=$INFOHOME/odbc/lib:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH
```

REPORTERHOME Environment Variable

This is an optional environment variable. It is used for convenience in this guide to simplify the path descriptions to Netcool Reporter server file locations. Set REPORTERHOME to the document directory under the top level of the Netcool Reporter installation.

ODBCINI Environment Variable

This environment variable is used to refer to the odbc.ini configuration file.

Commands to create this variable could be:

```
ODBCINI=$INFOHOME/odbc/odbc.ini
export ODBCINI
```

For more information about that configuration file, see "Editing the odbc.ini Configuration File" on page 98.

JRUN_HOME Environment Variable

This is an optional environment variable. It is used for convenience in this guide to simplify the path descriptions to JRun file locations. Set JRUN_HOME to the directory where JRun is installed.

Editing the odbc.ini Configuration File

After installing Netcool Reporter 2.2, you must modify the odbc.ini configuration file to create ODBC data sources. This file can be found at \$INFOHOME/odbc/odbc.ini, for example:

```
/opt/netcool/reporter/apache/htdocs/infospc/odbc/odbc.ini
```

Or if you chose to use an existing `odbc.ini` in step 17 during the installation, you must open that file and edit it to create the required data sources.



Note: In addition to ordinary data sources, you must also create an ODBC data source for the Reporter repository database.

An ODBC data source is represented by the following block of information in `odbc.ini`. You must add one information block for each of the datasources you want to create.

```
ODBC DataSource Name=DataDirect 5.1 Oracle Wire Protocol

[ODBC DataSource Name]

Driver=$INFOHOME/odbc/lib/ivora21.so

Description=DataDirect 5.1 Oracle Wire Protocol

HostName=hostname

LogonID=repository_two

Password=repository_two

PortNumber=1521

SID=connectstring
```

You need to specify several parameter values for each data source:

- `ODBC DataSource Name` - Name of the ODBC data source. The name must be kept easy to read and without any spaces. For example, `ReporterRepository`.

For the Reporter repository data source, take note of the name that you enter because you will need to use it later for repository login, as described in "Repository Login" on page 101.

- `HostName` - The host name of the machine where your database resides.
- `LogonID` - Database user name, which defaults to `repository_two`.

For the Reporter repository data source, if you have set a different user name in step 32 during the installation, make sure that the entered user name is filled in here.

- `Password` - The password for the database user entered above. The default value is `repository_two`.

For the Reporter repository data source, if you have set a different password in step 32 during the installation, make sure that the entered password is filled in here.

- `PortNumber` - The database port number.
- `SID` - The connection string for your database, for example, `OracleSID`.

Implementing a Double-Byte Character Set Solution with `odbc.ini`

When a double-byte character set (for example, GB18030) is used, the IANAAppCodePage attribute must be defined in `odbc.ini` file. IANAAppCodePage is the code page specified for ODBC connection. IANAAppCodePage must match the default character encoding of your database.

To find and set the value of the IANAAppCodePage for your database, using the following steps:

1. Find out the name of your character set. You may need to ask your database administrator for the information.
2. Visit the following website:

`http://www.iana.org/assignments/character-sets`

This website lists all supported code pages together with their Name, MIBenum, Source, and Alias. The MIBenum value corresponds to the IANAAppCodePage value for the character set.

3. Search for your character set on the website (it will be listed either by its Name or by its Alias).
4. Make a note of the MIBenum (for example, for the GB18030 character set, the MIBenum value is 114).
5. Specify the IANAAppCodePage in the `odbc.ini`.

```
[ODBC DataSource Name]
```

```
.....
```

```
IANAAppCodePage=114
```

```
.....
```

Refer to "Chapter 8. *Globalization of Netcool Reporter* on page 122" for more information about the globalization of Netcool Reporter.



Note: Although your database might allow spaces to be used in database connection strings, Netcool Reporter does not allow them when defining ODBC data sources. Therefore, do not use any spaces or other special characters in your database connection string. Work with your administrator if this is an issue.

Installation Information File

If you have installed the supplied Apache web server, Netcool Reporter automatically creates a file called `FinalInstallInfo.txt` in the `docs` directory under the top level of the Netcool Reporter installation, for example, `/opt/netcool/reporter/docs`.

If you have not installed the supplied Apache web server, this file is saved in `$INFOHOME/docs`.

This file records all the choices you make during the install (for example, the location of the web server, JRun and JRE directories, and the port number). You may find this file useful if you need to check what settings you made.

Repository Login

During the LINUX installation you are asked for information about the owner of the user repository tables and related database connection information with Netcool Reporter. These values are stored automatically and you only need to manually change these values if the repository database user name or password is changed.

You must run the `SetRepLogin` script to manually update the stored information. The `SetRepLogin` script is installed in `$INFOHOME/util` on LINUX systems.

When running the `SetRepLogin` script, you must provide the user name and password of the user who owns these repository tables. If the database that holds the user repository tables resides on a different machine from the Netcool Reporter server, then you also need to specify a connection string.

ODBC-based repositories always require a connection string. The connection string is the ODBC datasource name that you have created in the `odbc.ini` configuration file, as described in "Editing the `odbc.ini` Configuration File" on page 98.

The following example shows the values to enter when manually running the `SetRepLogin` for ODBC-based repositories, with the default user name and password `repository_two`:

```
$INFOHOME/util/SetRepLogin repository_two repository_two
ODBC_Datasource_name
```

Where `ODBC_Datasource_name` refers to the name of the ODBC datasource.

For the complete description of manually changing the login details, see "Repository Login" on page 28.

Additional Configurations for Specific Report Types

There are a couple of settings that are required to run LChart, Freeform, and PDF reports.

1. Make modifications to the following file:

```
/etc/inittab
```

Change `id:5:initdefault:` to `id:3:initdefault:`

2. Add `startx` on the profile of the user who runs these types of reports.

Running Netcool Reporter

For a description of starting and stopping the components of Netcool Reporter, see "Running Netcool Reporter Components" on page 114.

Chapter 7. Migrating to Reporter 2.2

This chapter discusses how to migrate an existing Netcool Reporter install to 2.2. It also describes the process of starting and stopping all Netcool Reporter components.

It contains the following sections:

- "Upgrading from Netcool Reporter 2.0/2.1 to Netcool Reporter 2.2" on page 102
- "Running Netcool Reporter Components" on page 114
- "Support for Netcool Reporter" on page 121

Upgrading from Netcool Reporter 2.0/2.1 to Netcool Reporter 2.2

This section discusses how to migrate an existing Netcool Reporter version 2.0 or 2.1 install to version 2.2.



Note: Before migration, you need to install Netcool Reporter version 2.2 on your machine, and then migrate resources from version 2.0/2.1 to version 2.2. Any version 2.2 resources that are created within Reporter version 2.2 before migration is conducted will not be retained. For example, user reports that are created in version 2.2 before the migration will not be runnable after the migration.

The migration to 2.2 can be performed against the following Netcool Reporter products, and information in this section applies to all of these scenarios:

- Netcool Reporter 2.0
- Netcool Reporter 2.1 (with or without any fix packs like SP2, SP3, fp2.1.0.4, up to fp2.1.0.11)

If you do not have Netcool Reporter 2.2 installed, please refer to the following chapters on how to install and configure the Netcool Reporter server:

- Chapter 4. *Netcool Reporter Server Installation on UNIX* on page 34
- Chapter 5. *Netcool Reporter Server Installation on Windows Systems* on page 53

Resources to be migrated fall into the following types:

- User reports
- Users, groups, roles, data sources, and all other configuration settings
- The complete list of scheduled jobs
- All configuration files
- Other necessary resources

Migration of the Reporter repository can only be done against the same database. For example, if your existing Reporter 2.0 or 2.1 is using the Oracle database as repository, the migrated 2.2 should also use this same database.



Note: To ensure a successful migration, patch Oracle 9.2.0.x 64-bit databases that are running on AIX server with the patch set 4163445 (9.2.0.7) or above.

The migration process is different depending upon the OS Netcool Reporter uses:

1. Migrating Netcool Reporter on Windows Systems
2. Migrating Netcool Reporter on UNIX Systems
3. Migrating Netcool Reporter from Solaris to Linux

Migrating to Netcool Reporter 2.2 on Windows Systems

Migration on Windows systems is a little different depending on whether Netcool Reporter 2.2 is deployed on the same machine as 2.0/2.1 or on another machine.

Preparations for Migration between Two Windows Machines

If Netcool Reporter 2.2 is installed on a different machine than the existing 2.0 or 2.1 server, use the following steps to prepare for the migration:

1. You need to copy the `schedulerlist` folder from 2.2 to a temporary folder on your 2.0 or 2.1 machine. This folder is default located in the following directory on your 2.2 machine:

`%INFOHOME%\util\migration22\schedulerlist`

For example, copy the following folder from the 2.2 machine:

`D:\reporter\http\htdocs\infospc\util\migration22\schedulerlist`

to the following folder on the 2.0 or 2.1 machine:

`C:\Temp.`

2. On the 2.0 or 2.1 machine, change to the directory of the `schedulerlist` folder and run `schedulelist.bat`, for example, run:
`C:\Temp\schedulerlist\schedulelist.bat.`

3. A file named `joblist` is automatically generated under the `%INFOHOME%` directory on the 2.0 or 2.1 machine, for example:
`C:\viador2.0\http\htdocs\infospc\joblist.`

This file is populated with the list of all scheduled tasks created on the 2.0/2.1 machine.



Note: Make sure that the `%INFOHOME%` environment variable has been set up on the 2.0 or 2.1 machine.

4. On the new 2.2 server, you need to create an image for the `%INFOHOME%` directory of 2.0 or 2.1.

To do this,

- Right click on **My Computer** on your desktop and select **Map Network Drive**, which opens the *Map Network Drive* window, as shown below.

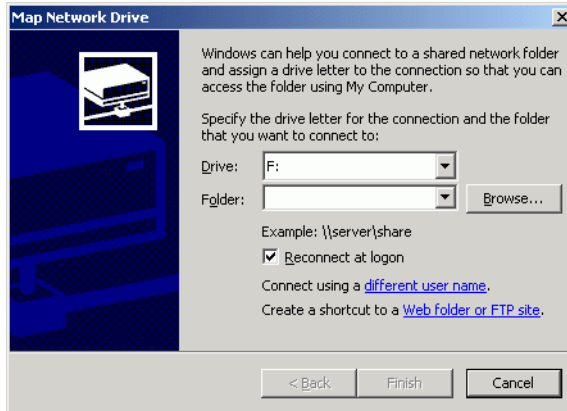


Figure 38. *Map Network Drive*

- In the **Drive** drop-down list, select a driver letter for the mapping, for example, H :
- In the **Folder** drop-down list, enter the remote destination folder you want to map. For example, enter:

`\\192.168.0.2\C$\viador2.0\http\htdocs\infospc`



Note: The directory you want to map should have been created as a shared folder on the remote 2.0 or 2.1 machine. Otherwise, mapping will not be successful.

- Click **Finish**. The mapped %INFOHOME% folder will appear in **My Computer** as a local drive on the 2.2 machine.

Migrating Netcool Reporter 2.0/2.1 to 2.2 on Windows Operating Systems

If you have done migration before and want to conduct another migration, it is a must that you run a rollback of your 2.2 first. If you do not roll back, unexpected errors may occur when you do further migration. See "Rolling Back 2.2 on Windows" on page 107 for the operations of rollback.

Migration of the Reporter repository can only be done against the same database. For example, if your existing Reporter 2.0 or 2.1 is using the Oracle database as repository, the migrated 2.2 should also use this same repository database.

To migrate 2.0 or 2.1 resources to 2.2:

1. On the Netcool Reporter 2.2 machine, Oracle OCI JDBC Drivers must be installed prior to running the migration installer if you are using Oracle as repository database. The OCI version of the JDBC drivers must be installed which may require a custom install of Oracle.
2. Before running the installer program, you need to do the following:
 - Back up your repository system (recommended).

- Back up your Reporter 2.2 file system.
 - Exit any Netcool Reporter clients.
 - Shut down Netcool Reporter (stopreporter).
 - Your Reporter 2.2 should be using the same repository database as your 2.0 or 2.1 uses. Make sure the 2.2 repository database is up and running and the connection between the 2.2 server and the database is successful.
3. All the files and folders needed for migration to 2.2 are default copied to the following directory after 2.2 is installed:

`%INFOHOME%\util\migration22`

For example, you may find the following folder on your 2.2 machine:

`D:\viador2.2\http\htdocs\infospc\util\migration22`

4. On the 2.2 server machine, open a DOS prompt window and change to the directory of the migration22 folder.
5. Run `migrate.bat` to begin the migration, and include the database type and version. The usage is:

`migrate {Oracle|Sybase|MSSQL} [rollback]`



Note: Before running this command, make sure that the `%INFOHOME%` and other environment variables specific to the database that your 2.2 is using have already been set up on the 2.2 machine. For example, `%ORACLE_HOME%` must be set if 2.2 is using Oracle.

6. The installer prompts if the migration will be conducted between two machines. Enter `yes` if your 2.2 server is installed on a machine different from the existing 2.0 or 2.1. On the contrary, if your 2.2 server is installed on the same machine as your 2.0 or 2.1, enter `no`.

If you enter `no`, the installer jumps to step 9 directly and you can skip steps of 7 and 8.

7. If you entered `yes` above, the installer prompts if you have run the Schedulerlist utility on the 2.0 or 2.1 machine.
 - Enter `yes` if you have done this.
 - Enter `no` if you have not. In such cases, the installer allows you to leave the installer window and run the utility as required. After completed, go back to the installer window and enter `C` to continue. You can refer to steps 1, 2, and 3 in "Preparations for Migration between Two Windows Machines" on page 103 for detailed operations.
8. The installer prompts if you have mapped the infospc directory of your 2.0 or 2.1 to the 2.2 machine as a local drive.
 - Enter `yes` if you have done this.
 - Enter `no` if you have not. In such cases, the installer allows you to leave the installer window and do the mapping as required. After completed, go back to the installer window and enter `C` to continue. You can refer to step 4 in "Preparations for Migration between Two Windows Machines" on page 103 for detailed operations.

9. The installer prompts you to enter the location of the infospc directory of your 2.0 or 2.1.
 - If your 2.2 is installed on the same machine as the existing 2.0 or 2.1, enter the directory of the 2.0 or 2.1 infospc folder. For example, enter
`C:\viador2.0\http\htdocs\infospc.`
 - If your 2.2 works on a different machine, enter the drive letter on the 2.2 machine to which you have mapped the 2.0/2.1 infospc folder. For example, enter H:. Refer to step 8 for more information or step 4 in "Preparations for Migration between Two Windows Machines" on page 103 for detailed operations.
10. If you entered a drive letter in previous step, the installer will check if the `joblist` file is available under that drive. If not found, it allows you to leave the installer window and go to run the `Schedulerlist` utility. After completed, you must go back to the installer window and enter C to continue the process.

You can refer to steps 1, 2, and 3 in "Preparations for Migration between Two Windows Machines" on page 103 for detailed operations.
11. The installer prompts you to enter the location of the infospc directory of your 2.2 install. For example, enter:
`D:\viador2.2\http\htdocs\infospc`
12. The migration process begins to back up existing files of 2.2 and then copy 2.0/2.1 resources to 2.2.

If there is any error generated in the process, the installer will automatically run a rollback of 2.2 files. After completed, it will prompt you the failure of migration and suggest you to check the log file for the errors. The migration log files are stored under the following directory on your 2.2 machine:

`%INFOHOME%\backup\vpach_migration\migration_yyyymmdd_id.log`
13. After the process is completed successfully, you have migrated your 2.0 or 2.1 resources to 2.2.
14. Start Netcool Reporter 2.2 using the start menu as detailed in "Running Netcool Reporter Components" on page 114.

Rolling Back 2.2 on Windows

In the case of migration ended up in failure, or you want to restore your 2.2 to its initial state, you may run a rollback of your 2.2.

1. Open a command window and change to the directory of the migration22 folder under %INFOHOME%\util.
2. Run `migrate.bat` and include the database type and version as well as the `rollback` parameter. The usage is:


```
migrate {Oracle|Sybase125|Mssql} [rollback]
```
3. You are prompted to enter the %INFOHOME% location of 2.2, for example, `D:\viador2.2\http\htdocs\infospc`.
4. The rollback process begins to copy files that were backed up during the migration back to the 2.2 directory.
5. After completed, you will be prompted for the success of the rollback process.

Migrating to Netcool Reporter 2.2 on UNIX Systems

Migration on Unix systems (Solaris 9 and 10, HP-UX, and AIX) is a little different depending on the operating system. For each operating system, migration needs some preparation before performing the steps common for all UNIX operating systems.



Note: To ensure a successful migration, patch Oracle 9.2.0.x 64-bit databases that are running on AIX server with the patch set 4163445 (9.2.0.7) or above.

Preparations for Migration between Two Solaris Servers

If you have installed the 2.2 product on a different Solaris server machine from the existing 2.0 or 2.1 server, you need to follow the steps below to do some preparation work before migration.

1. You need to copy the `schedulerlist` directory from 2.2 to a temporary directory on your 2.0 or 2.1 machine. This directory is default located in the following directory on your 2.2 machine:

```
$INFOHOME/util/migration22/schedulerlist
```

For example, copy the following directory from the 2.2 machine:

```
/opt/netcool/reporter22/apache/htdocs/infospc/util/migration22/  
schedulerlist
```

to the following directory on the 2.0 or 2.1 machine:

```
/tmp
```

2. On the 2.0 or 2.1 machine, change to the directory of `schedulerlist` and run `schedulelist.sh`, for example, run:

```
% cd /tmp/schedulerlist
```

```
% schedulelist.sh
```

3. A file named `joblist` is automatically generated under the `$INFOHOME` directory on the 2.0 or 2.1 machine. An example of the 2.0 `$INFOHOME` directory is as follows:

```
/opt/netcool/reporter/apache/htdocs/infospc
```

This file is populated with the list of all scheduled tasks created on the 2.0/2.1 machine.



Note: Make sure that the `$INFOHOME` environment variable has been set up on the 2.0 or 2.1 machine.

4. Share the `$INFOHOME` directory of the existing 2.0 or 2.1.
To do this,

- On the 2.0 or 2.1 machine, edit the `/etc/dfs/dfstab` file with the root user and add a new line to it. This file contains commands for sharing resources across a network. For example, run:

```
# cd /etc/dfs
# vi dfstab
```

Add the following line to the file:

```
share -F nfs -o rw -d "home dirs" [resource]
```

Where, `[resource]` refers to the `$INFOHOME` directory of the existing 2.0 or 2.1, for example,

```
share -F nfs -o rw -d "home dirs"
/opt/netcool/reporter/apache/htdocs/infospc
```

- On the 2.0 or 2.1 machine, restart the `/etc/rc3.d/S15nfs.server`, for example, run:

```
# /etc/rc3.d/S15nfs.server stop
# /etc/rc3.d/S15nfs.server start
```

These commands ensure that the `$INFOHOME` directory is prepared to be shared.

- Run the following command:

```
# share /opt/netcool/reporter/apache/htdocs/infospc
```

The `$INFOHOME` directory has now been shared on the 2.0 or 2.1 machine.

5. Mount the shared `$INFOHOME` directory of 2.0 or 2.1 to the 2.2 machine.

To do this,

- On the 2.2 machine, run the following command with the root user:

```
# showmount -e [host_name/ip]
```

where, `[host_name/ip]` refers to the host name of the 2.0 or 2.1 machine or its IP address. For example, use `192.168.0.19` for this argument.

This command will return the list of directories which are shared on the 2.0 or 2.1 machine. Make sure the 2.0 or 2.1 `$INFOHOME` directory is among the list.

- Run the following command:

```
# mount -F nfs [src_dir] [des_dir]
```

This command will attach the file system found from the `[source_dir]` at the `[destin_dir]`. For example, enter the command:

```
# mount -F nfs
```

```
192.168.0.19/opt/netcool/reporter/apache/htdocs/infospc /2.0_infohome
```

This command will mount the remote 2.0/2.1 `$INFOHOME` directory to the 2.2 machine at the `/2.0_infohome` directory.



Note: The directory on 2.2 to which the 2.0/2.1 `$INFOHOME` directory is to be mounted should exist before the command is run.

- If needed, unmount the `$INFOHOME` directory by running the command below:

```
# umount -a /2.0_infohome
```

Preparations for Migration between Two HPUX/AIX Servers

If your 2.2 and the existing 2.0 or 2.1 work on two different HPUX servers or AIX servers, follow the steps below to do some preparation work before migration.

1. You need to copy the `schedulerlist` directory from 2.2 to a temporary directory on your 2.0 or 2.1 machine. This directory is default located in the following directory on your 2.2 machine:

```
$INFOHOME/util/migration22/schedulerlist
```

For example, copy the following directory from the 2.2 machine:

```
/opt/netcool/reporter22/apache/htdocs/infospc/util/migration22/  
schedulerlist
```

to the following directory on the 2.0 or 2.1 machine:

```
/tmp
```

2. On the 2.0 or 2.1 machine, change to the directory of `schedulerlist` and run `schedulelist.sh`, for example, run:

```
# cd /tmp/schedulerlist
```

```
# schedulelist.sh
```

3. A file named `joblist` is automatically generated under the `$INFOHOME` directory on the 2.0 or 2.1 machine. An example of the 2.0 `$INFOHOME` directory is as follows:

```
/opt/netcool/reporter/apache/htdocs/infospc
```

This file is populated with the list of all scheduled tasks created on the 2.0/2.1 machine.



Note: Make sure that the \$INFOHOME environment variable has been set up on the 2.0 or 2.1 machine.

4. On the server where your 2.0 or 2.1 runs, start the NFS service with the `root` user.

```
# cd /sbin/init.d
# nfs.server start
```

5. Export the \$INFOHOME directory of your 2.0 or 2.1.

```
# exportfs -i /opt/netcool/reporter/apache/htdocs/infospc
```

6. On the server where 2.2 runs, start the NFS service with the `root` user.

```
# cd /sbin/inid.d
# nfs.client start
```

7. On the 2.2 server, create a new folder for the 2.0 or 2.1 \$INFOHOME directory to be mounted.

```
# mkdir /tmp/infospc
```

8. Execute the command for mounting the \$INFOHOME directory.

```
# mount server:/opt/netcool/reporter/apache/htdocs/infospc /tmp/infospc
```

9. Use the command below to show contents under the mounted folder:

```
# ls /tmp/infospc
```

Migrating Netcool Reporter 2.0/2.1 to 2.2 on UNIX Operating Systems

If you have done migration before and want to conduct another migration, it is a must that you run a rollback of your 2.2 first. If you do not roll back, unexpected errors may occur when you do further migration. See "Rolling Back 2.2 on Windows" on page 107 for the operations of rollback.

Migration of the Reporter repository can only be done against the same database. For example, if your existing Reporter 2.0 or 2.1 is using the Oracle database as repository, the migrated 2.2 should also use this same repository database.

After you have gone through the preparation work for the UNIX operating system specific to your deployment, as described in one of the previous sections, you may begin migrating 2.0 or 2.1 resources to 2.2:

1. On the Netcool Reporter 2.2 machine, Oracle OCI JDBC Drivers must be installed prior to running the migration installer if you are using Oracle as repository database. The OCI version of the JDBC drivers must be installed which may require a custom install of Oracle.
2. Confirm that the \$INFOHOME and other environment variables specific to the database that your 2.2 is using have already been set up on the 2.2 machine. For example, ORACLE_HOME, ORACLE_SID or LD_LIBRARY_PATH. If not, add them to your shell.
3. Before running the installer program, you need to do the following:

- Back up your repository system (recommended).
 - Back up your Reporter 2.2 file system.
 - Exit any Netcool Reporter clients.
 - Shut down Netcool Reporter (stopreporter).
 - Your Reporter 2.2 should use the same repository database as your 2.0 or 2.1 uses. Make sure the 2.2 repository database is up and running and the connection between the 2.2 server and the database is successful.
4. All the files and utilities needed for migration to 2.2 are default copied to the following directory after 2.2 is installed:
`$INFOHOME/util/migration22`
 For example, you may find the following directory on your 2.2 machine:
`/opt/netcool/reporter22/apache/htdocs/infospc/util/migration22`
 5. On the 2.2 server machine, change to the directory `migration22`.
 6. Run `migrate.sh` to begin the migration, and include the database type and version. The usage is:
`migrate.sh {Oracle|Sybase125} [rollback]`
 7. The installer prompts if the migration will be conducted between two machines. Enter `yes` if your 2.2 server is installed on a machine different from the existing 2.0 or 2.1. On the contrary, if your 2.2 server is installed on the same machine as your 2.0 or 2.1, enter `no`.
 If you entered `no`, the installer jumps to step 9 directly and you can skip steps of 7 through 8.
 8. If you entered `yes` above, the installer prompts if you have run the Schedulerlist utility on the 2.0 or 2.1 machine.
 - Enter `yes` if you have done this.
 - Enter `no` if you have not. In such cases, the installer allows you to leave the installer window and run the utility as required. After completed, go back to the installer window and enter `C` to continue. You can refer to steps 1, 2, and 3 in "Preparations for Migration between Two Solaris Servers" on page 108 for detailed operations.
 9. The installer prompts if you have mounted the `infospc` directory of your 2.0 or 2.1 to the 2.2 machine.
 - Enter `yes` if you have done this.

- Enter `no` if you have not. In such cases, the installer allows you to leave the installer window and do the mounting as required. After completed, go back to the installer window and enter `C` to continue. You can refer to steps 4 and 5 in "Preparations for Migration between Two Solaris Servers" on page 108 for detailed operations.
10. The installer prompts you to enter the location of the `infospc` directory of your 2.0 or 2.1.
 - If your 2.2 is installed on the same machine as the existing 2.0 or 2.1, enter the directory of the 2.0 or 2.1 `infospc` folder. For example, enter


```
/opt/netcool/reporter/apache/htdocs/infospc
```
 - If your 2.2 works on a different machine, enter the directory on the 2.2 machine to which you have mounted the 2.0/2.1 `infospc` directory. For example, enter


```
/2.0_infohome
```

Refer to steps 4 and 5 in "Preparations for Migration between Two Solaris Servers" on page 108 for detailed operations.
 11. If your Reporter 2.2 is working on a different host from 2.0 or 2.1, the installer will check if the `joblist` file is available under the directory you entered. If not found, it allows you to leave the installer window and go to run the `Schedulerlist` utility. After completed, you must go back to the installer window and enter `C` to continue the process.

You can refer to steps 1, 2, and 3 in "Preparations for Migration between Two Solaris Servers" on page 108 for detailed operations.
 12. The installer prompts you to enter the location of the `infospc` directory of your 2.2 install. For example, enter:


```
/opt/netcool/reporter22/apache/htdocs/infospc
```
 13. The migration process begins to back up existing files of 2.2 and then copy 2.0/2.1 resources to 2.2.

If there is any error generated in the process, the installer will automatically run a rollback of 2.2 files. After completed, it will prompt you the failure of migration and suggest you to check the log file for the errors. The migration log files are stored under the following directory on your 2.2 machine:

```
$INFOHOME/backup/vpatch_migration/migration_yyyymmdd_id.log
```
 14. After the process is completed successfully, you have migrated your 2.0 or 2.1 resources to 2.2.
 15. Start Netcool Reporter using `$REPORTER_HOME/bin/startreporter` as detailed in "Running Netcool Reporter Components" on page 114.

Rolling Back 2.2 on UNIX

In the case of migration ended up in failure, or you want to restore your 2.2 to its initial state, you may run a rollback of your 2.2.

1. Change to the directory `$INFOHOME/util/migration22`.

2. Run `migrate.sh` and include the database type and version as well as the `rollback` parameter. The usage is:

```
migrate.sh {Oracle|Sybase125} [rollback]
```

For example, run:

```
% migrate.sh Oracle rollback
```

3. The installer prompts you to enter the `$INFOHOME` location of 2.2, for example, enter:

```
/opt/netcool/reporter22/apache/htdocs/infospc
```
4. The rollback process begins to copy files that were backed up during the migration back to the 2.2 directory.
5. After completed, you will be prompted for the success of the rollback process.

Running Netcool Reporter Components

Many administrative operations involve starting and stopping Netcool Reporter and its components.

This section describes the process of starting and stopping the following components:

- Netcool Reporter server on UNIX systems
- Netcool Reporter server on Windows Systems
- Netcool Reporter server on LINUX Systems
- Netcool Reporter Administration server
- Netcool Reporter FTP server
- Netcool Reporter client
- Netcool Reporter gateway



Note: Your gateway does not need to be running for the Netcool Reporter server to access existing event data in the database. The Netcool Reporter gateway must be running to populate the database from a standard Netcool/OMNIBus ObjectServer. You can also copy the data using the command `nco_update`.

Running Netcool Reporter Server on UNIX Systems

This section describes the starting and stopping processes for the Netcool Reporter server on UNIX systems.



Note: See "Environment Variables" on page 34 for a description of the environment variables used in this section.

Starting the Netcool Reporter Server

To start the Netcool Reporter server on UNIX systems, first ensure the database is available.

If you have installed the supplied Apache web server you can start the web server, JRun, and the Netcool Reporter server using the command:

```
$REPORTERHOME/bin/startreporter
```

If you have an existing Apache web server you can start the web server, JRun and the Netcool Reporter server using the command:

```
$INFOHOME/bin/startreporter
```

If you do not have an Apache web server you must work through the following steps in order:

1. Ensure the repository database is available.
2. Ensure the web server is running.
3. Start JRun using the command:

```
$JRUN_HOME/bin/jrun -start default
```

4. Start the Netcool Reporter server using the command:

```
$INFOHOME/server/infosrv
```



Note: Starting the Netcool Reporter server also starts the Netcool Reporter FTP server.

Stopping the Netcool Reporter Server

If you have installed the supplied Apache web server you can stop the Netcool Reporter server, JRun and the web server using the command:

```
$REPORTERHOME/bin/stopreporter
```

If you have an existing Apache web server you can stop the Netcool Reporter server, JRun and the web server using the command:

```
$INFOHOME/bin/stopreporter
```



Note: Stopping the Netcool Reporter server using these commands, also stops the Netcool Reporter FTP server.

If you do not have an Apache web server, you must work through the following steps in order:

1. Stop the Netcool Reporter FTP server. To do this, in the console window where the Netcool Reporter FTP server was started, enter the command:

```
quit
```

2. Stop the Netcool Reporter server using the command:

```
$INFOHOME/server/infosshutdown
```

3. Stop JRun using the command:

```
$JRUN_HOME/bin/jrun -stop default
```

Running Netcool Reporter Server on Windows Systems

This section describes the starting and stopping processes for the Netcool Reporter server on Windows Systems.



Note: See "Environment Variables" on page 53 for a description of the environment variables used in this section.

Starting the Netcool Reporter Server

To start the Netcool Reporter server on a Windows System:

1. Ensure the repository database is available.
2. Ensure the web server is running.
3. Start JRun using **Start→Programs→Netcool Reporter 2.2→JRun 3.0→JRun Default Server**.
4. Start the Netcool Reporter server using **Start→Programs→Netcool Reporter 2.2 → Reporter Server→Start Reporter**.
5. If you need to access the *Server Administrator* window you must first start the Netcool Reporter Administration Server using **Start→Programs→Netcool Reporter 2.2 → Reporter Admin Server→Start Reporter Admin Server**.



Note: Starting the Netcool Reporter server also starts the Netcool Reporter FTP server.

Stopping the Netcool Reporter Server

To stop the Netcool Reporter server on a Windows System:

1. Stop the Netcool Reporter server using **Start→Programs→Netcool Reporter 2.2 → Reporter Server→Shut Down Reporter**.
2. If you started the Netcool Reporter Admin server in order to access the Administration tools, you must also stop this server using **Start→Programs→Netcool Reporter 2.2 →Reporter Admin Server→Shut Down Reporter Admin Server**.
3. To stop JRun, click the **JRun** icon on the task bar. The *JRun Application Manager* window is displayed. Click the **Stop** button.



Note: Stopping the Netcool Reporter server also stops the Netcool Reporter FTP server.

Running Netcool Reporter Server on LINUX Systems

This section describes the starting and stopping processes for the Netcool Reporter server on LINUX systems.



Note: See "Creating Environment Variables on LINUX" on page 97 for a description of the environment variables used in this section.

Starting the Netcool Reporter Server

To start the Netcool Reporter server on LINUX systems, first ensure the database is available.

If you have installed the supplied Apache web server, you can start the web server, JRun, and the Netcool Reporter server using the command:

```
$REPORTERHOME/bin/startreporter
```



Note: Starting the Netcool Reporter server also starts the Netcool Reporter FTP server.

Stopping the Netcool Reporter Server

If you have installed the supplied Apache web server, you can stop the Netcool Reporter server, JRun and the web server using the command:

```
$REPORTERHOME/bin/stopreporter
```



Note: Stopping the Netcool Reporter server using these commands also stops the Netcool Reporter FTP server.

Running the Netcool Reporter Administration Server

You must start the Netcool Reporter Administration server before you can access the *Server Administrator* window.

An error message is displayed if you attempt to start the *Server Administrator* window when the Administration server is not running.

Windows Systems

To start the Netcool Reporter Administration server on a Windows system, select the menu option **Start→Programs→Netcool Reporter 2.2→Reporter Admin Server→Start Reporter Admin Server**.

To stop the Netcool Reporter Administration server on a Windows system, select the menu option **Start→Programs→Netcool Reporter 2.2→Reporter Admin Server→Shut Down Reporter Admin Server**.

Unix Systems

To start the Netcool Reporter Administration server on UNIX, run the script:

```
$REPORTERHOME/bin/startadmin
```

To stop the Netcool Reporter Administration server on UNIX, run the script:

```
$REPORTERHOME/bin/stopadmin
```

LINUX Systems

To start the Netcool Reporter Administration server on LINUX, run the script:

```
$REPORTERHOME/bin/startadmin
```

To stop the Netcool Reporter Administration server on LINUX, run the script:

```
$REPORTERHOME/bin/stopadmin
```

Restarting the Netcool Reporter FTP Server

The Netcool Reporter server starts and stops the Netcool Reporter FTP server automatically. This section describes the process of manually restarting the FTP server.

Windows Systems

To start the Netcool Reporter FTP server on a Windows system, select the menu option **Start→Programs→Netcool Reporter 2.2→Reporter Server→Reporter FTP Server**.

Unix Systems

To start the Netcool Reporter FTP server on UNIX, run the script:

```
$REPORTERHOME/bin/startftpserver
```

To stop the Netcool Reporter FTP server, enter the following command in the console window where the Netcool Reporter FTP server was started:

```
quit
```

LINUX Systems

To start the Netcool Reporter FTP server on LINUX, run the script:

```
$REPORTERHOME/bin/startftpserver
```

To stop the Netcool Reporter FTP server, enter the following command in the console window where the Netcool Reporter FTP server was started:

```
quit
```

Running the Netcool Reporter Client

The default URL of the Netcool Reporter client is:

```
http://hostname:portnumber/infospc/index.jsp
```

Where *hostname* is the name of the machine that hosts the Netcool Reporter server. Depending on the installation, it may be necessary to enter the fully qualified domain name, for example, *name.yourcompany.com*. An IP address can also be used. *portnumber* is the HTTP port number of the Netcool Reporter web server. This is the only URL you need for using Netcool Reporter.

The login page is displayed, as shown in Figure 39.



Figure 39. *Netcool Reporter Login Page*

Enter your user name and password and click the **Login** button. Default user names and passwords are given in the following table.

Table 6. *Default user names and Passwords*

Username	Password
administrator	administrator
netcool	netcool
reporter	reporter

Information on the permissions assigned to each default user can be found in "About Data Sources and Netcool Reporter Users" on page 130.

Running the Netcool Reporter Gateway

This section is provided for information only.

The Netcool Reporter gateway is separate from the Netcool Reporter server and does not need to be running for the server to access the existing data in the Netcool Reporter database. The status of the gateway has no effect on the Netcool Reporter server administrative tasks.

To run the gateway on UNIX and LINUX systems, enter:

```
$OMNIHOME/bin/nco_gate -name REP_GATE -config  
$OMNIHOME/etc/REP_GATE.config
```

Where *REP_GATE* is the name of your Netcool Reporter gateway.

To run the gateway on Windows 2000, use the Services from the Control Panel:

1. Click **Start**→**Settings**→**Control Panel**. The *Windows Control Panel* window is displayed.
2. Double-click the **Services** icon. The *Services* window is displayed.

The *Services* window lists all of the services currently installed on your machine, including the gateway, and can be used to start and stop services.

You can also run the gateway on Windows 2000 as a console application, for example, enter:

```
%OMNIHOME%\bin\nco_gate -console -name REP_GATE -config  
$OMNIHOME\etc\REP_GATE.config
```

Changing the Password for the Administrator Account

It is recommended that you change the administrator's password after installation to prevent unauthorized access to the User Admin applet, as described in "Creating and Editing Netcool Reporter Users" on page 137.

Support for Netcool Reporter

If you require support for Netcool Reporter, see the IBM web page for Support resources:

<http://www-306.ibm.com/software/sysmgmt/products/support>

If you require further information on how to use other Netcool products, copies of documentation for the entire Netcool suite is available online:

<http://publib.boulder.ibm.com/infocenter/tivihelp/v8r1/index.jsp>

Chapter 8. Globalization of Netcool Reporter

This chapter describes the globalization of Netcool Reporter to enable it to work under other languages than English.

It contains the following sections:

- "Overview" on page 122
- "Applying the G11N Language Package" on page 123
- "Operating System, Locale and Charset Configurations" on page 125

Overview

Global opportunities have inspired software products to meet multilingual needs. Netcool Reporter is no exception. In this 2.2 release, it has been enhanced in terms of the range of languages it supports as well as the flexibility it offers in manipulating data in the user's native language.

Netcool Reporter 2.2 works under a number of Asian and Western languages in addition to English. The default installed Netcool Reporter 2.2 uses English as its working language. You need to run the globalization (G11N) language package to enable Netcool Reporter to work under one of the other supported languages as follows:

- Simplified Chinese
- Japanese
- Traditional Chinese
- Korean



Note: Not all languages are supported on each supported operating system. Please contact related vendors for details.

Installation of the language package provides the following globalization features to Netcool Reporter 2.2:

- Display of characters in the users' native languages.
- Input of characters in the users' native languages.
- Handling of files written in popular encodings that are used in the users' native languages.
- Use of characters from the users' native languages for file names and other items.
- The ability to print out characters from the users' native languages.
- Classification and sorting of characters in the users' native languages.

Applying the G11N Language Package

The Netcool Reporter 2.2 G11N language package installation is an upgrade installation, not a full installation. Before applying the package, you must have the Netcool Reporter 2.2 GA release installed, and if necessary, have performed migration from earlier Netcool Reporter products to the new 2.2. For information on migrating from 2.0 or 2.1 to 2.2, see Chapter 7. *Migrating to Reporter 2.2* on page 102.



Note: If you are a new user, it is strongly recommended that you set the appropriate locale and language of your server machine before installing JDK, database programs, and Netcool Reporter on it, because internationalized software is usually locale sensitive. Otherwise, you may have to reinstall JDK and revise the NLS_LANG value of your database. See "Operating System, Locale and Charset Configurations" on page 125 for settings of the Oracle NLS_LANG and operating system LANG values for each supported language.

To install the G11N language package, please follow the instructions below.

1. Before running the installer program, you need to do the following:
 - Back up your Netcool Reporter 2.2 file system.
 - Exit any Netcool Reporter clients.

- Shut down the Netcool Reporter server.
- 2. Browse to the \$INFOHOME/util/nls or %INFOHOME%\util\nls directory of your 2.2 deployment.
- 3. On a command window, run the Setlang.sh or Setlang.bat script.
- 4. Select the appropriate language setting from the list and follow the program instructions. For example:

```
=====
Start Netcool Reporter 2.2 language environment configuration
=====

Please select language settings:

1) ---- en iso-8859-1 US
2) ---- zh BIG5 TW
3) ---- zh GB18030 CN
4) ---- ja shift_jis JP
5) ---- ja UTF-8 JP
6) ---- ko UTF-8 KR
7) ---- ko euc-kr KR
8) ---- zh UTF-8 TW
9) ---- zh UTF-8 CN
10) ---- other

Please Choose From 1 To 10;
Or type exit to exit setup.
7 (enter)

The language option will be "ko euc-kr KR"
Please press 'Y' to confirm!
```



Note: With option 10, you are responsible for entering the correct language code, character set, and country code. Incorrect information may result in garbage characters showing up in the Netcool Reporter GUI.

- 5. The program starts to update configuration files with the new language settings.
- 6. After the process is completed, Netcool Reporter 2.2 is ready to be viewed and used under the user's native language.

Operating System, Locale and Charset Configurations

This section specifies the required configurations on operating system (OS), locale, and charset for each supported language.



Note: The database needs to be properly configured in order to support languages other than English. You must make sure that your database supports local languages. Consult your database administrator for the required operation if needed.

English

English is the default language of Netcool Reporter 2.2. The following table describes the configuration requirements for English:

Table 7: OS, Locale and Charset Settings for English

	Windows 2003	Solaris	AIX	HPUX	Redhat LINUX
Reporter Server Side JRE	<ul style="list-style-type: none">• Sun JRE 1.4.2• IBM JRE 1.4.2 (supported on IBM hardware only)	<ul style="list-style-type: none">• Sun JRE 1.4.2• IBM JRE 1.4.2 (supported on IBM hardware only)	<ul style="list-style-type: none">• Sun JRE 1.4.2• IBM JRE 1.4.2 (supported on IBM hardware only)	<ul style="list-style-type: none">• Sun JRE 1.4.2	<ul style="list-style-type: none">• Sun JRE 1.4.2
Reporter Server OS Locale/ Charset	English_United_States/ISO-8859-1/UTF8	en_US/ISO-8859-1/UTF8	en_US/ISO-8859-1/UTF8	en_US/ISO-8859-1/UTF8	en_EN/UTF-8
Reporter Charset Option (during G11N install)	en iso-8859-1 US				
Reporter Client OS Locale	English				

Simplified Chinese

The following table describes the configuration requirements for Simplified Chinese:

Table 8: OS, Locale and Charset Settings for Simplified Chinese Environment

	Windows 2003	Solaris	AIX	HPUX	Redhat LINUX
Reporter Server Side JRE	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 	<ul style="list-style-type: none"> • Sun JRE 1.4.2
Reporter Server OS Locale/ Charset	Chinese_PRC /GB18030 /UTF8	zh_CN /GB18030 /UTF8	Zh_CN /GB18030 /UTF8	zh_CN /GB18030 /UTF8	zh_CN/UTF-8
Reporter Charset Option (during G11N install)	GB18030 CN or UTF-8 CN				
Reporter Client OS Locale	Simplified Chinese				

Traditional Chinese

The following table describes the configuration requirements for Traditional Chinese:

Table 9: OS, Locale and Charset Settings for Traditional Chinese Environment

	Windows 2003	Solaris	AIX	HPUX	Redhat LINUX
Reporter Server Side JRE	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 	<ul style="list-style-type: none"> • Sun JRE 1.4.2
Reporter Server OS Locale/ Charset	Chinese_Taiwan /Big 5/UTF8	zh_TW /Big 5/UTF8	Zh_TW /Big 5/UTF8	zh_TW /Big 5/UTF8	zh_TW/UTF-8
Reporter Charset Option (during G11N install)	zh BIG5 TW or zh UTF-8 TW				
Reporter Client OS Locale	Traditional Chinese				

Japanese

The following table describes the configuration requirements for Japanese:

Table 10: OS, Locale and Charset Settings for Japanese Environment

	Windows 2003	Solaris	AIX	HPUX	Redhat LINUX
Reporter Server Side JRE	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 	<ul style="list-style-type: none"> • Sun JRE 1.4.2
Reporter Server OS Locale/ Charset	Japanese /UTF8	ja_JP/PCK /UTF8	ja_JP /UTF-8	ja_JP /UTF-8	ja_JP /UTF-8
Reporter Charset Option (during G11N install)	ja shift_jis JP or ja UTF-8 JP				
Reporter Client OS Locale	Japanese				

Korean

The following table describes the configuration requirements for Korean:

Table 11: OS, Locale and Charset Settings for Korean Environment

	Windows 2003	Solaris	AIX	HPUX	Redhat LINUX
Reporter Server Side JRE	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 • IBM JRE 1.4.2 (supported on IBM hardware only) 	<ul style="list-style-type: none"> • Sun JRE 1.4.2 	<ul style="list-style-type: none"> • Sun JRE 1.4.2
Reporter Server OS Locale/ Charset	Korean/UTF-8	ko_KR/UTF-8	KO_KR/UTF-8	ko_KR/UTF-8	ko_KR/UTF-8
Reporter Charset Option (during G11N install)	ko UTF-8 KR or ko euc-kr KR				
Reporter Client OS Locale	Korean				

Chapter 9. User Administration

This chapter describes how to use the User Administrator to configure user data within Netcool Reporter.

It contains the following sections:

- "Introduction" on page 130
- "Launching the User Administrator" on page 132
- "LDAP Importing" on page 133
- "System Security Settings" on page 133
- "Managing Users" on page 135
- "Managing Groups" on page 147
- "Managing Roles" on page 151
- "Managing Portlets" on page 155
- "Managing File Types" on page 162
- "Managing Data Sources" on page 166

Introduction

You can create and manage Netcool Reporter users and their data access using the User Administrator.

This chapter explains how to use the *User Administrator* window to create data sources, Netcool Reporter users, and groups of Netcool Reporter users. Before you can use the User Administrator, ensure the repository has been created, as described in Chapter 3. *Repository Database Configuration* on page 18.



Note: If two administrators are logged in at once, they cannot see each other's changes immediately. It is not recommended to have more than one administrator logged in at a time.

About Data Sources and Netcool Reporter Users

Data sources can hide details regarding the names and locations of databases and tables from Netcool Reporter users.

When you use the repository tables, you can link multiple Netcool Reporter users to a single database user. As a result, you can create virtual groups of Netcool Reporter users who all have the same database privileges because they share the same database user account. Sharing one database user account with multiple Netcool Reporter user accounts simplifies management of database access.

Predefined Netcool Reporter Users

Netcool Reporter supplies three predefined users. These are example users whose roles are matched by their permissions. The administrator role can create additional users and groups.

Table 12. *Predefined Users*

User	Password	Description	Applets
administrator	administrator	This user administers Netcool Reporter, creates other users and manages the datasources.	All applets
netcool	netcool	This user has privileges to build reports, schedule and publish reports, and create HTML forms for parameterized reports and HTML-based presentations.	HTML Customizer Report Designer Easy Reporter
reporter	reporter	This user has privileges to log into Netcool Reporter and run reports that have been designed and distributed.	Easy Reporter

When you first install Netcool Reporter, the `netcool` user is the owner of all Netcool Reporter predefined reports.

These are found in the `netcool` user's folder and are structure categorized into four folders with the names of the reports: **Event Summaries**, **Operational Performance**, **Fault Diagnosis**, **Service Level Management**. From this folder, the `netcool` user has the ability to publish them to other users.

About User Groups

You can organize your Netcool Reporter users into user groups and subgroups. Using the Netcool Reporter publishing feature, group members can easily publish reports, charts, and forms to their own groups without making them accessible to all Netcool Reporter users within an organization.

Another advantage of arranging users in groups is that you can create groups of Netcool Reporter users such that all members of the group have the same access privileges to databases, improving security and ease of data access.

Launching the User Administrator

In order to use the User Administrator, you must be logged in as the user administrator.

For a description of starting the Netcool Reporter server, see "Running Netcool Reporter Components" on page 114.

At the *Login* window, enter the administrator user name and password. The default password is administrator. The Netcool Reporter home page appears as shown below.

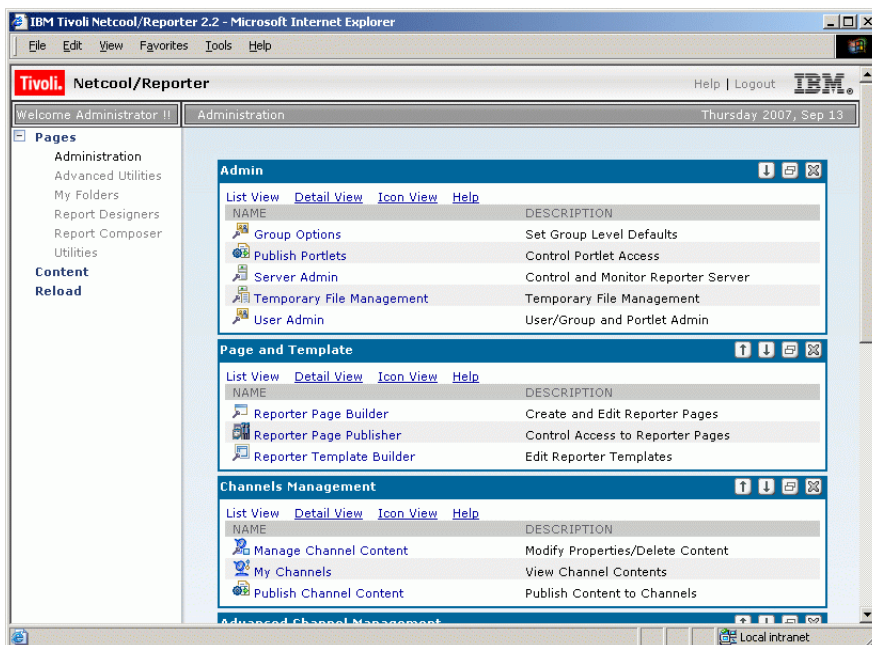


Figure 40. Administration Page



Note: By default, the **Form Based Reports** link in the navigation panel is hidden.

Launch the User Administration by clicking the **User Admin** link in the Admin section of the *Administration* page. The *User Administration* window is shown below.

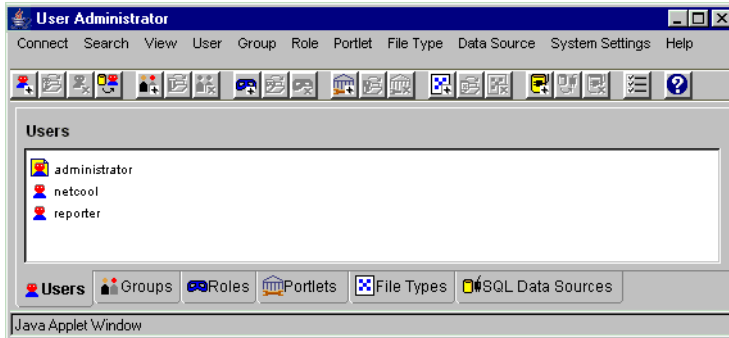


Figure 41. *User Administrator Window*

LDAP Importing

This section only applies if you are using LDAP importing to update users, groups and roles in the Netcool Reporter repository.

The LDAP importer settings override any user to role assignment made in the *User Administrator* window.

For example, if you remove a user from a group or role in LDAP, but add the user to that group in Netcool Reporter, the group to role assignment does not appear in Netcool Reporter for that user after you run the importer.

Change the user to group assignment on the LDAP side before running the importer script.

Channels and other objects created by users in Netcool Reporter are unaffected by LDAP importing. If a user has created a channel in Netcool Reporter, and that user is then deleted from the LDAP repository, the channel is preserved. If a new user with the same user name is added to the LDAP repository, the user inherits the pre-existing channel.

For more information about LDAP authentication and importing, see Appendix C. *LDAP Reference* on page 194.

System Security Settings

You can use the *System Settings* window in the *User Administrator* window to specify certain security settings. To access the *System Settings* window, select the menu option **System Settings—Edit System Settings** or click the **System Settings** button on the toolbar.

The *System Settings* window is shown below.

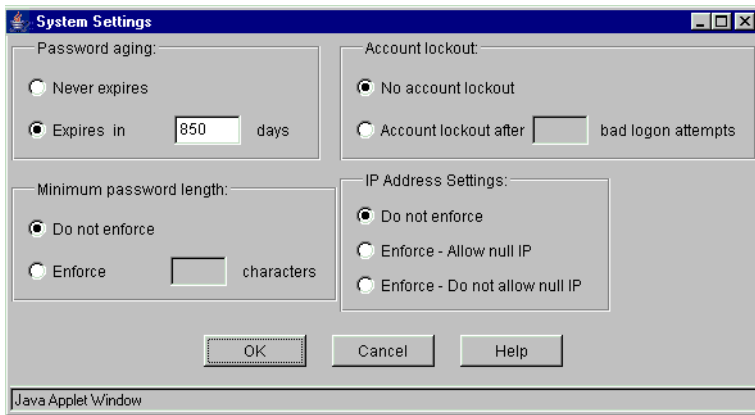


Figure 42. *System Settings Window*

The options in each section are described in the following table.

Table 13. *System Settings Window Options*

Section	Description
Password Aging	Determines whether or not users' passwords expires after a specified number of days. To make passwords expire, select Expires in and enter the number of days. To prevent passwords from expiring, select Never expires .

Table 13. *System Settings Window Options*

Section	Description
Account Lockout	Determines whether or not to disable a user's account if the user enters the wrong password when attempting to log in to Netcool Reporter. To enable this feature, select Account lockout after and enter the number of times the user can attempt to log in. To disable this feature, select No account lockout . To unlock the account again, reset the Account Disabled option in the <i>Edit User</i> window, as described in "Creating and Editing Netcool Reporter Users" on page 137.
Minimum Password Length	Determines whether or not to use a minimum number of characters in users' passwords. To enforce a minimum number of characters, select Enforce and enter the appropriate number of characters (1–30). To set no limit, select Do not enforce . Note: If you select the Do not enforce option, it is possible for users to set their passwords to a null string. In this case, the user would only have to enter his or her user name to log into Netcool Reporter.
IP Address Settings	Determines how the IP Address option in the <i>Edit User</i> window is used, as described in "Creating and Editing Netcool Reporter Users" on page 137. Select one of the following: <ul style="list-style-type: none">• Do not enforce causes any values entered into the IP Address field to be ignored—the user can log in from any IP address. (If this option is chosen, the IP Address field is grayed.)• Enforce - allow null IP enforces the IP address restriction but allows blank IP addresses. If a user's IP Address is left blank, that user can log in from any IP address.• Enforce - Do not allow null IP enforces the IP address restriction and does not allow blank IP addresses. If a user's IP Address is left blank, the user cannot log in.



Note: If you are using LDAP to maintain user information, fields in the Password Aging and Minimum Password Length sections are disabled.

Managing Users

This section describes how to create and maintain user accounts. These operations are managed from the *User Administrator* window. This section covers:

- "Using the Users Tab" on page 136
- "Creating and Editing Netcool Reporter Users" on page 137
- "Parent Groups" on page 138
- "Roles, Groups, and Channels" on page 140
- "Roles" on page 141
- "Setting Portlets" on page 142
- "Setting User Privileges" on page 142
- "Selecting SQL Data Sources for a User" on page 143

- "Deleting Users" on page 144
- "Importing Existing Users from a Database" on page 145

Using the Users Tab

The **Users** tab provides a graphical view of all Netcool Reporter users and allows you to create users, assign them to groups, and set up their data sources. It also allows you to edit or delete existing users.

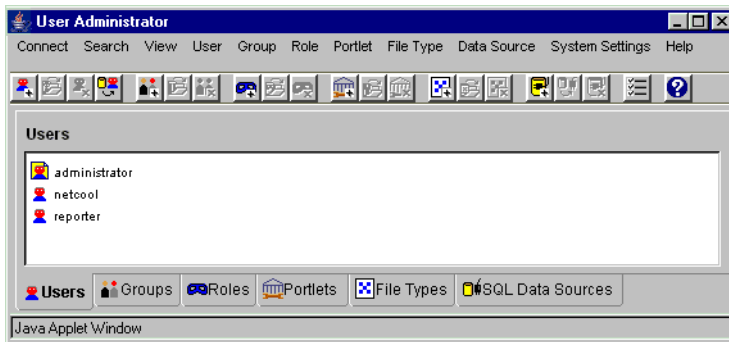


Figure 43. *User Administrator Window Users Tab*

LDAP Restrictions

If you use LDAP to maintain user information, you cannot create new users. For information on importing user, group and role information to Netcool Reporter, see Appendix C. *LDAP Reference* on page 194.

Creating and Editing Netcool Reporter Users

To create a new user, select the menu option **Users—New User...** from the *User Administrator* window. The *New User* window is displayed with the **Users Info** tab selected, as shown below.

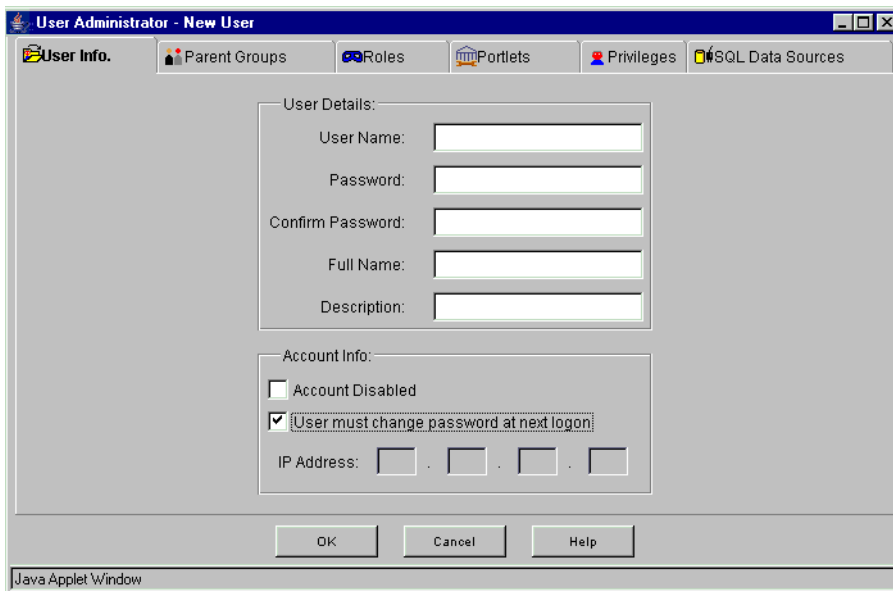


Figure 44. *User Info Tab*

Enter the new user information in the **User Info** tab. The options are described in the following table.

Table 14. *Required User Information*

Options	Description
User Name	Type the name of a Netcool Reporter user.
Password	Type the password of the Netcool Reporter user.
Confirm Password	Re-enter the same password to confirm.
Full Name	Enter the full name of the Netcool Reporter user.
Description	Enter a description of the Netcool Reporter user account.

Table 14. *Required User Information*

Options	Description
Account Disabled	Deselect this checkbox to activate a user's account. (An account can become disabled if the user attempts to log onto the portal using the incorrect password too many times.)
User must change password at next logon	(Optional) Select this checkbox if you want the user to be required to change his or her password the next time the user logs into the portal.
IP Address	(Optional) Enter an IP address if you want to require the user to log onto Netcool Reporter from only one network address, or one range of network addresses. (An asterisk (*) can be used in any of the four fields as a wildcard character.) Setting this field prevents the user from logging into Netcool Reporter from another user's computer. Depending upon your network settings, it can also prevent the user from logging in from a remote location on a laptop. Note: Whether or not this field is enforced depends upon how the IP Address Settings are set in the System Settings window, as described in "System Security Settings" on page 133.



Note: If you are using LDAP to maintain user information, you can only change the **Username** and the **Account Disabled** fields.

Editing Users

To edit an existing user, select the menu option **Users—Edit User...** from the *User Administrator* window. The *Edit User* window appears with the **Users Info** tab selected. This window is identical to the *New User* window.

If you are editing an existing user, make appropriate changes and click **OK**.

Parent Groups

If you have already created groups of Netcool Reporter users, you can assign your new user to groups. Parent groups allow you to create roles.



Note: You cannot assign users to, or remove users from, groups if you are using LDAP to maintain user information.

Select the **Parent Groups** tab to display a list of all groups on the left and selected parent groups on the right, as shown below.

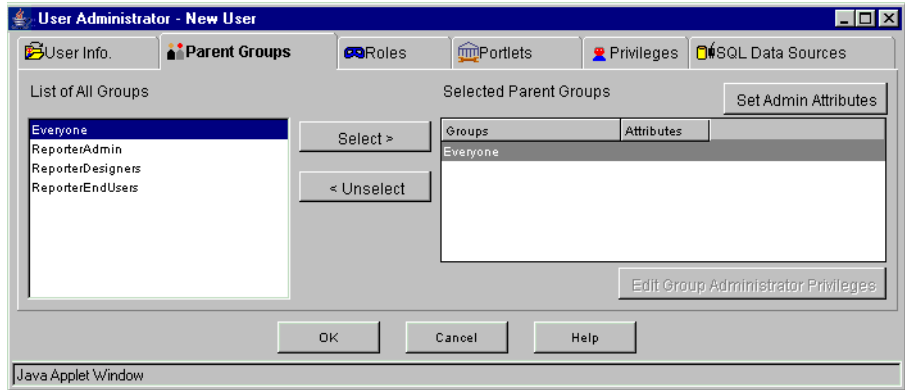


Figure 45. *Parent Groups Tab*

Either double-click a group name on the left, or highlight it and click the **Select** button to add that group to the list of selected parent groups on the right.

To give a user administrator privileges in the group, including the ability to alter the group's default graphics settings, select the group in the **Selected Parent Groups** panel and click the **Set Admin Attributes** button.

A popup menu is displayed. The menu options are described in the following table.

Table 15. *Selected Parent Groups Options*

Menu Option	Description
Set as Normal Default Group	This option sets which layout the user sees when logging into Netcool Reporter. The letter D is displayed in the Attributes column, Note: A user can have only one default group.
Set as Forced Default Group	This option sets which layout the user sees when logging into Netcool Reporter. However a group with the setting Forced Default cannot be changed by the user. The letter F is displayed in the Attributes column. Note: A user can have only one forced default group.
Set as Group Admin	Makes the user the administrator for the group. Group administrators can set the Group Options settings for the group. A user can be an administrator for more than one group and a group can have more than one administrator. The letter F is displayed in the Attributes column and the Edit Group Administrator Privileges button is enabled for the group.

If you have selected the **Set as Group Admin** option, you can click the **Edit Group Administrator Privileges** button to open the *Edit Group Administrator Privileges* window, as shown below.

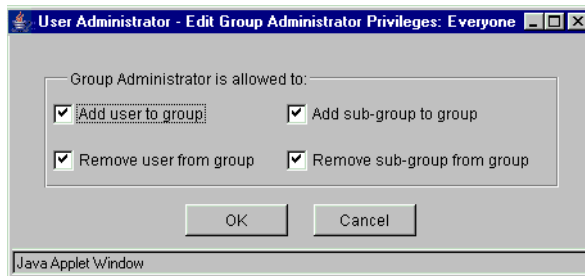


Figure 46. *Edit Group Administrator Privileges* window

In this window you can set or remove the following privileges for the group administrator:

- Add user to group
- Add subgroup to group
- Remove user from group
- Remove subgroup from group

All checkboxes are selected by default. Deselect the checkboxes as appropriate and click **OK** to close the window.

Roles, Groups, and Channels

Netcool Reporter users are organized in a few different ways. There are three organization methods, as shown in the following table.

Table 16. *Netcool Reporter Groups, Roles, and Channels*

Division	Description
Groups	A group is a collection of users. Every user belongs to one or more groups. When you distribute reports and documents through Netcool Reporter, you can send them to entire groups instead of to specific users. Every member of the group receives the item, just as if it had been sent to the user directly. Only Netcool Reporter administrators may create groups and assign users to them.
Roles	Every user is assigned to one or more roles. Your role determines which Netcool Reporter applets you can use, and which functions are available to you. Your Netcool Reporter administrator can assign you to a role.
Channels	Channels are ways of distributing reports to users. Channels must be assigned to a page which is published to a user or a group. You can create channels directly through Netcool Reporter using the <i>Manage Channels</i> page.

Roles

Not all users use Netcool Reporter in the same way. Some users only view data reports which have been assembled by others. Some create reports for themselves or for other people, and distribute them. Some create users and groups, and otherwise manage and administer the Netcool Reporter installation. To indicate what functions a user may perform, the user is assigned to a role.



Note: You may not assign users to or remove users from roles if you are using LDAP to maintain user information.

Roles are assigned using the **Role** tab, as shown below.

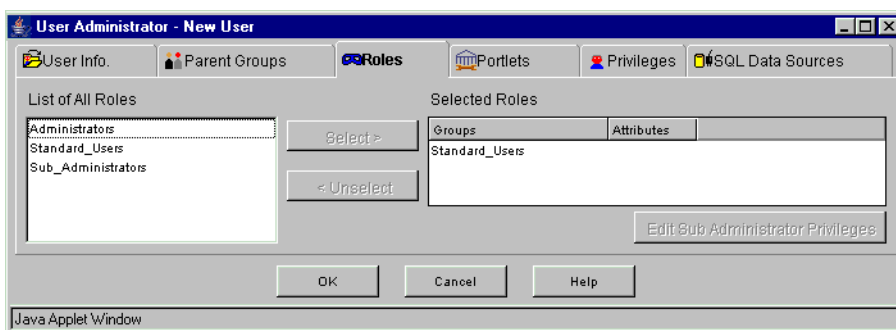


Figure 47. Role Tab

Table 17 lists the predefined roles, the predefined user that belongs to that role, and which applets are available.

Table 17. User Groups and Roles

Group	Description	Applets
Standard_Users	Corresponds to Standard role. Members can view static HTML reports and download files. The user <code>reporter</code> automatically belongs to this group.	No applets
Administrators	Corresponds to Administrator role and the administrator user. The user administrator automatically belongs to this group.	User Admin Server Admin
Sub_Administrators	This group is a special subclass of administrators. By default, they have the same privileges as administrators except that they cannot assign users to the Administrators or Sub-administrators role, and they cannot create or delete users or groups.	User Admin Server Admin

If you are an administrator, you can set the options of the Sub_Administrators group. Click Sub_Administrators in the **Selected Roles** list and click the **Edit Sub Administrator Privileges** button.

The *Edit Sub Administrator Privileges* window is displayed. Select or deselect the checkboxes to set or remove the following privileges:

- Create User
- Create Group
- Delete User
- Delete Group

Setting Portlets

The **Portlets** tab allows you to determine which individual components of Netcool Reporter a user can access. These components are assigned automatically when you assign a user to one or more roles or groups.

It is recommended that you use the default portlet settings supplied with Netcool Reporter and select the appropriate groups to enable the required components of Netcool Reporter.

Setting User Privileges

There are a few special circumstances in which a report or presentation can overload the Netcool Reporter server, causing performance problems for all users. By default, Netcool Reporter prevents those circumstances from occurring. However, if you wish, you can override these safeguards for specific users by opening the user's **Privileges** tab, as shown below.

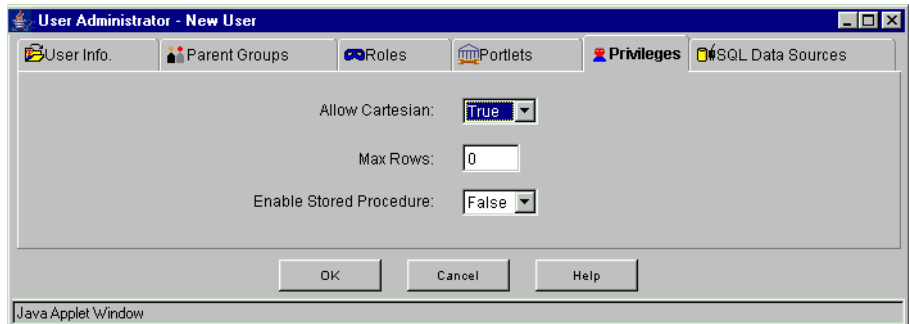


Figure 48. *Privileges Tab*

Allow Cartesian

An SQL report may sometimes contain a cartesian product in the query. This is, when the query draws on two different tables without joining them together, with the result that the number of lines of output are the product of the number of lines returned from each table. Ordinarily, this happens because the designer made an error in the SQL code. However, it is possible, though rare, that a designer returns such a product deliberately.

By default, the **Allow Cartesian** privilege is set to **true** allowing the user to run reports that return cartesian products. If you change the setting to **False** an error message is displayed when the user runs a report which returns a cartesian product.

Max Rows

Netcool Reporter can limit how many rows a report may return to the user. This limit is set individually for each user, using the **Max Rows** field.

By default, the maximum number of rows returned is 0, which indicates that there is no limit on the number of rows returned. You can set this limit to any integer you wish.

Enable Stored Procedure

A person designing an SQL report can set up the report to run one or more database stored procedures before or after the report is run. Users need to select stored procedures for a particular report using the **Procedures** tab in the Report Designer. Setting this option to **true** causes the Report Designer to display the **Procedures** tab for this user.

This option is configured initially for the Netcool Reporter administrator. If the user you are editing or creating does not have access to the Report Designer, setting this option has no effect.

Selecting SQL Data Sources for a User

To select the data sources for a user, click the **SQL Data Sources** tab, as shown below. You can see a list of all SQL data sources on the left and the SQL data sources currently available to the user on the right.

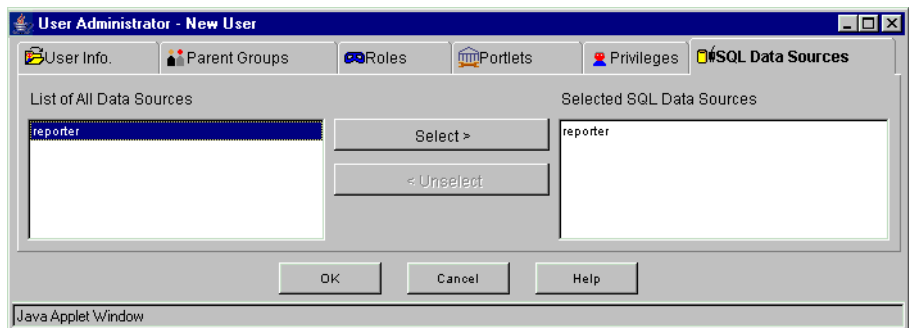


Figure 49. SQL Data Sources Tab

If you are creating a new user, select a data source in the **List all Data Sources** list then click the **Select >** button or double-click the highlighted data source to move the selection to the **Selected SQL Data Sources** list.

Repeat this process to select as many of the associated data sources as you want your new Netcool Reporter user to access. Click the **OK** button to add the new user.

If you are editing an existing user, you can select and deselect data sources.

Deleting Users

You may delete users from the Netcool Reporter application using the Users tab. Before deleting a user, however, you must decide what to do with that user's files. When a user is deleted from the Netcool Reporter, his or her files are not automatically deleted. If they were, other users would not be able to view the published reports or presentations that rely on data sources created by the user being deleted. When you delete a user therefore, you must reassign the deleted user's files to another user.



Note: If you have been assigned to the Sub-administrators role, you may not have permission to delete users. See "Sub_Administrators" on page 141 for details.

To delete an existing user, highlight the user name on the Users tab and either:

- Select the menu option **User—Delete User**.

-or-

- Click the Delete User button on the toolbar.

In either case, a window is displayed asking you to reassign the deleted user's objects to another user. The list you see depends on your privileges. If you have been assigned the Administrators role, you will see a list of all Netcool Reporter users. If you are a Sub-administrator, you will see only those users that you have rights to manage.

Choose a user from the list and click OK. The user you chose to delete will be deleted and his or her files, folders, and channels will be reassigned as explained below. It is recommended that you do not delete the three default Netcool Reporter users.

How Files and Folders are Reassigned

The user that has been assigned the deleted user's objects will see a new folder in the **My Folders** folder in the Netcool Reporter interface. This folder will be called `del_user_<name>`.

For example, suppose user `jdoue` is deleted and his objects are assigned to user `franklin`. When Franklin logs into the Netcool Reporter, he will see a folder called `del_user_jdoue` in the **My Folders** folder as shown below:

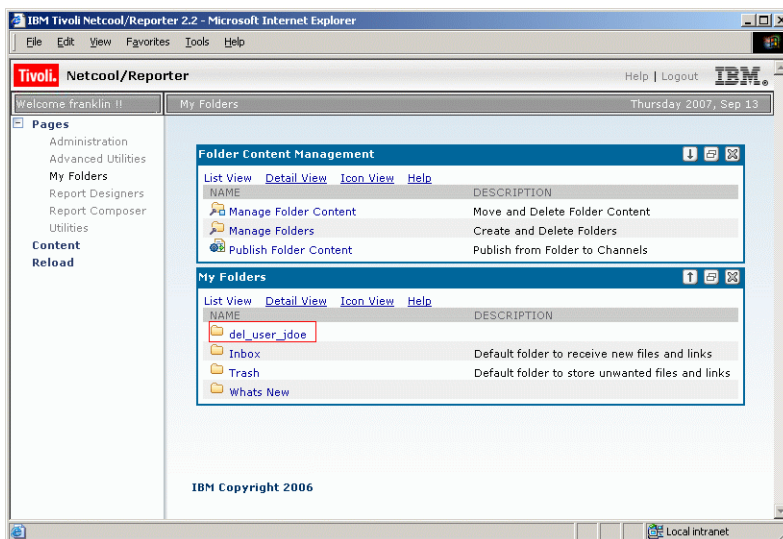


Figure 50. View of a Deleted User's Files After They are Reassigned to Another User

The folder `del_user_jdoue` will contain all of `jdoue`'s folders and files. Ownership of these files will be reassigned to user `franklin`, and for each of these files, user `franklin` will inherit all of `jdoue`'s privileges.

How Channels are Reassigned

Channels are reassigned differently. When a user is deleted, the user that has been assigned the deleted user's objects will automatically become the owner of that user's channels. If the deleted user owns any of the files in a channel, the user that has been assigned the deleted user's objects will become the owner of those files.

For example, if user `jdoue` is deleted and his objects are assigned to user `franklin`, `franklin` will become the owner of all of `jdoue`'s channels. For each channel, user `franklin` will inherit `jdoue`'s privileges. So if `jdoue` has read, edit, and publish privileges for a channel, `franklin` will be assigned read, edit, and publish privileges for that channel.

Furthermore, if `jdoue` was the owner of any files in a channel, `franklin` will become the owner of those files. For each of those files, `franklin` will inherit `jdoue`'s privileges.

Importing Existing Users from a Database

Instead of creating new Netcool Reporter users and associating them with existing database user accounts by creating data sources, you can directly import all database user accounts into the *User Administrator* window.



Note: This option is disabled if you are using LDAP to maintain user information.

To import database users:

1. Select the menu option **User—Import Users from Database...**
2. A *Database DBA Login* window appears, as shown below.

Figure 51. *Database DBA Login Window*

3. You must log on with a database administrator user name and a DBA password in order to read the user account information. Click the **Connect** button.
4. After you have successfully connected, a window is displayed listing the user IDs extracted from the database system tables.

Figure 52. *Users from the Database*

5. From the **Database Users** list, select the users you want to import, then click **Import**.

Managing Groups

This section describes how to create and maintain groups. These operations are managed from the *User Administrator* window. This section covers:

- "Using the Groups Tab" on page 147
- "Creating and Editing Groups" on page 148
- "Deleting Groups" on page 151

Using the Groups Tab

The *User Administrator* window **Groups** tab lets you create, modify, and delete groups of users and subgroups. Groups are created for publishing purposes.

Select the **Groups** tab at the bottom of the *User Administrator* window, as shown below.

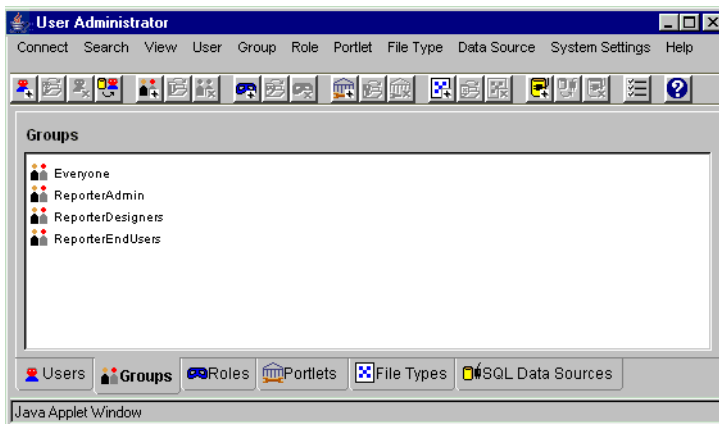


Figure 53. *Groups Tab*

On this tab, groups of users are marked with an icon showing two figures.

You can create the groups to which to assign users. User roles indicate which functions they are permitted to use. This tab allows you to create, modify, and delete user groups. It also allows you to add different users and subgroups to roles and change the description of a role. You cannot delete roles or create new roles.

Creating and Editing Groups

To create a new group, select **Group→New Group**. The *New Group* window is displayed with the **Group Info** tab in the foreground, as shown below.

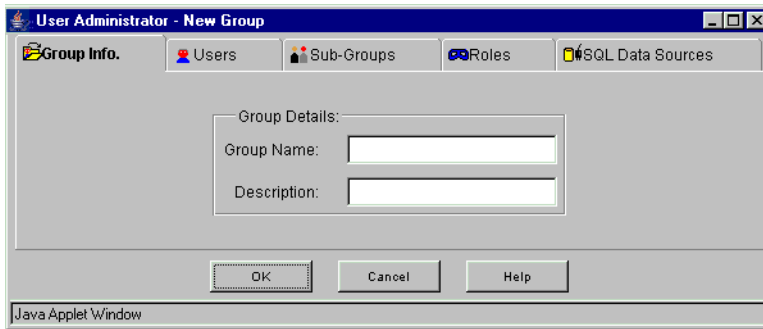


Figure 54. Group Info Tab

Enter the name for the new group in the **Group Name** field. You can also enter a description in the **Description** field.

To edit an existing group, highlight a group name, select **Group→Edit Group**. The *Edit Group* window is displayed. This window is identical to the *New Group* window. The only difference is the inability to change the group name.



Note: The **Description** field is disabled if you are using LDAP to maintain user information.

Assigning Users to a Group

To assign a user to a group, select the **Users** tab, as shown below.

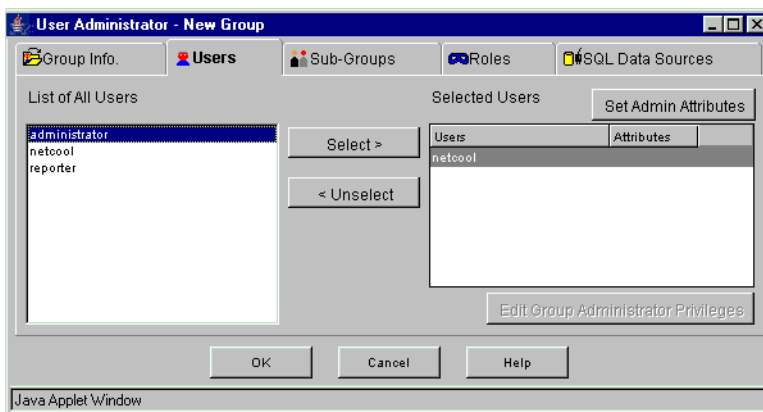


Figure 55. Users Tab

To assign users to a group, use the **Select >** button to move users from **List of All Users** to **Selected Users**. Use the **< Unselect** button to remove users from the group.

To give a user administrator privileges in the group, including the ability to alter the group's default graphics settings, select the group and click the **Set Admin Attributes** button.

For a description of the **Set Admin Attributes** button and the **Edit Group Administrator Privileges** button, see "Parent Groups" on page 138.



Note: You cannot assign users to, or remove users from, groups if you are using LDAP to maintain user information.

Assigning Sub Groups to a Group

To assign a sub group to a group, select the **Sub Groups** tab, as shown below.

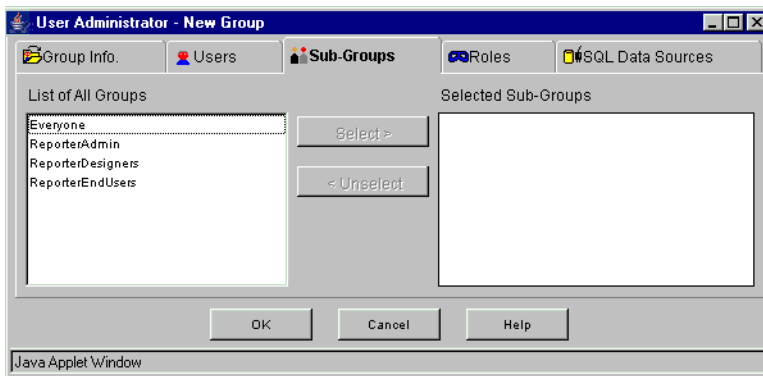


Figure 56. *Sub Groups Tab*

To assign subgroups to the group you are creating or editing, use the **Select >** button to move groups from **List of All Groups** to **Selected Sub-Groups**. Use the **< Unselect** button to deselect groups.

For publishing purposes, subgroups are considered to be separate from their parent groups.

Roles

The **Roles** tab, shown below, allows you to assign groups to roles.

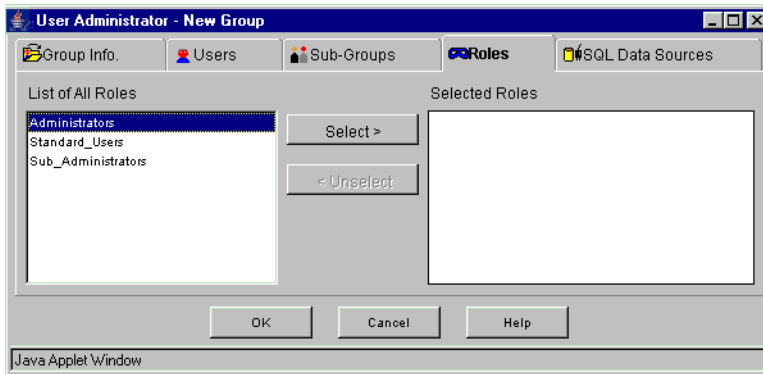


Figure 57. Roles Tab

When you assign a group to a role, every user in that group is assigned.

To assign the group you are creating or editing to a role, click the **Select >** button. The group is moved from the **List of All Roles** list to the **Selected Roles** list. Use the **< Unselect** button to unselect groups.

SQL Data Sources

The **SQL Data Sources** tab, shown below, allows you to assign SQL data sources to groups.

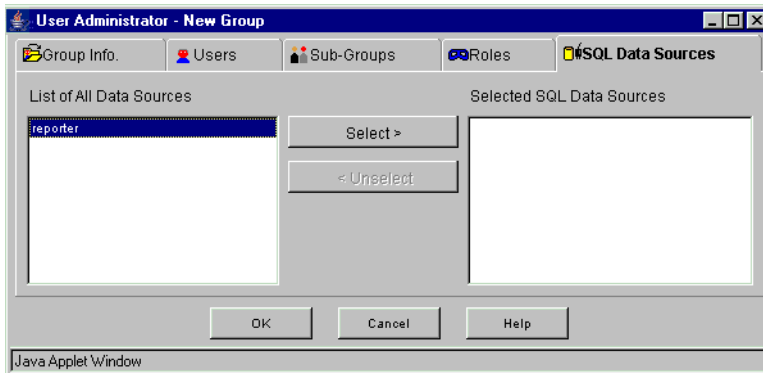


Figure 58. SQL Data Sources Tab

Select a data source that you want the group to be able to access. Then click the **Select >** button or double-click the highlighted data source. Repeat this process to select as many of the associated data sources as you want your new Netcool Reporter group to access.

If you are editing an existing group, you can select and deselect data sources. When you are finished modifying data for the group, click **OK**.

Deleting Groups

To delete an existing group, highlight the group on the *User Administrator* window **Groups** tab, and select **User—Delete Group**. A window appears asking you if you are sure you want to delete the group. Click **Yes** to delete the group.

Managing Roles

Roles are special groups that determine which Netcool Reporter components a user may access. These operations are managed from the *User Administrator* window. This section covers:

- "Using the Roles Tab" on page 151
- "Creating and Editing Roles" on page 152
- "Deleting Roles" on page 154

Using the Roles Tab

The *User Administrator* window **Roles** tab lets you create, modify, and delete roles. Click the **Roles** tab at the bottom of the *User Administrator* window, as shown below.

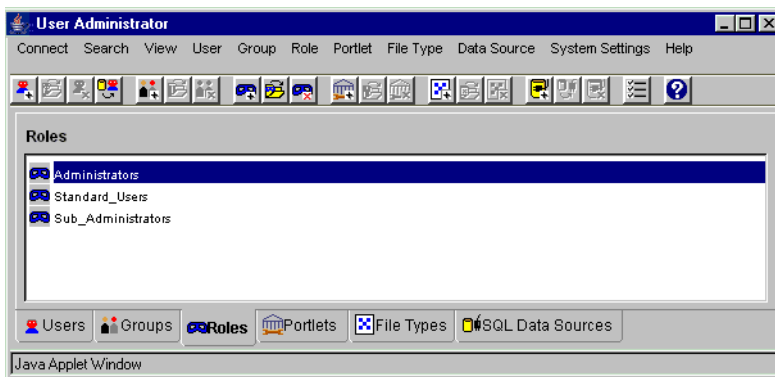


Figure 59. Roles Tab

Netcool Reporter is shipped the following standard (predefined) roles:

- Administrator
- Standard_User
- Sub_Administrator

It is recommended that you do not delete any of these roles.

Members of the Sub-administrators role have most of the same privileges as members of the Administrators role, except for the following restrictions:

- Sub-administrators cannot assign users to the Administrators or Sub-Administrators role.
- Sub-administrators can create and delete users and groups only if an administrator gives them permission to do so.
- If a sub-administrator creates a role, portlet, or data source, the item is viewable only by the sub-administrator who creates it. Other sub-administrators cannot see that item.
- In the User Administrator, sub-administrators can only see users in groups in which they are the group administrator. They can only see the data sources assigned to these users plus the data sources that are assigned to them directly.

Creating and Editing Roles

To create a new group, select **Role→New Role**. The *New Role* window is displayed with the **Role Info** tab in the foreground, as shown below.

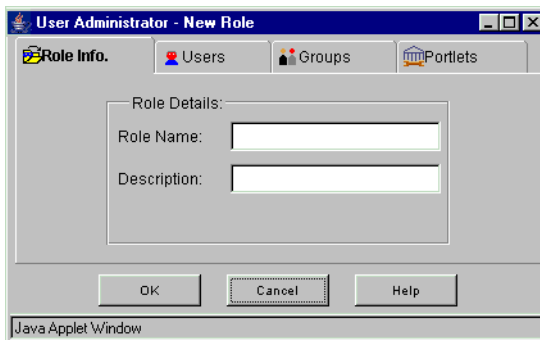


Figure 60. *Role Info Tab*

Enter the name for the new role in the **Role Name** field. You can also enter a description in the **Description** field.

To edit an existing role, highlight a role name, select **Role→Edit Role**. The *Edit Role* window is displayed. This window is identical to the *New Role* window. The only difference is the inability to change the role name.



Note: The **Description** field is disabled if you are using LDAP to maintain user information.

Assigning Users to a Role

To assign a user to a role, select the **Users** tab, as shown below.

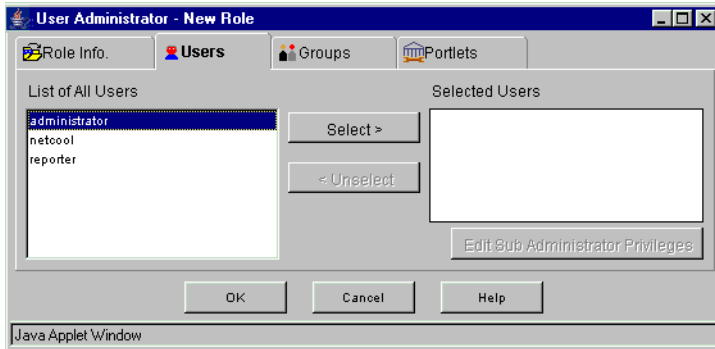


Figure 61. Users Tab

To assign users to a role, select a user and click the **Select >** button. The users are moved from the **List of All Users** list to the **Selected Users** list. Use the **< Unselect** button to remove users from the group.

If the user selected has the **Set as Group Admin** option selected, you can click the **Edit Group Administrator Privileges** button to open the *Edit Group Administrator Privileges* window, as described in "Parent Groups" on page 138.



Note: You cannot assign users to, or remove users from, roles if you are using LDAP to maintain user information.

Assigning Groups to Roles

The **Groups** tab allows you to assign groups to roles. Every user in the group is assigned the roles you select. The **Groups** tab is shown below.

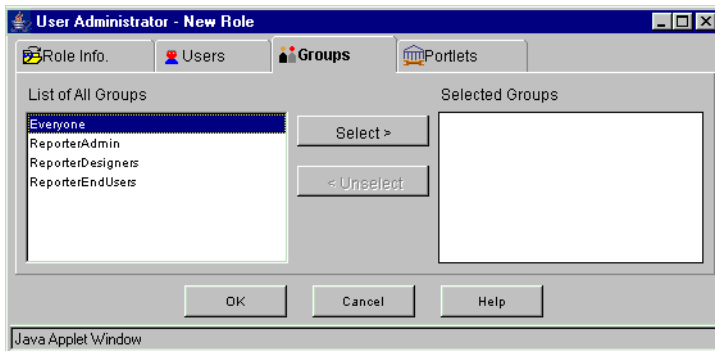


Figure 62. Groups Tab

To assign groups to a role, click the **Select>** button. The users are moved from the **List of All Groups** list to the **Selected Groups** list. Use the **<Unselect** button to remove groups from the role.

Assigning Portlets to Roles

The **Portlets** tab allows you to determine which portlets (Netcool Reporter components) can be accessed by users in a particular role. The **Portlets** tab is shown below.

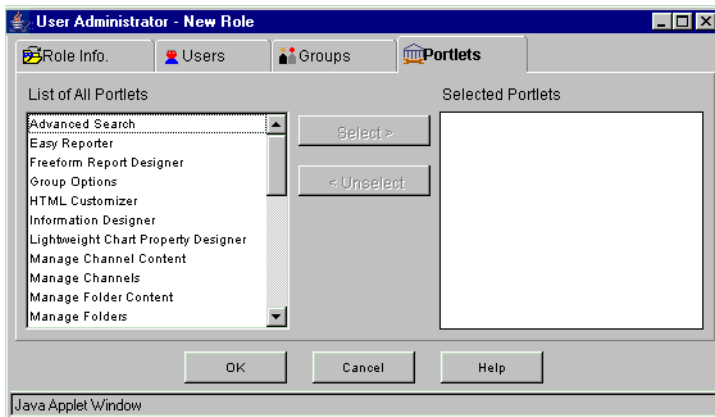


Figure 63. *Portlets Tab*

The **Selected Portlets** list displays the portlets that can be accessed by users assigned to the current role.

If you are creating a new role, select a portlet that you want the new role to be able to access from the **List of All Portlets** list. Click the **Select >** button or double-click the highlighted portlet name to move it to the **Selected Portlets** list.

Repeat this process to select all of the portlets you want the role to access.

To prevent a portlet from being accessed by users assigned to a particular role, select the portlet name from the **Selected Portlets** list, then click **< Unselect**. When you have finished modifying properties for the role, click **OK**.



Note: You cannot remove the user administrator from the Administrator or Sub-Administrator roles. Further, you may not add the user administrator to any roles other than Administrator or Sub-Administrator.

Deleting Roles

To delete an existing role, highlight the role on the *User Administrator* window **Roles** tab, and select **Role—Delete Role**. A window appears asking you if you are sure you want to delete the role. Click **Yes** to delete the role.

You can delete any of the roles you have created. It is recommended that you do not delete any of the predefined Netcool Reporter roles.

Managing Portlets

Portlets are the components that make up Netcool Reporter. You can use the **Portlet** tab to add new add-on applications to Netcool Reporter.

These operations are managed from the *User Administrator* window **Portlet** tab. This section covers:

- "Using the Portlet Tab" on page 155
- "Creating and Editing Portlets" on page 156
- "Deleting Portlets" on page 162

Using the Portlet Tab

The *User Administrator* window **Portlet** tab lets you create, modify, and delete portlets. The **Portlet** tab appears at the bottom of the *User Administrator* window, as shown below.

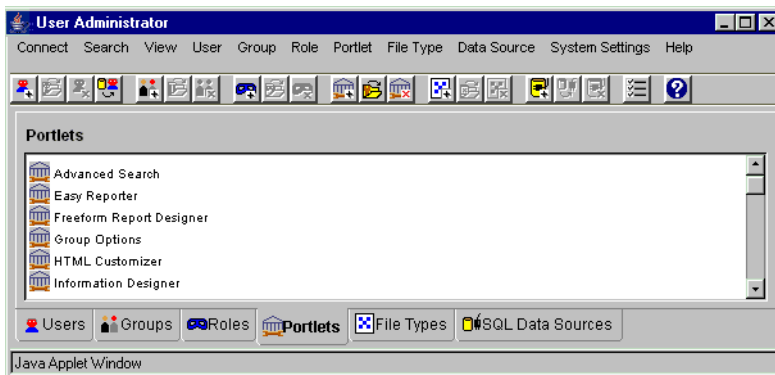


Figure 64. Portlet Tab

The **Portlets** tab lists all of the installed portlets. By default, Netcool Reporter is shipped with the following portlets:

- Advanced Search
- Easy Reporter
- Freeform Report Designer
- Group Options
- HTML Customizer
- Information Designer
- Lightweight Chart Property Designer
- Manage Channel Content
- Manage Channels
- Manage Folder Content

- Manage Folders
- My Channels
- My Folders
- Publish Channel Content
- Publish Channels
- Publish Folder Content
- Publish Portlets
- Report Designer
- Report Options
- Reporter Page Builder
- Reporter Page Publisher
- Reporter Template Builder
- Reporter User Profile
- Server Admin
- Simple Search
- Upload Content
- Upload JSP
- User Admin
- User Profile

Depending upon your installation configuration, some or all of these default portlets appear in the list in the **Portlet** tab.

Creating and Editing Portlets

To create a new portlet, select **Portlet**—**New Portlet**. The *New Portlet* window is displayed with the **Portlet Info** tab in the foreground, as shown below.

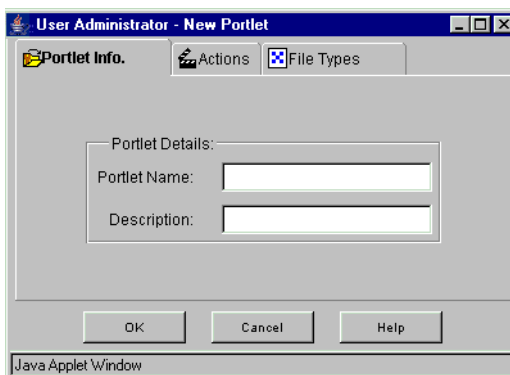


Figure 65. *Portlet Info Tab*

Enter the name for the new portlet in the **Portlet Name** field. You can also enter a description in the **Description** field.

To edit an existing portlet, highlight a name, select **Portlet—Edit Portlet**. The *Edit Portlet* window is displayed. This window is identical to the *New Portlet* window. The only difference is the inability to change the portlet name.

Assigning an Action to a Portlet

You can assign actions to the portlet using the **Actions** tab, as shown below.

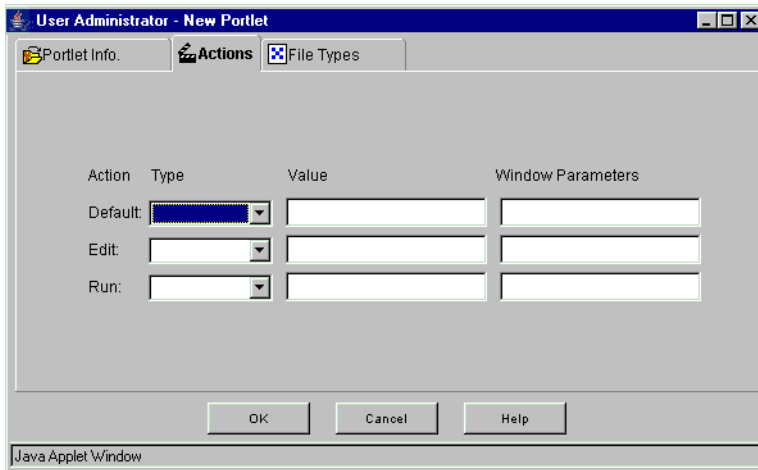


Figure 66. *Actions Tab*

This tab lets you select the action performed when a user starts the portlet. Every portlet can be started in the following ways:

- By starting the portlet itself by clicking its link in a Netcool Reporter page.
- By running a file associated with the portlet.
- By editing a file associated with the portlet.

You can define special actions for each of these situations. The default action (for when the portlet is started directly) is also used if a user runs or edits a file associated with that portlet, and there is no action defined specifically for running or editing files.

To specify a start method, enter the following:

- **Type** - This specifies the type of portlet being used. The various portlet types are described in "Types of Portlets" on page 160.
- **Value** - Enter the actual address or program to be used. (For example, if the portlet's Type is URL, this is a web address.) Appropriate values for each type are described in "Dynamic URLs" on page 161.
- **Window Parameters** - (Optional) Use this field to specify any HTML parameters for the browser window used for the new portlet. Valid window parameters are a collection of the attributes listed below separated by commas, without any space after the comma.

The available **Window Parameters** are listed in the following table.

Table 18. *Window Parameters Field Descriptions*

Value	Description
left	Specifies the X-position, in pixels, of the window with respect to the desktop.
top	Specifies the Y-position, in pixels, of the window with respect to the desktop.
height	Specifies the height of the window in pixels.
width	Specifies the width of the window in pixels.
resizable	Controls whether or not the user can resize the window (yes or no).
scrollbars	Controls whether or not scrollbars is displayed when the window contents exceed the window size (yes or no).
menubar	Controls whether or not a menu bar is displayed at the top of the window (yes or no).
toolbar	Controls whether or not the standard browser toolbar (with Next and Back buttons, and so on) is displayed at the top of the window (yes or no).
status	Controls whether or not a status bar is displayed at the bottom of the window (yes or no).

An example **Window Parameters** field value is shown below:

```
left=100,top=100,height=300,width=500,resizable=no,scrollbars=yes,menubar=no,toolbar=no,status=yes
```

Associating File Types with a Portlet

You can associate a file type to a portlet using the **File Type** tab, as shown below.

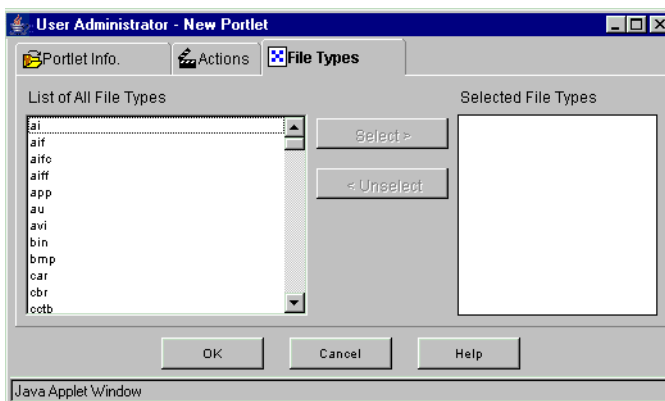


Figure 67. *File Type Tab*

This tab lets you associate one or more file types with this portlet. If a file is associated with a portlet, the user can select the file and click the **Run** or **Edit** button, and the portlet starts, using the defined **run** or **edit** functions (if defined).

To associate a file type with the portlet, select its file name extension in the left panel and click **Select**>. To disassociate a file type from the portlet, select its extension in the right panel and click **<Unselect**.

The file types in the following table are reserved and cannot be used for portlets you create:

Table 19. *Reserved File Extensions*

Extension	Description
car	Report Designer parameterized charts
cctb	Report Designer child crosstabs
cht	Report Designer charts
cmp	Report Designer combo reports
cntr	N-Tier crosstabs
crpt	Report Designer child reports
ctb	Report Designer crosstabs
ctr	Report Designer parameterized crosstabs

Table 19. *Reserved File Extensions*

Extension	Description
cub	Report Designer cubes
durl	Dynamic URLs
frm	Report Designer forms
gif	GIF image files
htm	HTML files
html	HTML files
jpg	JPEG image files
jurl	JavaScript URLs
mcar	Easy Reporter parameterized metacharts
mcht	Easy Reporter metacharts
mcub	Easy Reporter metacubes
mpar	Easy Reporter parameterized metareports
mrpt	Easy Reporter metareports
ntr	N-Tier reports
par	Report Designer parameterized reports
rpt	Report Designer reports
scht	Chart snapshots
scmp	Combination snapshots
scub	Cube snapshots
srpt	Snapshot reports
url	Uniform Resource Locator. The global address of documents and other resources on the World Wide Web.

Types of Portlets

When you define a portlet, you must specify the portlet's type. This specifies what kind of action Netcool Reporter performs when the portlet is run. There are several types:

- Relative Path
- Absolute Path
- URL
- Dynamic URL
- Cartridge

Relative Path

The portlet is associated with a file on the server. The file is specified with a relative path, a path relative to the server's \$INFOHOME directory (the directory where Netcool Reporter is installed). When a user starts the portlet, the specified file is opened with the user's browser.



Note: The contents of the file are delivered by the Netcool Reporter server. The file itself is not opened in-place on the Web server. For this reason, if the file is an HTML file, relative hyperlinks do not work. To deliver a web page, you should use URL or Dynamic URL, described in the following sections.

For example, if the server is installed in a machine's `c:\htdocs\infospc` directory, and the Documentation portlet is specified with the relative path `packages\doc\index.html`, then when the user starts the Documentation portlet, the browser attempts to open the file `c:\htdocs\infospc\packages\doc\index.html`.

Absolute Path

This is similar to a relative path, except the file is specified with its full directory address on the server. You can use this to specify files that are not in the server's HTTP directory tree. As with relative path, if the file delivered is written in HTML, relative hyperlinks do not work.

URL

This may be any full URL. When the user starts the portlet, the user's browser opens the URL.



Note: You must use a full URL, with a protocol identifier and host name. For example, `http://hostname.yourcompany.com/infospc/readme.txt` is a valid URL, but `infospc/readme.txt` is not.

Dynamic URL

This is similar to a URL, except you can include special Netcool Reporter variables which are evaluated when the URL is opened.

Cartridge

This specifies a Java object which implements the portlet API interface. It must be installed on the server's Java path. When a user starts the portlet, an instance of that object is created and initialized on the user's computer.

Dynamic URLs

A dynamic URL is just like a regular URL, except that it may include some special Netcool Reporter variables. These variables are expanded when the URL is opened. For example, you might specify a URL like this:

```
http://hostname.yourcompany.com?UserID={User.NAME}
```

The Netcool Reporter server would replace the parameter (the bracketed portion) with an appropriate value.

You can use the parameters listed in the following table. The relevant object is inserted, in serialized form. For example, if you use the parameter {User}, the User object for that session is inserted.

Table 20. *Dynamic URL Parameter Descriptions*

Parameter	Description
Session	Expands to information about the current session.
User.<field_name>	<p>Expands to information about the currently logged-in user. <field_name> can be the name of a column in the data repository's USER table, or a field in the user's Preferences file. Valid fields are:</p> <ul style="list-style-type: none"> • ID: the disk ID of the user object • NAME: the name of the user object • DESCRIPTION: the description of the user • MODIFIED: the modified date of the user in milliseconds • CREATED: the created date of the user in milliseconds • PATH: the full name of the user • RPPASSWD: the encrypted password of the user • Any other parameter value defined in the user's or default group's preference file. (If the user has a default group defined, then the preference value for the group is used.)
File.<field_name>	<p>Expands to information about the file object representing the link. If you use File and the portlet is not started on a specific file, then a null value is used. Valid fields are:</p> <ul style="list-style-type: none"> • ID: the disk ID of the file • NAME: the name of the file • DESCRIPTION: the description of the file • MODIFIED: the modified date of the file in milliseconds • CREATED: the created date of the file in milliseconds • Any other parameter value defined in the properties file of the file object representing the link.

Deleting Portlets

To delete an existing portlet, highlight the portlet on the *User Administrator* window **Portlet** tab, and select **Portlet—Delete Portlet**. A window appears asking you if you are sure you want to delete the portlet. Click **Yes** to delete.

Managing File Types

The **File Types** tab lets you define new file types for the portlets you create, as well as for third party applications you wish to allow users to run.

The **File Types** tab can be found on the *User Administrator* window. This section covers:

- "Using the File Types Tab" on page 163
- "Creating and Editing File Types" on page 164
- "Associating File Types with Portlets" on page 165
- "Associating File Types with Applications" on page 165
- "Associating Icons with File Types" on page 166

Using the File Types Tab

The *User Administrator* window **File Types** tab lets you define new file types. The **File Types** tab appears at the bottom of the *User Administrator* window, as shown below.

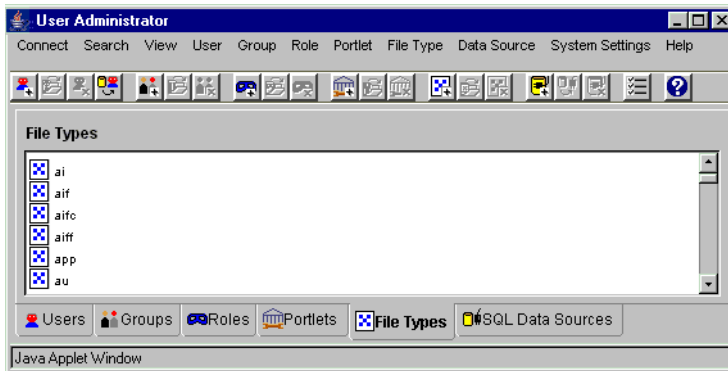


Figure 68. *File Types Tab*

Once a file type has been defined, it can be associated with a portlet or a third party application. Once it has been associated properly, the user can double-click a file of that type, and the appropriate portlet or application starts.

File types that do not appear in this list and are not associated with any portlets or applications are not recognized by Netcool Reporter. If a user uploads an unrecognized file type into Netcool Reporter, then attempts to open it, the file is not displayed properly.

Netcool Reporter reserves certain file types. You cannot use these reserved file types for the portlets you create. Reserved file types are listed in Table 19 *Reserved File Extensions* on page 159.

Creating and Editing File Types

To create a new file type, select **File Type—New File Type**. The *New File Type* window is displayed with the **File Type Info** tab in the foreground, as shown below.

The image shows a Java applet window titled "User Administrator - New File Type". Inside the window is a tabbed interface with the "File Type Info." tab selected. The tab contains a group box labeled "File Type Details:" which includes five text input fields: "File Type Name:", "Description:", "Mime Type:", "Portlet:", and "Java Class:". Below these fields are three buttons: "OK", "Cancel", and "Help". The status bar at the bottom of the window displays "Java Applet Window".

Figure 69. *File Type Info Tab*

The fields are described in the following table.

Table 21. *File Type Info Tab Descriptions*

Field	Description
File Type Name	This is the file's extension, without the dot (for example, a file named <code>Readme.txt</code> has the extension <code>txt</code>). You cannot change this after a file type has been defined.
Description	A short text description of this type of file.
Mime Type	The file's MIME type. Browsers use the MIME type to determine which application or plug-in should open the file.
Portlet	You can specify a portlet to handle files of this type. If you specify a portlet, then when the user reads or edits a file of this type, the portlet is started to handle the file. If you want to associate this file type with a third party application, set this field to Default.
Java Class	Every file type is associated with a file object. By default, that object is an instance of portlet API file. If you wish, you can write your own Java class for a particular file type, and enter the class name here. (The class must implement the portlet API interface; it is commonly a subclass of API file, which implements that interface.) If you want to associate this file type with a third party application, leave this field blank.

Associating File Types with Portlets

To associate a file type with a portlet:

1. Select the **Portlet** tab on the *User Administrator* window, as described in "Using the Portlet Tab" on page 155.
2. Select the required portlet and open the *Edit Portlet* window.
3. Select the **File Types** tab, and add the file type to the **Selected File Types** list.
4. After associating a file type with a portlet, you should also associate an icon with that file type, as described in "Associating Icons with File Types" on page 166. If you do not do this, a missing graphics symbol (usually a red "X") appears with the file name wherever an icon would normally be.

Associating File Types with Applications

To associate a file type with a third party application complete the fields in the *Add File Types* window, as described in "Creating and Editing File Types" on page 164.



Note: In order to start the associated application from Netcool Reporter, you must also make sure that the file type is registered on the client computer of every user that needs to run the associated application. If the file type is not registered on the client machine, the users receives an error message when they double-click the file name.

For users running Windows with the Internet Explorer browser, you must use the following steps to setup and check registered file types:

- Open Windows Explorer.
- Select the menu option **View–Options**, and click the **File Types** tab.

For Netscape users, you must use the following steps to setup and check registered file types:

- Open Netscape.
- Select the menu option **Edit–Preferences**. The *Preferences* window is displayed.
- Selecting the category **Navigator–Helper Applications**.

For both types of web browser, associate a file type with a third party application. Verify that the file type is registered on the appropriate client machines, you should associate an icon with the file type, as described in "Associating Icons with File Types" on page 166. If you do not do this, a missing graphics symbol (usually a red "X") appears with the file name wherever an icon would normally be.

Associating Icons with File Types

After associating a file type with a portlet or third party application, you should associate an icon with the file type. If you do not do this, whenever a user uploads a file of that type into the portal, a missing graphics symbol (usually a red "X") appears with the file name wherever an icon would normally be. To avoid this, you must store two icons for each file type in the following directory:

- On a Windows system: %INFOHOME%\images\
- On a UNIX system: \$INFOHOME/images/

To associate icons with a file type:

1. Obtain both a 16 x 16 and 32 x 32 pixel icon for the new file type.
2. Save the icons as GIF files and name them as follows:
 - 16 x 16 pixel icon: <file_type>16.gif
 - 32 x 32 pixel icon: <file_type>32.gif

For example, if abc was your new file type, the icon files would be named abc16.gif and abc32.gif.

3. Copy both GIFs into the images subdirectory.

Managing Data Sources

This section outlines how to manage data sources. It covers:

- "Using the Data Sources Tab" on page 166
- "Planning Data Sources" on page 167
- "Creating and Editing SQL Data Sources" on page 168
- "Deleting Data Sources" on page 169

Using the Data Sources Tab

The *User Administrator* window **SQL Data Sources** tab is used to create and edit data sources. The **SQL Data Sources** tab allows you to create new data sources that can hide details regarding the names and locations of databases and tables from Netcool Reporter users.

The **SQL Data Sources** tab appears at the bottom of the *User Administrator* window, as shown below.

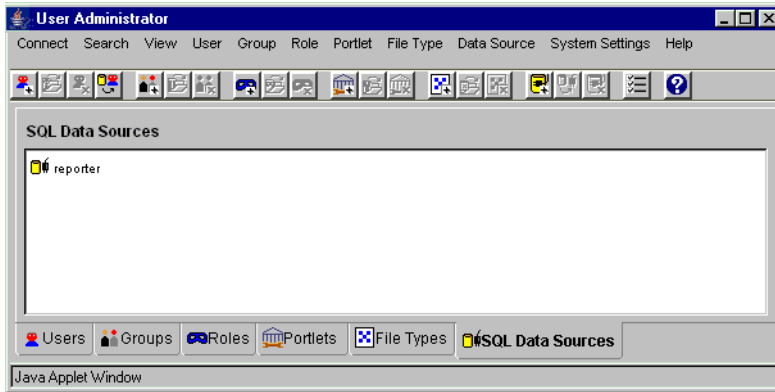


Figure 70. *SQL Data Sources Tab*

Netcool Reporter only supports SQL data sources.

Planning Data Sources

Before you create new data sources, you must plan the data sources and database user accounts through which your users can access the databases.

To create data sources, you need to decide what data you want your users to access and whether you want to create virtual groups of users.

If specific database users with specific access privileges are already set up in the database, then you can use the existing database user accounts when creating your data sources.



Note: Each Netcool Reporter data source is associated with a specific administrator account. If the account is deleted, all of the data source information for that account is deleted as well. You may want to retain the single, common administrator account to create data sources, and keep that account regardless of the individual that is performing the administration duties.

Collecting Information Associated with the Databases

To put user information in login tables, you must collect the following information:

- The names and passwords of the database users from the database administrator.
- The database connect string from the database connectivity middleware.

Creating and Editing SQL Data Sources

If you are using the Netcool Reporter gateway to populate your data source, the default data source is called `reporter`. This data source provides access to the tables contained within the schema, which holds the data forwarded from the Netcool/OMNIBus ObjectServer.

To create new data sources, on the *User Administrator* window select **Data Source—New Data Source**. The *New Data Source* window is displayed, as shown below.

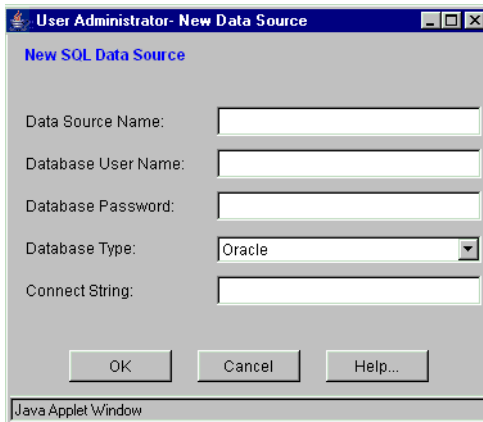


Figure 71. *New/Edit Data Source Window*

Table 22 describes the information you need to enter or change in each field name to add a new data source or modify an existing one.

Table 22. *Required Data Source Information*

Field Name	Explanation
Data Source Name	The name that you want your Netcool Reporter users to use in order to connect to the database. The name must not include the following characters: \ / : ' ? ' < >
Database User Name	The name of a database user.
Database Password	The password of the database user.
Database Type	The database type. Select one of three database type values: Oracle , ODBC , or Sybase .
Connect String	The name of the connect string that the middleware for your database uses.

You must choose the name of your new data source based on the type of data your Netcool Reporter users receive, rather than on the location of the data.

Editing Data Sources

To edit a data source you have already created, highlight a data source name on the *User Administrator* window **Data Sources** tab and select the menu option **Data Source—New Data Source**. Make the changes to the data source and click **OK**.

Deleting Data Sources

To delete an existing data source, highlight the data source on the *User Administrator* window **Data Source** tab, and select **User—Delete Group**. A window appears asking you if you are sure you want to delete the data source. If you are sure, click **Yes**.



Note: Reports are associated with specific data sources that were used to create them. Deleting a data source also renders invalid any reports created using that data source.

Chapter 10. Server Administration

This chapter describes how to manage the Netcool Reporter servers using the Server Administrator and how to delete temp files using the Delete Temp Files utility.

It contains the following sections:

- "Introduction to the Server Administrator" on page 170
- "The Server Administrator" on page 170
- "Miscellaneous Functions of the Server Administrator" on page 174
- "Deleting Temp Files" on page 175

Introduction to the Server Administrator

The Netcool Reporter Server Administrator allows you to do the following:

- Start and stop Netcool Reporter servers.
- Monitor Netcool Reporter user sessions. It can display the following information:
 - User names of users who are logged on.
 - Machines from which clients are logged on.
 - Connect time for each user session.
 - Start time for each session.
 - Duration of each session.
 - Last time active for each session.
- Monitor active sessions. A session exists for each component which requires database access to define and generate reports.



Note: The *Server Administrator* window is only available inside an intranet. It cannot run through a firewall since it uses a direct socket connection.

The Server Administrator

Starting the Server Administrator involves the following steps:

1. Start the Netcool Reporter Administration Server.
2. Open the *Server Administrator* window from the Netcool Reporter *Admin* page.

These steps are described in the following sections.

Starting the Netcool Reporter Administration Server

You must start the Netcool Reporter Administration Server before you can access the Server Administrator.

An error message appears if you attempt to start the Server Administrator when the Administration Server is not up and running.

Windows Systems

To start the Netcool Reporter Administration Server on Windows, select the menu option **Start→Programs→Netcool Reporter 2.2→Reporter Admin Server→Start Reporter Admin Server**.

Unix Systems

To start the Netcool Reporter Administration Server on UNIX, run the script `$REPORTERHOME/bin/startadmin`.

Opening the Server Administrator Window

Start the Netcool Reporter client, as described in "Running the Netcool Reporter Client" on page 119. To open the *Server Administrator* window, click the **Administration** link in the navigation panel to open the *Administration* page.

The *Administration* page is only available to the administrator user.

Click the **Server Admin** link in the Admin section. The *Server Administrator* window is displayed, as shown below.



Figure 72. Server Administrator Window

Managing the Netcool Reporter Server

The left panel displays information about the Netcool Reporter server. When users run report definition files, they are using Java applets that connect to a server. The Netcool Reporter server receives requests from users and passes them to the appropriate database driver, which in turn fetches data from the appropriate relational database.

The Netcool Reporter server is configured using a single Netcool Reporter server, which handles requests from all the users. The left panel of the Server Administrator shows information about the Netcool Reporter server. The Netcool Reporter server is listed in this panel.



Figure 73. *Netcool Reporter Server*

Start Up and Shut Down Netcool Reporter Servers

You can use the Server Administrator to stop and restart the Netcool Reporter server.

To stop the Netcool Reporter server select the menu option **Server—Shut Down Server** or click the **Shut Down Server** icon, as shown below.



Figure 74. *Shut Down Server icon*

To restart the Netcool Reporter server select the menu option **Server—Start Up Server** or click the **Start Up Server** icon, as shown below.



Figure 75. *Start Up Server icon*

The Details Panel

The right panel of the Server Administrator displays information about the currently selected Netcool Reporter server. This panel contains two tabs:

- The **Server Summary** tab shows general information about the Netcool Reporter server.
- The **Session View** tab shows information about each client session logged on the Netcool Reporter server.

Server Summary Tab

The **Server Summary** tab, shown in Figure 72, shows general information about the Netcool Reporter server.

This tab contains two sections. The **Connection Summary**: section is described in the following table.

Table 23. *Server Summary Tab Description*

Field	Description
SQL	Number of Report Designer (SQL) sessions running. Each of these also account for one socket session.
Socket Sessions	Number of socket sessions running. A portlet can use one, or two socket sessions, or share a socket session with another portlet. Most portlets share one socket session, except for Information Designer and Report Designer, which create their own socket sessions.
Portal Sessions	Number of portal sessions running.

The **Messages**: section of the panel displays diagnostic messages.

Session View Tab

The **Session View** tab shows information about each session connected to the Netcool Reporter server. The view is a table, with one row for each session, as shown below.



Figure 76. *Session View*

This tab shows information about each session connected to the Netcool Reporter Server. The panel comprises a table, with one row for each session.

Table columns in the **Session View** tab, are described in Table 24.

Column	Description
Session ID	A unique number for this session.
From Host	The IP address or host name of the computer where the client is running.
Client	The user name of the session.
Session Starts At	The time and date the session started.
Duration	The duration of the session in hours, minutes, seconds, tenths, and hundredths of a second.
Last Active	The date and time of the last activity in the session.

Table 24. *Session View Tab Columns*

Disconnecting Users

You can use the Server Administrator to disconnect any user from a Netcool Reporter server.

To disconnect a user, select the user then select the menu option **Users—Disconnect User** or click the **Disconnect User** icon, as shown below.



Figure 77. *Disconnect User icon*

Miscellaneous Functions of the Server Administrator

This section describes the remaining functions of the Server Administrator.

Sorting Rows

To sort the rows in the statistics displays, click the column header above the column that you want to sort. The rows are sorted alphanumerically and toggle between being sorted in ascending order and descending order.

For example, you can click the header labeled **From Host** to sort the rows alphabetically by host name. The rows are sorted in ascending order the first time you click the header and in descending order the next time that you click it.

Rearranging Columns

You can rearrange any of the columns by clicking the column header of the column that you wish to move, holding the mouse button down, and dragging it to the desired location.

Resizing Columns

You can change the width of the columns by clicking the edge between two columns, holding the mouse button down, and dragging it to the desired width.

Exiting the Server Administrator Applet

To exit from the Server Administrator, choose **Exit** from the **Connect** menu. The Netcool Reporter servers continue to run.

Deleting Temp Files

Netcool Reporter uses the following temporary directory to store previewed reports, charts, and graphs:

```
/opt/netcool/reporter/apache/htdocs/infospc/websqlbr/tmp
```

This directory can grow in size very rapidly unless it is emptied periodically. To set how temp files are deleted, use the Temp File Manager utility. To start it, click the **Administration** link to open the *Administration* page and click the **Temporary File Management** link; the utility is opened, as shown below:

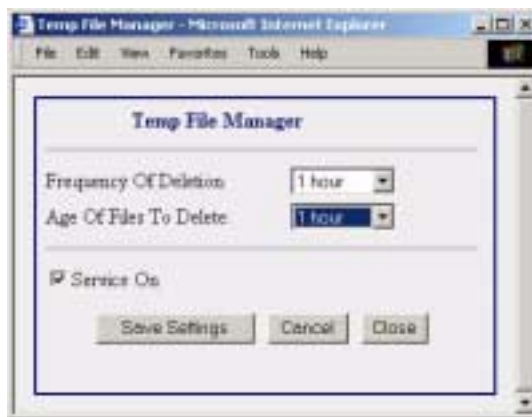


Figure 78. Temp File Manager Window

There are two options on the window: Frequency of Deletion and Age of Files to Delete. The first option selects the frequency for the utility to delete the temporary files, while the second defines the age of temp files for them to be deleted. The values provided for both options are available as 1 hour, 2 hours, up to 12 hours. Select the desired number of days for both options. If you want to reset to default values, click **Cancel**.

The **Service On** checkbox is selected by default. Make sure it is selected so as to activate the service.

After making your selection, click **Save Settings** to save the changes, otherwise click **Close** to cancel the changes.

Once changes to the settings are made and saved, you need to restart the Reporter 2.2 server in order to validate the changes.

Appendix A. Database Schemas

This appendix describes the database tables in the Netcool/Reporter schemas and lists the fields in the ObjectServer.

It contains the following sections:

- "Data Schema Tables" on page 177
- "Repository Schema Tables" on page 188



Note: The data schema tables in this appendix are created by the standard Netcool/Reporter gateway. If you are using a gateway and data schema for another Netcool product, refer to the product documentation for information on your data schema tables.

Data Schema Tables

There are 14 tables and two views that comprise the Netcool/Reporter data schema within a database. The tables are created and populated by the Netcool/Reporter gateway. These tables are outlined in this section.

Derived Audit Tables: Severity, Acknowledge, OwnerUID, OwnerGID

These tables track state changes to key data fields within the ObjectServer, namely, Severity, Acknowledge, OwnerUID, and OwnerGID. This data feeds into predefined reports on owner and group response times, high-severity events, and detailed event audit trails.

Whenever one of these fields is populated or updated within a data record in the REPORTER_STATUS table, a corresponding entry is made in the relevant audit table. This entry includes information about the old state, the new state, and the time at which the state change occurred. Note that the State field in the audit tables tracks the state of the data fields and not the state of their value.

Some of the audit tables (for example, Severity) are designed to close an existing record and write a new one simultaneously, to assign end and start times to particular values (for example, Severity level).

All four tables are populated via a store procedure fired from the status table. When a state change occurs to one of these fields for a record located in status, a new entry is immediately recorded in the relevant audit table.

Like the three main data tables, these four tables now include ServerName and ServerSerial as fields as well as part of the unique key.

Static Data Tables: Members, Classes, Conversions, Groups, Names, Types

The static data tables hold data that has been transferred across from the ObjectServer into the reporting RDBMS. These tables hold information about the names associated with various codes, ID numbers, and other identification strings within the ObjectServer. For example, `REPORTER_GROUPS` identifies and associates group names with group ID numbers. `REP_SEVERITY_TYPES` stores the severity names associated with the six severity numbers (0–5).

These six tables are populated infrequently, so you must run the script called `nco_update.sh` to update the tables in the database.

Dynamic Tables

This section lists all the fields in each of the Netcool/Reporter tables. Fields that are marked with an asterisk (*) are primary key fields.

REPORTER_STATUS Table

The fields in the `REPORTER_STATUS` table are described in the following table.

Table 25. *Fields in the REPORTER_STATUS table*

Field Name	Field Type	Field Size	Mandatory	Description
ServerName *	varchar2	64	Yes	Name of the originating server. This is used by the gateways to control propagation of alerts between ObjectServers.
ServerSerial *	number	16	Yes	Serial number of the alert on the originating server (if it has not originated on this server). This is used to control propagation of alerts between ObjectServers.
Serial	number	16	Yes	Netcool/OMNibus serial number for item.
Identifier	varchar2	255	No	Internal hash key/table identifier.
Node	varchar2	64	No	Hostname, IP address or other name identifying where the alert originated.
NodeAlias	varchar2	64	No	Alias for node (for example, hosts which have multiple IP addresses).
Manager	varchar2 (See note below table)	64	No	Descriptive name of manager which generated the alert.

Table 25. *Fields in the REPORTER_STATUS table*

Field Name	Field Type	Field Size	Mandatory	Description
Agent	varchar2	64	No	Descriptive name of sub manager which generated the alert.
AlertGroup	varchar2	64	No	Descriptive name of the group within the manager which generated the alert.
AlertKey	varchar2	64	No	Descriptive key with reference to the alert (for example, disk partition where a threshold was exceeded or particular port on a hub).
Severity	number (See note below table)	16	No	Severity of problem: 0 Clear, 1 Indeterminate, 2 Warning, 3 Minor, 4 Major, 5 Critical.
Summary	varchar2	255	No	Summary of alert/problem as human readable text to appear on the administration console.
FirstOccurrence	date	--	No	Time (in seconds from Jan. 1, 1970) when this alert was created or when polling started at probe.
LastOccurrence	date	--	No	Time when this alert was last updated by the probe.
Poll	number	16	No	Frequency of polling for this alert in seconds.
Type	number	16	No	Type of alert (4 means a Trap, 12 means a polled event).
Tally	number	16	No	Automatically maintained count of the number of inserts/updates of the alert from any source.
Class	number	16	No	Alert Class.
Location	varchar2	64	No	Not used: reserved for location identification.
OwnerUID	number	16	No	User ID of the user who is assigned to handle this alert.
OwnerGID	number	16	No	Group ID of the group that is assigned to handle this alert.
Acknowledged	number	16	No	Whether the assigned user has acknowledged the assignment.; 0 = no, 1= yes.

Table 25. *Fields in the REPORTER_STATUS table*

Field Name	Field Type	Field Size	Mandatory	Description
DeletedAt	date	--	No	The time that the alert was deleted.
OriginalSeverity		16	No	The original severity of the alert.
LastModified	date	--	No	The last time the event was updated.



Note: The field types for Manager and Severity may be either number or varchar2 depending on the database type.

REPORTER_DETAILS Table

The fields in the REPORTER_DETAILS table are described in the following table.

Table 26. *Fields in the REPORTER_DETAILS table*

Field Name	Field Type	Field Size	Mandatory	Description
ServerName *	varchar2	64	Yes	Name of the originating server. This is used by the gateways to control propagation of alerts between ObjectServers.
ServerSerial *	number	16	Yes	Serial number of the alert on the originating server (if it has not originated on this server). This is used to control propagation of alerts between ObjectServers.
Identifier	varchar2	255	No	Same as alerts.status.
AttrVal	number	16	No	Same as alerts.status.
Sequence *	number	16	No	Same as alerts.status.
Name	varchar2	255	No	Same as alerts.status.
Detail	varchar2	255	No	Same as alerts.status.

REPORTER_JOURNAL Table

The fields in the REPORTER_JOURNAL table are described in the following table.

Table 27. *Fields in the REPORTER_JOURNAL table*

Field Name	Field Type	Field Size	Mandatory	Description
ServerName *	varchar2	64	Yes	Name of the originating server. This is used by the gateways to control propagation of alerts between ObjectServers.
ServerSerial *	number	16	Yes	Serial number of the alert on the originating server (if it has not originated on this server). This is used to control propagation of alerts between ObjectServers.
Serial	number	16	Yes	The serial number of the item.
UserID *	number	16	Yes	User identifier to show which user made the journal entry.
Chrono *	date	--	Yes	Date of journal entry.
Text1	varchar2	255	Yes	Text for each journal entry. If an entry exceeds 255 characters, it is placed in the next field.
Text2	varchar2	255	No	See description for Text1 field.
Text3	varchar2	255	No	See description for Text1 field.
Text4	varchar2	255	No	See description for Text1 field.
Text5	varchar2	255	No	See description for Text1 field.
Text6	varchar2	255	No	See description for Text1 field.
Text7	varchar2	255	No	See description for Text1 field.
Text8	varchar2	255	No	See description for Text1 field.
Text9	varchar2	255	No	See description for Text1 field.
Text10	varchar2	255	No	See description for Text1 field.
Text11	varchar2	255	No	See description for Text1 field.
Text12	varchar2	255	No	See description for Text1 field.
Text13	varchar2	255	No	See description for Text1 field.
Text14	varchar2	255	No	See description for Text1 field.
Text15	varchar2	255	Yes	See description for Text1 field.
Text16	varchar2	255	Yes	See description for Text1 field.

Audit Tables

REP_AUDIT_SEVERITY Table

The fields in the REP_AUDIT_SEVERITY table are described in the following table.

Table 28. Fields in the REP_AUDIT_SEVERITY table

Field Name	Field Type	Field Size	Mandatory	Description
AuditKey	number	16	Yes	Primary key field. Only available for the Oracle database.
ServerName *	varchar2	64	Yes	Name of the originating server. This is used by the gateways to control propagation of alerts between ObjectServers.
ServerSerial *	number	16	Yes	Serial number of the alert on the originating server (if it has not originated on this server). This is used to control propagation of alerts between ObjectServers.
Serial	number	16	Yes	Serial number of item.
StartDate *	date	--	Yes	Date the alert was created.
EndDate	date	--	No	Date alert was changed.
Severity	number	16	No	Severity of problem.
State	number	16	No	Indicates whether event has been deleted; 1 = yes, 0 = no.

REP_AUDIT_ACK Table

The fields in the REP_AUDIT_ACK table are described in the following table.

Table 29. Fields in the REP_AUDIT_ACK table

Field Name	Field Type	Field Size	Mandatory	Description
AuditKey	number	16	Yes	Primary key field. Only available for the Oracle database.
ServerName *	varchar2	64	Yes	Name of the originating server. This is used by the gateways to control propagation of alerts between ObjectServers.
ServerSerial *	number	16	Yes	Serial number of the alert on the originating server (if it has not originated on this server). This is used to control propagation of alerts between ObjectServers.
Serial	number	16	Yes	Serial number of item.

Table 29. *Fields in the REP_AUDIT_ACK table*

Field Name	Field Type	Field Size	Mandatory	Description
StartDate *	date	--	Yes	Time when acknowledgment started.
EndDate	date	--	No	Time when acknowledgment changed.
OwnerUID	number	16	No	User ID of the user who is assigned to handle this alert.
State	number	16	No	Acknowledgment state; 1 = yes, 0 = no.

REP_AUDIT_OWNERGID Table

The fields in the REP_AUDIT_OWNERGID table are described in the following table.

Table 30. *Fields in the REP_AUDIT_OWNERGID table*

Field Name	Field Type	Field Size	Mandatory	Description
AuditKey	number	16	Yes	Primary key field. Only available for the Oracle database.
ServerName *	varchar2	64	Yes	Name of the originating server. This is used by the gateways to control propagation of alerts between ObjectServers.
ServerSerial *	number	16	Yes	Serial number of the alert on the originating server (if it has not originated on this server). This is used to control propagation of alerts between ObjectServers.
Serial	number	16	Yes	Serial number for item.
StateChange *	date	--	Yes	Time that group data was changed.
OldOwnerGID	number	16	Yes	Previous group ID.
OwnerGID	number	16	Yes	Current group ID.

REP_AUDIT_OWNERUID Table

The fields in the REP_AUDIT_OWNERUID table are described in the following table.

Table 31. *Fields in the REP_AUDIT_OWNERUID table*

Field Name	Field Type	Field Size	Mandatory	Description
AuditKey	number	16	Yes	Primary key field. Only available for the Oracle database.
ServerName *	varchar2	64	Yes	Name of the originating server. This is used by the gateways to control propagation of alerts between ObjectServers.
ServerSerial *	number	16	Yes	Serial number of the alert on the originating server (if it has not originated on this server). This is used to control propagation of alerts between ObjectServers.
Serial	number	16	Yes	Serial number of item.
StateChange *	date	--	Yes	Time that owner data was changed.
OldOwnerUID	number	16	Yes	Who used to own the alert.
OwnerUID	number	16	Yes	Who now owns the alert.

Static Tables

REPORTER_NAMES Table

The fields in the REPORTER_NAMES table are described in the following table.

Table 32. *Fields in the REPORTER_NAMES table*

Field Name	Field Type	Field Size	Mandatory	Description
Name *	varchar	64	Yes	Name of the user.
OwnerUID	number	16	Yes	User ID.
OwnerGID	number	16	Yes	Maps to OwnerGID field in REPORTER_GROUPS table.
Password	varchar	64	No	Password for the user.
Type	number	16	Yes	Type of user.

REPORTER_GROUPS Table

The fields in the REPORTER_GROUPS table are described in the following table.

Table 33. *Fields in the REPORTER_GROUPS table*

Field Name	Field Type	Field Size	Mandatory	Description
Name *	varchar2	64	Yes	Name of group.
OwnerGID	number	16	Yes	Identifier for group.

REPORTER_MEMBERS Table

The fields in the REPORTER_MEMBERS table are described in the following table.

Table 34. *Fields in the REPORTER_MEMBERS table*

Field Name	Field Type	Field Size	Mandatory	Description
OwnerKey *	char	18	Yes	The unique key for the table.
OwnerUID	char	18	Yes	Maps to OwnerUID field in REP_AUDIT_OWNERUID table.
OwnerGID	char	18	Yes	Maps to OwnerGID field in REPORTER_GROUPS table.

REPORTER_CLASSES Table

The fields in the REPORTER_CLASSES table are described in the following table.

Table 35. *Fields in the REPORTER_CLASSES table*

Field Name	Field Type	Field Size	Mandatory	Description
Class *	number	16	Yes	Unique key field for the table; Class's numeric value.
Name	varchar2	64	Yes	Name of class.
Icon	varchar2	64	No	Path and file name of default icon for tools.
Menu	varchar2	64	No	Name of tools menu (in objmenus table) for the menu associated with this class for tools to be able to display the appropriate menu.

REPORTER_CONVERSIONS Table

The fields in the REPORTER_CONVERSIONS table are described in the following table.

Table 36. *Fields in the REPORTER_CONVERSIONS table*

Field Name	Field Type	Field Size	Mandatory	Description
Conversion_Key *	varchar2	64	Yes	Unique key for the table. Internal sequencing string (comprised of Colname and Value).
Column_Name	varchar2	64	Yes	Name of column this conversion is appropriate for.
Value	number	16	Yes	Numeric value for conversion.
Conversion	varchar2	64	Yes	String value for conversion.

REP_SEVERITY_TYPES Table

The fields in the REP_SEVERITY_TYPES table are described in the following table.

Table 37. *Fields in the REP_SEVERITY_TYPES table*

Field Name	Field Type	Field Size	Mandatory	Description
Severity *	number	16	Yes	Severity number.
Name	varchar	64	Yes	Severity name, for example "Clear".

REP_TIME_PERIODS Table

The fields in the REP_TIME_PERIODS table are described in the following table.

Table 38. *Fields in the REP_TIME_PERIODS table*

Field Name	Field Type	Field Size	Mandatory	Description
Elapsed_Period *	number	16	Yes	Days elapsed values from 1 to 365.
Period_Name	varchar2	64	Yes	Elapsed period text in the format <i>n</i> days.

Database Triggers

The following database triggers are provided for use with the tables. These record an audit trail of event modifications. The following table shows the names of the triggers and the valid database types.

Table 39. *Database Triggers*

Trigger	Database Types
REP_AUDIT_INS	MSSQL
REP_AUDIT_UPD	MSSQL
REP_AUDIT_ACKNOWLEDGE	MSSQL and Oracle.
REP_AUDIT	Oracle only.
DBMONITOR_TRIGGER	Oracle only. See the note following this table.



Note: The DBMONITOR_TRIGGER database trigger is not available in the high performance Oracle gateway.

Stored Procedures

Stored procedures are activated by a trigger. The following table shows the names and descriptions of the stored procedures. These are valid for all database types unless specified in the description.

Table 40. *Stored Procedures*

Stored Procedure	Description
ACKNOWLEDGED	Used to record each acknowledgement.
DELETEDAT	Used to record the last status after a delete.
OWNERID	Used to record the user group ID details.
OWNERUID	Used to record the user ID details.
SEVERITY	Used to record the changes in severity.
STARTMONITOR	Used to submit the database monitoring job (Oracle only). See the note following this table.
RUNMONITOR	Used to start the database monitoring job. (Oracle only). See the note following this table.



Note: The STARTMONITOR and RUNMONITOR stored procedures are not available in the high performance Oracle gateway.

Repository Schema Tables

The table in the repository schema stores information about users, groups, datasources, reports, privileges, preferences, and other defined variables and objects within the Netcool/Reporter environment.

Typically these tables reside in their own tablespace or database, where access is restricted to the administrator of the Netcool/Reporter application. The recommended configuration is to set up a storage area called `REP_REPOSITORY_TWO`, with user name `repository_two` and password `repository_two`. Keeping these tables separate from the Netcool/Reporter event data tables ensures that no one, apart from the system administrator, accesses and queries these tables inappropriately. It also prevents extensive querying against the Netcool/Reporter data hampering access to the repository tables.

The repository tables are set up by running the `db.repository.sql` script, where `db` is either `oracle` or `mssql`. This script automatically creates the tables and populates them with the reports, forms, users, groups, and preferences that are already defined as part of Netcool/Reporter.

The repository schema tables are:

- `GRSQLCAT`
- `SMSEQUENCE`
- `DATASOURCE`
- `MACHINE`
- `RPAPP`
- `RPGROUP`
- `RPUSER`
- `VI_SUBSCHEMA`
- `RPFILETYPE`
- `DATAOBJ`
- `RPFILE`
- `CATEGORY`
- `RPCHILD`
- `VI_RECORD`
- `VI_RELATION`
- `VI_ELEMENT`
- `CANACCESSRPGROUP`
- `CATEGORYRPCHILD`
- `CATEGORYRPFILE`
- `CONTAINRPFILE`
- `LINKTOCATEGORY`

- RPGROUPCATEGORY
- RPGROUPDATAOBJ
- RPGROUPDATASOURCE
- RPGROUPRPAPP
- RPGROUPRPCHILD
- RPGROUPRPFILE
- RPGROUPRPFILETYPE
- RPGROUPRPUSER
- RPUSERCATEGORY
- RPUSERDATAOBJ
- RPUSERDATASOURCE
- RPUSERRPAPP
- RPUSERRPCHILD
- RPUSERRPFILE
- VISATTR
- VI_FLDR_ITEM
- VI_FLDR_RLTN

Appendix B. FTP Server Reference

This appendix describes the Netcool/Reporter FTP server. It also describes how to upload files to the repository using FTP.

It contains the following sections:

- "Introduction" on page 190
- "Using the FTP Server" on page 190
- "Reference" on page 192

Introduction

Netcool/Reporter incorporates its own FTP server that is integrated with the product. This FTP server allows Netcool/Reporter users to use their own FTP clients to upload multiple files into Netcool/Reporter.

The FTP Server starts automatically when you start Netcool/Reporter. For information on restarting the FTP server, see "Running Netcool Reporter Components" on page 114.

The Netcool/Reporter FTP Server provides users with:

- The ability to upload multiple files.
- The ability to create directory structures that are registered and recognized by Netcool/Reporter.

The FTP server is also used by the Netcool/Reporter Upload Files portlet.

Using the FTP Server

This section describes how to upload files using File Transfer Protocol (FTP) to Netcool/Reporter. You can upload several files at the same time

FTP Server Behavior

When you use FTP to upload or download files, you should be aware of the following:

- FTP transfers and Netcool/Reporter sessions are separate transactions. Therefore Netcool/Reporter is not automatically notified when new files have been uploaded using an FTP client. Likewise, an FTP client is not automatically notified when files have been uploaded using Netcool/Reporter or another FTP client.
To check for uploaded files in Netcool/Reporter, you may need to logout then log back in.
- When uploading files, files without file extensions (for example, `MyFile`) and files with unknown file types (for example, `MyFile.franklin`) are uploaded into Netcool/Reporter as text files.
- You can overwrite a file using the FTP client only if you are the owner of the file or if you are assigned to the Administrators role.

Supported FTP Commands

The following table lists all of the FTP commands which are supported.

Table 41. *Supported FTP Commands*

Command	Description
<code>get</code> and <code>mget</code>	Copies single or multiple files from the Netcool/Reporter host. You must have read access to the channel from which you are attempting to <code>get</code> or <code>mget</code> a file.
<code>put</code> and <code>mput</code>	Copies single or multiple files to the Netcool/Reporter host. You must have write access to the channel to which you are attempting to <code>put</code> or <code>mput</code> a file.
<code>ls</code>	Lists files in a directory on the Netcool/Reporter host. You must have read access to the channel whose contents you are attempting to list.
<code>cd</code>	Changes directory on the Netcool/Reporter host. You must have either read or write access to the channel you are attempting to open.
<code>binary</code>	Sets the mode of file transfer to binary.
<code>ascii</code>	Sets the mode of file transfer to ASCII.
<code>prompt</code>	Turns off prompting for individual files when using the <code>mget</code> or <code>mput</code> commands.
<code>hash</code>	Toggles hash-sign (#) printing for each data block transferred. The size of a data block is 2048 bytes. By default, hash mark printing is off.

No other FTP commands are supported.

Uploading using FTP

To upload a file using FTP:

1. Place all of the files you wish to upload in an upload directory on your local machine.
2. Start your FTP software. This can be a program installed on your machine or you can type `ftp` at a Windows command prompt.
3. Connect to the machine on which Netcool/Reporter is running.

For example, if you log into a machine called `jfk` the command would be:

```
ftp jfk
```



Note: The Netcool/Reporter FTP server must be running on this machine in order for you to log in using FTP. For information on starting the FTP server, see "Running Netcool Reporter Components" on page 114.

4. Enter your Netcool/Reporter user name and password. When you are first connected, you are located in the `root` directory.

If you enter `ls` to list the files in the directory, you can see My Channels.

5. Open the folder into which you wish to upload the files

If you change directories using the `cd` command, you may need to enclose the directory name in quotes if it contains spaces. Consult the documentation of your FTP client tool to see which types of quotation marks are appropriate. This applies mainly to command-line FTP clients.

6. Upload the files.

The files you upload are initially published only to you, with full access rights. To make them available to others, you must publish them from the Netcool/Reporter server.

7. Disconnect from the machine and quit FTP when you have finished.



Note: In order to see the uploaded files in Netcool/Reporter, you may have to logout and log back in to Netcool/Reporter.

Reference

The `Universal.conf` file lets you specify a number of miscellaneous configuration parameters for the FTP server. You can find the `Universal.conf` file in the following locations:

- On a Windows system: `%INFOHOME%\`
- On a UNIX system: `$INFOHOME/`

FTP Server Parameters

The following FTP server parameters can be set.

UPLOAD_MAXCONN Parameter

The `UPLOAD_MAXCONN` parameter specifies the maximum number of concurrent FTP clients the FTP server can sustain. FTP clients include all Netcool/Reporter file upload sessions and all direct FTP client access. If the maximum number of clients is reached, the next user that tries to establish an FTP client receives a message saying that the server is busy. By default this parameter is set to 25 clients. If this parameter is not set, a maximum of 50 connections is assumed. To avoid server busy messages, this parameter should not be set to a number below 25.

Example:

```
UPLOAD_MAXCONN=100
```

Default: 25

UPLOAD_TIMEOUT Parameter

The `UPLOAD_TIMEOUT` parameter specifies the amount of time before an FTP session times out when no activity is detected, in milliseconds. It helps to log out idle sessions. The default value of this parameter is 900,000 ms (15 minutes). If this parameter is not set the default value is used.

Example:

```
UPLOAD_TIMEOUT=1800000
```

Default: 900000 ms



Note: If end-users use the CTRL+C command to stop an FTP transfer, the FTP server assumes the connection is still open and continues to run until it has timed out. If you think this might be a problem, consider changing the timeout setting to a shorter length of time.

Appendix C. LDAP Reference

This appendix describes the Netcool Reporter LDAP authentication. It includes the configuration of LDAP and the use of the importer script.

It contains the following sections:

- "Introduction" on page 194
- "Changing the Authentication Setting" on page 195
- "Importing the LDAP Information" on page 195
- "LDAP Reference" on page 197

Introduction

This appendix is intended for users with some knowledge of LDAP repositories and user authentication. It is not intended to replace your existing LDAP documentation.

Netcool Reporter includes an optional LDAP implementation, for user authentication and importing. The Netcool Reporter LDAP implementation is LDAP 2 compliant (Internet Engineering Task Force standard). The Netcool Reporter LDAP implementation will work with either Open LDAP or Netscape LDAP, but not Active Directory.

It is important for Open LDAPv3 servers to support the LDAPv2 protocol in order to work with Netcool Reporter. To make LDAPv3 servers to be backward compatible, you need to make some changes to the `slapd.conf` configuration file. This file may be available in the following directory or another depending on the actual deployment:

```
/usr/local/etc/openldap/slapd.conf
```

Add the following option to the file:

```
allow bind_v2
```

By adding this line to the configuration file, Open LDAPv3 servers will be able to accept bind requests from LDAPv2.

LDAP allows all enterprise applications to use one centralized server for user authentication. If a user's data changes, you can run the importer script to propagate the changes to the Netcool Reporter repository, as well as to every other application which draws upon the LDAP data.

You can use LDAP for user authentication, data importing, or both. You do not have to use LDAP authentication in order to use the LDAP importer.

Please note the following.

- The selection of LDAP as the authentication method is made during the installation of Netcool Reporter. It is possible to change this selection after installation.
- If you choose LDAP authentication, you must create an administrator user in LDAP before the administrator user can log into the Netcool Reporter User Manager. You must create objects, attributes, and classes for this user.
Consult you LDAP documentation for instructions on setting up the LDAP schema.
- If you use LDAP for importing only, establishing an administrator user in LDAP is not mandatory, however you must to add passwords for users.

Changing the Authentication Setting

If you selected LDAP authentication during the installation of Netcool Reporter, the authentication parameters have already been set.

If you want to change to LDAP authentication after installing, complete the following steps:

1. Open the configuration file `cluster.conf`.
On a UNIX system this file is located in:

`$INFOHOME/server/`
On a Windows system this file is located in:

`%INFOHOME%\server\`
2. `%INFOHOME%\server\`
3. Locate the LDAP authentication line and the Netcool Reporter authentication line, as described in "Authentication" on page 198.
4. Select LDAP authentication by placing a hash sign (#) at the beginning of the Netcool Reporter authentication line to comment it out.
5. Specify authentication parameters on the LDAP authentication line.
6. Save and close the configuration file.
7. Stop and restart the Netcool Reporter server for the new authentication settings to take effect.

Importing the LDAP Information

This section describes the operation of the importer script. The importer copies LDAP user, group, and role information (including user to group assignments) into the Netcool Reporter repository. It does not import any other information.

The importer script maps groups and roles, specified for each user, but cannot map portlets, data sources, privileges, or any other information.

You can run the importer script once, repeatedly, or periodically. Alternatively you can populate the Netcool Reporter repository by hand.



Note: If you are using LDAP authentication, and populating the repository by hand, you must make sure that the user IDs in the Netcool Reporter repository are identical to the user IDs in the LDAP repository.

The importer script copies only those records which meet your selection criteria, and have changed since the last time the script was run. The first time you run the script, it may take a while to complete.

The Netcool Reporter User Manager disables the fields that are imported from LDAP. You must edit these values in the LDAP data store, then import them using the script.

Running the Importer Script

To run the importer script:

1. Make sure the Netcool Reporter server is running before configuring or running the importer script.
2. Open the importer properties file `importer.properties`.

On a UNIX system this file is located in:

```
$INFOHOME/util/ldap/
```

On a Windows system this file is located in:

```
%INFOHOME%\util\ldap\
```

3. Edit the properties as required. For a list of properties and how to specify them, See "LDAP Importer Script Properties" on page 199.
4. In the importer properties file, you must also map the LDAP fields to the Netcool Reporter repository fields using the property statements. For more information about mapping, see "LDAP Fields to Map" on page 201.
5. Save and close the importer properties file.

6. Make sure you are in the `ldap` directory.
7. Run the importer script `ldapimport`.

Typing the following command and parameters at the system prompt:

```
ldapimport userDNToBind password [groupLastImportTime=aTimeStamp]
[userLastImportTime=aTimeStamp]
```

For example:

```
ldapimport "cn=directory manager" directory
```

The parameters used by the importer script `ldapimport` are described in the following table.

Table 42. *Importer Script Parameters*

Parameter	Description
<code>userDNToBind</code>	The distinguishing name of a user in LDAP who has import privileges, typically an administration level user.
<code>password</code>	The password for the user specified by <code>userDNToBind</code> .
<code>groupLastImportTime</code>	(Optional). The default is the value of <code>LastImportTime</code> in the system. The format is <code>yyyymmddhhmmss</code> . For example <code>20000330114522</code> . See the following note.
<code>userLastImportTime</code>	(Optional). The default is the value of <code>LastImportTime</code> in the system. The format is <code>yyyymmddhhmmss</code> . For example <code>20000330114522</code> . See the following note.

lastImportTime Note

If you run the importer without a `TimeStamp` on the command line, the script looks for the last time the importer was run. This value is stored in the `lastImportTime` file.

If that file does not exist, the import proceeds normally. If however, that file does exist, the importer compares the timestamp in the file to the timestamp in the `ldap` directory for the object's (user/group/role) last modified time. If the object has not been updated, it is not imported.

The `lastImportTime` file is generated by the importer script and placed into the `ldap` directory. It contains the date and time of the last run of the importer script. It is strongly recommended that you not alter this file. You can, however, bypass the system's `lastImportTime` by specifying a time on the command line when `ldapimport` is run.

LDAP Reference

This section provides reference information on LDAP authentication for Netcool Reporter.

Authentication

When you need to change the Netcool Reporter authentication, edit the authentication lines in `cluster.conf` file.

The LDAP authentication line looks like this:

```
GLOBAL_SERVICE_TO_START|gsAuth|infosrvInstanceId;infosrvInstanceId|
infospc.service.authentication.LDAPAuthenticator|nameToRegister|LDAPHost|
LDAPPort|searchBase|filter|useCache(yes/no)|importingConfFile
```

The Internal Netcool Reporter authentication line looks like this:

```
GLOBAL_SERVICE_TO_START|gsAuth|infosrvInstanceId;infosrvInstanceId|
infospc.service.authentication.ViadorAuthenticator|nameToRegister
```

The variables in the LDAP authentication lines are described in the following table.

Table 43. *LDAP Authentication Variable Descriptions*

LDAP Variable	Description
nameToRegister	The name of the authenticator object.
LDAPHost	The host name of your LDAP server.
LDAPPort	The port number of the LDAP server.
searchBase	The LDAP search base. Use this variable to restrict the part of the LDAP data store in which to search.
filter	Enter any valid LDAP filter. Only records which meet this criterion are authenticated.
useCache (yes/no)	Specifies if the authenticator object is using a memory cache.
importingConfFile	Specifies the configuration file for the importer script.

Each Netcool Reporter user has an entry in the Netcool Reporter repository, whether you use LDAP or not. When you log into Netcool Reporter, you provide a user name and password. Netcool Reporter then checks to see if there is a user in the LDAP data store with your specified user name and password. If there is, it logs you in to Netcool Reporter.

A major advantage of LDAP authentication is that it allows you to store a single password for each user, and to store that password in a single place (the LDAP server). The password in LDAP remains unique, because it is not mapped to any other repository.

LDAP Importer Script Log Files

The importer script generates two log files, a free-form text file and a CSV file, each time it is run. These are both written to directory `util\ldap`.

The log files are named:

- `ldapimportLog[timestamp].txt`
- `ldapimportLog[timestamp].csv`

The *timestamp* is part of the file name. It does not appear in the file itself. The *timestamp* has the format `yyyymmddhhmmss`.

Example log files names:

`ldapimportLog20000327163544.txt`

`ldapimportLog20000327163544.csv`

The importer script logs also contains any error messages, generated during the execution of the importer script.

For example:

```
ERROR - Invalid group Administrators: there is already a role named
Administrators
```

In this case, a user attempted to import a Group which had been previously defined as a Role.

LDAP Importer Script Properties

The following properties are set by the installation, if LDAP authentication was specified. The properties are contained in the file `importer.properties`. These properties are listed in the following sections.

importUsers

If you are importing users, make sure `importUsers` is set to `importUsers=yes`.

importGroups

If you are importing groups, make sure `importGroups` is set to `importGroups=yes`.

groupUserRelationshipMode

This parameter specifies how users and groups are cross-referenced.

It applies only to imports to the Netcool Reporter repository. If the user entity references the groups to which the user belongs, specify `groupUserRelationshipMode=1`. For a description of this mode, see "userGroup" on page 203).

If the group entity references the users belonging to the group, specify `groupUserRelationshipMode=2`. For a description of this mode, see "groupUser" on page 204.

If there is no relationship between groups and users, specify `groupUserRelationshipMode=0`. LDAP does not map the Netcool Reporter fields.



Note: The LDAP importer settings override any user/role relationship changes made in the *User Administrator* window. For examples of this, see "LDAP Importing" on page 133.

ldapHost, ldapPort

Make sure these properties point to the host and port of your LDAP data server.

For example:

```
ldapHost=srvdev2
```

```
ldapPort=389
```

Search Bases and Filter Properties

You can restrict which LDAP entries are propagated by setting LDAP Search Bases and an LDAP Filter. (These are not preset when you install Netcool Reporter.) There are search bases and filters for both users and groups.

The properties are contained in the file `importer.properties`. These properties are listed in the following sections.

You should use the LDAP Search Bases and LDAP Filters together. If you do, the effects are cumulative. Records are imported only if they meet the filter criteria and fall within the search base(s). Make sure that the combination of search base(s) and filter(s) results in Netcool Reporter users and groups only.

ldapUserSearchBase

Specify an LDAP user search base using the `ldapUserSearchBase` property.

For example:

```
ldapUserSearchBase=o=ibm.com
```

ldapUserFilter

The `ldapUserFilter` property specifies an LDAP user filter. If an LDAP filter is specified, the importer script copies only those records which meet the filter requirements. This may be any valid LDAP filter.

For example:

```
ldapuserFilter=uid=s*
```

This filter selects all users whose user IDs start with an `s`.

ldapGroupSearchBase

The `ldapGroupSearchBase` property specifies an LDAP group search base. If an LDAP search base is specified, records which fall outside of that search area are not imported.

For example:

```
ldapGroupSearchBase=ou=groups,o=ibm.com
```

For information about LDAP terms such as `o` and `ou`, see "LDAP Terms" on page 204.



Note: The criteria must be separated by a comma. `ou` has to precede `o` to specify groups, and `ou` is necessary to separate groups from users

ldapGroupFilter

The `ldapGroupFilter` property specifies an LDAP group filter. If an LDAP filter is specified, only those records which meet the filter requirements are imported. This may be any valid LDAP filter.

For example:

```
ldapgrouppFilter=cn=v*
```

This filter would give you all groups whose common names (`cn`) start with a `v`.

LDAP Fields to Map

In the importer script, you must identify the LDAP data fields that correspond to data fields in the Netcool Reporter data repository. To do this, assigning values to several special properties.



Note: You cannot map passwords. LDAP passwords are unique and do not circulate outside of the LDAP repository.

If you do not provide a mapping for a field, no value for it can be imported.

The following table summarizes the correspondence among Netcool Reporter repository names (`RPUSER` table), the LDAP mapping field names, and the names as they appear in the Netcool Reporter User Administrator.

Table 44. *RPGROUP Mappings*

LDAP Mapping Field	Repository Name (RPUSER)	Name in User Administrator
<code>userID</code>	<code>NAME</code>	User Name
<code>userContent</code>	<code>CONTENT</code>	Full Name
<code>userDescription</code>	<code>DESCRIPTION</code>	Description
<code>userIPAddress</code>	<code>IP_ADDRESS</code>	IP Address
<code>userMaxLogonFailures</code>	<code>MAX_LOGON_FAIL</code>	Account lockout after a specified number of bad logon attempts

The following table summarizes the correspondence among Netcool Reporter repository names (RPGROUP table), the LDAP mapping field names, and the names as they appear in the Netcool Reporter User Administrator.

Table 45. *RPUSER Mappings*

LDAP Mapping Field	Repository Name (RPGROUP)	Name in User Administrator
groupName	NAME	Group Name
groupDescription	DESCRIPTION	Group Description
groupType	TYPE	Group Tab or Role Tab

The properties listed in these tables are described in the following sections.

userID

This property specifies the name of the LDAP attribute which holds the record's user ID.

For example:

```
userID=uid
```

userContent

This property specifies the name of the LDAP attribute indicating the user's full name.

For example:

```
userContent=cn
```

userDescription

This property specifies the name of the LDAP attribute which holds descriptive text about the user. Its value is copied into the Netcool Reporter data repository's `Description` field.

Although this field maps to a particular Netcool Reporter attribute, the field could point to any LDAP attribute which has been designated for this purpose.

For example:

```
userDescription=mail
```

userIPAddress

This property is the name of the LDAP attribute containing the IP address for the user.

Although this field maps to a particular Netcool Reporter attribute, the field could point to any LDAP attribute which has been designated for this purpose.

For example:

```
userIPAddress=vIPAddr
```

userMaxLogonFailures

This property is the name of the LDAP attribute specifying the maximum number of logon failures.

Although this field maps to a particular Netcool Reporter attribute, the field could point to any LDAP attribute which has been designated for this purpose.

For example:

```
userMaxLogonFailures=vMaxLogonFailures
```

userGroup

Specify this property if `groupUserRelationshipMode=1`. This is the name of the LDAP attribute specifying the group or the role associated with the user.

For example:

```
usergroup=netcoolgroup
```

groupName

This property is the name of the LDAP attribute specifying the group name as it appears in the LDAP schema.

For example:

```
groupName=cn
```



Note: A group and a role cannot have the same name. Running the importer script causes an error if a group has been given a name already assigned to a role, or a role has been given a name already assigned to a group.

groupDescription

This property specifies the name of the attribute (previously defined in LDAP) which holds descriptive text about the group.

For example:

```
groupDescription=vGroupDesc
```

groupType

Enter the name of the attribute in the LDAP schema (previously defined in LDAP) where the group is identified as either a group or a role.

For example:

```
groupType=vGroupType
```



Note: If you leave this property blank, the importer script tries to import all groups as groups and not roles.

groupUser

Specify this property if `groupUserRelationshipMode=2`. This is the name of the LDAP attribute specifying the user(s) assigned to the group.

For example:

```
groupUser=myAppUsers
```

modifiedTimeAttr

Enter the name of the LDAP attribute that contains the date and time the entry was last modified.

For example:

```
modifiedTimeAttr=modifytimestamp
```

LDAP Terms

The LDAP terms in the following table appear in the `importer.properties` file.

Table 46. *LDAP Term Descriptions*

Term	Description
cn	Common Name, used to refer to an entry.
o	Organization.
ou	Organizational Unit (part of the organization).
dn	Distinguished Name. The key field of an LDAP data store.
rdn	Relative Distinguished Name.

Scheduling Importer Script Updates

You can use a scheduler program (for example, `at`) to run the importer script at regular intervals. You can also run it by hand after changing a record in the LDAP database.

Appendix D. Netcool Reporter Predefined Reports

This appendix describes the predefined reports that are supplied with Netcool Reporter.

It contains the following sections:

- "Introduction" on page 205
- "Tips on Building Customized Reports against Netcool Event Data" on page 206
- "List of Predefined Reports" on page 213



Note: All predefined reports supplied with Netcool Reporter are designed to report on the data in the reporter data source. You must create this data source using the script provided with the Netcool Reporter gateway.

Introduction

Netcool Reporter provides an extensive inventory of predefined network reports, divided into five topical categories:

- Event Summaries
- Operational Performance
- Fault Diagnosis
- Service Level Management
- Reporter 2.2 Sample Reports and Freeform Reports

Most report definitions are parameterized on time, allowing users to limit returned query size. Most report definitions are run by JSP forms, which end users can access and run in front of a report definition to enable fast, simple querying.

To use these predefined reports, you must create the reporter data source and populate this data source with data from the standard Netcool Reporter gateway. The predefined reports are not able to generate reports from data sources for other Netcool® products.

Event Summaries

These reports provide executive, snapshot views of event activities summarized along various dimensions (for example, by node, by node and severity, by class, or by manager) and over various periods of time. In all cases, the top event generating areas are highlighted with a graphical view (for example, **Top 20 Nodes**) over the time period selected by the report viewer.

Operational Performance

These reports focus on the behavior of key performance areas that may interest network managers, for example, acknowledge times by users and groups, performance by vendor or class, or general event activity per NOC. The purpose of these reports is to assist network managers in scheduling, allocating, monitoring, and optimizing personnel resources, as well as overseeing the relative performance of various vendors' equipment.

Fault Diagnosis

These reports allow operators and managers to drill down for detailed information about areas of the network that interest them, for example, hot spots, high event generating nodes, or events with high tallies. These are typically drill-down style reports that allow operators to go deep into summaries, and journals, for example. Furthermore, some reports allow a single node or serial number to be entered for a complete audit trail of state changes.

Service Level Management

Initial reports focus on downtime on a per-node basis, over time periods that users can select.

Reporter 2.2 Sample Reports and Freeform Reports

These reports are sample event summaries reports generated using enhanced Report Designer, Lightweight Chart Property Designer, and Freeform Report Designer.

Parameterization of Predefined Reports

Through the implementation of underlying database views, you can select reports using fault data over various time periods, including the last day, 7 days, 14 days, 21 days, 28 days, and specific months of specific years. Some reports also offer parameters on other variables, for example which nodes, which severities, and how many items in a ranked field. All parameterized report definitions are configured using JSP forms to simplify access.

Tips on Building Customized Reports against Netcool Event Data

This section provides a set of guidelines you can follow when designing reports. These are all based on the `reporter` data source populated by the Netcool Reporter gateway.

Tip 1: Structure and Modify Originating Data to Support Reporting

Netcool Reporter locates, queries, and presents Netcool/OMNIBus event data. This means that any real-time data stored or displayed in the ObjectServer can be reported on by users of Netcool Reporter. To preserve the high-speed, real-time performance on the ObjectServer, Netcool Reporter passes the ObjectServer event data to a relational database (through the Netcool Reporter gateway) before querying that data through the reporting application. The data reaches the relational database in the same format in which it leaves

the ObjectServer. The `alerts.status`, `alerts.journal`, and `alerts.details` tables are passed directly across the gateway, and the `REPORTER_STATUS` table and Netcool Reporter gateway can also be edited to pass across any additional, custom fields from your ObjectServer `alerts.status` table. Other key tables for reporting, such as `members`, `classes`, `conversions`, `groups`, `names`, and `members`, are passed across from the ObjectServer to the relational database through a special gateway utility.

Because the ObjectServer is the primary data source for queries executed by Netcool Reporter this means that the data you want to report on must first exist and be properly formatted within the ObjectServer. For example, if you want to report on faults by geographical location, the `Location` field in the ObjectServer must be populated accurately and consistently with geographic data. To take this a step further, if you want to report on faults by business customer, you must first create an additional field in your ObjectServer `status` table called `Customers`, then ensure that this field is populated accurately and consistently with customer data.

Another important consideration is the format of the data strings, dates, or numbers contained within the ObjectServer fields. The Netcool Reporter gateway sends the data across in the same format in which it is stored and displayed in the ObjectServer. In other words, node names, location names, user IDs, and so on, are transferred across with whatever plain English, code-based, or abbreviated strings operators use to analyze event data in the ObjectServer. While this may suit a small team of internal operators, it may not be appropriate for external audiences who want to view reports on network event data. One option is to modify the way data is being stored in the ObjectServer to make it more report-friendly. Another, perhaps more easily implemented, solution is to ensure that ObjectServer conversion tables are populated to the fullest extent to provide plain-language cross-references to the codes, strings, and abbreviations stored in the ObjectServer.

Finally, date-based and quantitative reporting measures depend on the accuracy of date strings, time stamps, numerical entries, and so on, into the ObjectServer data tables. To ensure accurate reporting, it is necessary to pay attention to a number of variables, possibly including:

- Time and date settings on the ObjectServer machine.
- Reconciling time and date settings across multiple machines.
- Ensuring that acknowledgments are tracked and recorded accurately and promptly.
- Ensuring that changes in ownership are tracked and recorded accurately and promptly.

Tip 2: Manage the Size and Length of Queries

When building customized reports, you are advised to follow some basic guidelines for building, testing, and distributing reports.

Building Reports

The first step in designing a report is to define, as narrowly as possible, the desired results set. Any extraneous data that does not support the underlying query must be excluded from the query design. For example, if only the past week's data is relevant, then a time-based condition or parameter must be designed into the query. If only three nodes are relevant, then the report must be designed with a constraint or a parameter that excludes all irrelevant nodes. Consider also the number of rows you want to return, as well as ways to summarize or condense raw data into more compact, meaningful reports. For example, if you are interested in finding out about events that are taking too long to acknowledge, define a threshold above which you want to scrutinize the data, for example, more than 60 seconds, instead of asking for a report that returns the acknowledge period of every single event.

One way that queries can be speeded up is through the use of indexing on database tables. Setting an index on a specific field can enable a query to run more quickly and efficiently against that field. For example, if you frequently query your data based on a grouping by `Node`, then it is a good idea to index the `Node` field in the `REPORTER_STATUS` table in your relational database. Indexing tends to be a database administrator task, so contact your on-site DBA resources for support with indexing.

Another way queries can be speeded up is through partitioning and archiving of irrelevant data. For example, if your active data querying was always on data generated within the last month-long period, then it is a good idea to partition off, or archive, data that is more than one month old. Once this data is moved from the active database, then all queries against the active data no longer have to check against the older records. Partitioning and archiving tend to be database administrator tasks, so contact your on-site DBA resources for support with partitioning or indexing.

A final mechanism that can be helpful in speeding up both inserts into and queries against the relational database is filtering or suppressing unnecessary data before it enters the relational database. The Netcool Reporter gateway includes filtering mechanisms that can keep extraneous data from being forwarded to the relational database. Your Netcool administrator can assist with modifications to the gateway configuration file.

Testing Reports

While you are designing customized reports, you may find that you need to go through a few iterations before you obtain the desired results and format. The Report Designer includes the ability to preview report definitions before saving them or turning them into static snapshots. While you are in the early stages of building a customized report, you may want to limit your preview reports by setting a delimiter on the number of data rows analyzed and returned. This can be done through the **Report Properties** button (on the **Report** tab or **Chart** tab), which includes a setting for number of rows returned. When you are satisfied with the report definition, you can remove the delimiter and query the entire active database.

Bear in mind that previewed reports are generated as HTML files that go into the `websqlbr/temp` directory. Over time, these files build up if they are not cleared from the `temp` directory. The application includes a cron job to clear this file directly, but you may also wish to empty the file manually if you are running an extensive number of previewed reports. Note that when you build and preview drill-down reports, you are actually generating a temporary file for every single drill-down page. This causes an even faster buildup of temporary files.

Distributing Reports

After you have generated a satisfactory query, you may wish to distribute access to other Netcool Reporter users. You have many options for distributing reports, each of which has slightly different implications for the relational database and the reporting server.

One option is to create and distribute a report definition. When you do this, you are giving every recipient the ability to query the active database. Opening a report definition means engaging in a session directly with the database so that the most up-to-date event data may be included in the report. This may be ideal for ensuring that end users receive the most current and accurate data. This also allows users to manipulate and interact with the returned report data. However, if several people are running and viewing the query simultaneously, this may put a considerable load on the relational database.

A second option is to distribute a report snapshot. When you do this, you are distributing a static HTML file containing information that was generated at a specific point in time. This may be ideal when distributing the same information to large numbers of people, when the report needs to refer to a fixed time period (for example, the month of March), and when you want to constrain access to the active database. However, static snapshots cannot be manipulated by end users in any way, nor do they allow report users to place any parameters on the information they want to view. This places more of the burden on you, as the report designer, to generate exactly the type of report end users want to view.

A third option is to generate reports in other formats, for example, PDF, PNG, or Excel 97. When you as the report designer specify a report to output in PDF or PNG, you are creating a file that goes into your `infospc/packages/printing` folder.

Tip 3: Set Up a Logical User Environment

In the early stages of implementing Netcool Reporter you must plan how to structure your users, groups, channels, and datasources in a way that is logical for your particular environment. You must also define the roles you want each of your users to play, in other words, which data resources, functions and tools you want them to be able to access within the reporting application. These decisions become more complex - and more critical - as you move reporting out from a single department to multiple audiences in your organization, or maybe even out to external companies and organizations.

Ease of Distribution

In structuring your users, groups, channels, and datasources, a primary consideration is ease of report distribution. When you have several individual users who all need to run or view the same reports, it may be logical to place them in a single group for ease of report publishing and distribution. An even simpler alternative is to set up a reporting channel, or

category, that all of these individual users subscribe to. As new individuals join a logical grouping of report users, all they have to do is subscribe to the channel to begin receiving their reports. Once groups and channels are defined, then report designers can begin to publish reports out to these logical groupings of users. Reports can be distributed on either on ad hoc or a scheduled basis, depending on your report designers' preferences.

System Performance

A second consideration in setting up users, groups, channels, and datasources is performance of the reporting application. One of your underlying goals in setting up the user environment is to minimize the number of unnecessary or redundant queries being run against the relational database. One of the main ways this can be controlled is by choosing to distribute static report outputs (snapshots) rather than dynamic report queries (definitions). For example, if 17 people across different departments want to see a listing of critical events on a weekly basis, it is advisable to distribute a static, weekly report to this group of people, rather than a query that will need to be run against the database 17 separate times.

Another way to manage system performance is by ensuring that only the users who really need to see a particular report have permission to run the underlying query. If all report definitions are made available to all users, then users may run queries against the database that are irrelevant in terms of their informational needs. This, in turn, places an unnecessary processing burden on both the database and the reporting server.

Security

A third area to consider in setting up users, groups, channels, and datasources is security of the data within the reporting application. Netcool Reporter offers several tools that help to maintaining a secure, protected environment for the overall database, the underlying data objects, and the report outputs. Database security is established mainly through the use of datasources. A datasource is a single user name and password by which multiple users of Netcool Reporter access the relational database. Typically, this datasource is granted restricted access to the database (for example, select privileges but no alter privileges), and can only access the relevant tables containing event data. Datasource access is typically established either by the on-site DBA or the Netcool Reporter administrator.

Access to individual data tables and fields within the Netcool Reporter database can also be restricted, providing a further layer of security. This access can be controlled in one or more ways through the database and the reporting application. A database-centric approach would be based on setting up different datasources with different access privileges within the Netcool Reporter data or other related tables. Based on their assigned datasource, reporting users would see different tables, views, or data columns within the relational database. This approach requires the participation of the on-site DBA.

Within Netcool Reporter the `LOOKUP_TABLE` and `LOOKUP_COLUMN` parameters can be set to restrict user access to specific tables and even specific columns within the database. For example, if you have added a `Customer` field to your `ObjectServer` that you do not want reporting users to be able to query and view in their reports, you can exclude this data through the `LOOKUP_COLUMN` parameter.

It also provides the ability to exclude data on a row-by-row basis, through the use of parameters and/or the current user setting, both accessed through the **Conditions** tab of the Report Designer. For example, if you had four regional NOCs and you only wanted each region to see data pertaining to its own NOC, you could create a parameter on NOC (which might equate to the `Node`, `Location`, or `OwnerGID` field, for example). One option is to run each NOC report centrally and to generate a specific, parameterized report for each region. Another option is to set restrictions through the current user tool, which allows each NOC to run their own report but to select and view only data from their own region.

Managing External Audiences

Performance and security considerations come to the foreground even more when you want to extend your reporting application to audiences outside your own company or organization. Your external customers can, in most cases, log into your reporting application just like any internal client user (unless a firewall or another network security measure prevents this). As long as they have a web browser, the URL for your reporting server, and an assigned user name and password, they can launch the portal and view any reports that have been published or distributed to them.

However, for reasons of data confidentiality, database performance, or customer management, you probably do not want to grant external audiences unrestricted access to your Netcool event data, relational database, and reporting application. Instead, you must define where these external users reside, from completely unrestricted through to tightly managed access. At the unrestricted end of the spectrum, external users can log into the portal, access report definitions, run reports against the live data, perhaps even launch the report designer tool and build their own queries.

Tighter controls can be placed on external access by prohibiting direct access to the database, distributing report snapshots rather than report definitions, setting up tightly managed channels for report distribution, or prohibiting use of the Report Designer. External users would retain some flexibility to view and perhaps even build reports, but would not be given free reign to access the raw data, run ad hoc reports, or view other peoples' reports.

At the other extreme, a highly secure and controlled reporting environment would mean building and running all reports internally, and perhaps not allowing external users to launch the portal. Instead, report outputs would be distributed as static files using external distribution methods, for example, e-mail or print distribution.

Tip 4: Format Reports for Maximum Impact

When building a customized report on your Netcool event data, you may wish to dedicate time not only to ensuring the right report content (for example, which tables, which columns, and what measures), but also to selecting and enhancing the appropriate report format. The Report Designer, HTML Customizer, and Freeform Report Designer all provide tools for selecting, modifying, and previewing report formats before they are distributed to other users.

Selecting The Right Report or Chart Type

When starting a new report, spend a little time visualizing how you want the report or chart to look when it is distributed. You may also determine that you want the same data to be viewed in multiple ways by end users, which is easy to do either by grouping separate report outputs into a presentation, or by launching multiple reports through a single HTML form. For example, note how the predefined report `Events by Node` actually consists of both a summary chart and a detailed tabular report, both of which can be launched simultaneously by a single HTML form.

Netcool Reporter includes several chart format options, ranging from 3D stacked bar charts to 2D line charts to colorful pie charts. Tabular report formats include drill-down reports, break reports, and even summary charts that break down into tables. The best format depends on the objective of the report. 3D charts lend themselves well to topological analysis, for example, “Where are the biggest problems in my network?”. 2D bar charts provide a simple, visual way to quantify and compare data across several variables, for example, “Which nodes are generating the most events, and at what severity level?”. Tabular reports, especially drill-down reports, can help organize a user's search through large volumes of data and point them where they need to drill down for more detail.

Formatting the Selected Report or Chart Type

Once you have selected the best output type(s), you may now wish to format the overall look and feel. Netcool Reporter includes several tools for customizing fonts, colors, size, orientation, sort order, and so on, for both tabular and graphical reports. Another way to format and customize charts is by using the **Visual Customize** tool located within the top menu of chart applets.

After you have run a chart, you can use this tool to further modify the chart layout, orientation, and so on. Once you have these settings defined, you can save them as a chart descriptor, which can now be applied in the future against that chart plus other, similar charts. The chart descriptor you have saved show up in the Report Designer under the Properties function the next time you launch the tool.

Finally, you can apply style templates, chart descriptors, and HTML templates in order to improve the appearance of your reports and charts.

Exporting to Other Applications

The reports and charts you generate may be stored and displayed as HTML, CSV, Excel 97, PNG, PDF, or XML. Selecting the right application format depends on the report audience and how they use the report outputs.

Some audiences may wish to receive a CSV or Excel file so they can perform their own spreadsheet manipulation of the data.

Recipients may prefer a static PNG or PDF file that requires little effort on their part to analyze and interpret.

Row based XML and Column Based XML may be available for reports depending on your user settings. Row-based XML may also be available for Crosstab reports. XML can be stored as data or transformed via an XML compiler.

Calling URLs from Reports

You can call a URL after the creation of the report using the Custom Call feature. This is a part of the report generating process.

Custom Calls are available for all report types.

The Custom Call allows for other external actions to be triggered upon report creation. The URL can be any standard URL that can be called within a browser. The URL can also include parameters to pass to other applications.

List of Predefined Reports

The following section list the reports and descriptions for the categories:

- Event Summaries
- Operational Performance
- Fault Diagnosis
- Service Level Management
- Reporter 2.2 Sample Reports and Freeform Reports

Event Summary Reports

Events_by_Node

2D vertical bar chart and supplementary drill-down table displaying the highest event-generating network nodes over a user-specified time period. Identifies active nodes on the network.

Events_by_Class

2D vertical bar chart and supplementary drill-down table displaying the highest event-generating network nodes over a user-specified time period. Identifies high event-generating vendors, equipment and devices.

Events_by_Location

2D vertical bar chart and supplementary drill-down table displaying the highest event-generating network nodes over a user-specified time period. Identifies busiest locations within the network.

Events_by_Manager

2D vertical bar chart and supplementary drill-down table displaying the highest event-generating network nodes over a user-specified time period. Identifies high event-generating management systems.

Events_by_AlertGroup

2D vertical bar chart and supplementary drill-down table displaying the highest event-generating network nodes over a user-specified time period. Identifies most common alert types within the network.

Events_by_Severity

2D vertical bar chart and supplementary drill-down table displaying the highest event-generating network nodes over a user-specified time period. Allows users to assess network activity by severity levels.

Events_by_Time

2D drill-down bar chart tallying events over various time periods, from a year down to a specific day. Allows users to identify trends in network event activity over time (for example, busiest days, alarm patterns).

Events_by_Node_Severity

3D drill-down bar chart describing highest event-generating nodes, broken down by severity level. Allows users to pinpoint the quantity and importance of alarms being generated throughout the network.

Events_by_Location_Severity

3D drill-down bar chart describing the highest event-generating locations, broken down by severity level. Allows users to pinpoint the quantity and importance of alarms being generated throughout the network.

High_Tally_Events

Drill-down table displaying the highest tally event-generating network nodes over a user-specified time period. Allows users to identify the highest tally events at each location.

Operational Performance Reports

Perf_by_Owner

2D vertical bar chart and supplementary drill-down table displaying the number of events handled by network operators (OwnerUID) over a user-specified time period. Assists in scheduling personnel, allocating workload, and planning hiring, training, and resourcing.

Perf_by_Group

2D vertical bar chart and supplementary drill-down table displaying the number of events handled by network operational groups (OwnerGID) over a user-specified time period. Assists in scheduling personnel, allocating workload, and planning hiring, training, and resourcing.

Perf_by_Class

2D vertical bar chart and supplementary drill-down table displaying the number of events generated by specific classes or vendors over a user-specified time period. Assists in correlating event levels with specific equipment types or suppliers.

Perf_by_Manager

2D vertical bar chart and supplementary drill-down table displaying the number of events generated by specific element management systems over a user-specified time period. Assists in correlating event levels with specific equipment types or suppliers.

Perf_by_Owner_Group

3D bar chart and supplementary drill-down table displaying the number of events handled by network operators and operational groups (OwnerUID and OwnerGID) over a user-specified time period. Assists in scheduling personnel, allocating workload, and planning hiring, training, and resourcing.

Fault Diagnosis Reports

Get_All_Journals

Retrieves all journals associated with a specific node. Allows users to track operator actions on specific nodes and devices that have generated events.

Get_All_Details

Retrieves all details associated with a specific node or set of nodes over a user-specified time period. Allows users to track detailed information about specific nodes and devices that have generated events within the specified time interval.

Top_Nodes

Ranks nodes by number of events generated within a user-specified time period, in order to track potentially troublesome nodes or devices.

Top_Classes

Ranks classes by number of events generated within a user-specified time period, in order to track highly active or potentially troublesome classes of devices.

Top_Manager

Ranks managers by number of events generated within a user-specified time period, in order to track highly active or potentially troublesome management systems.

Quick_Check_by_Node

Allows users to manually enter a specific node and retrieve an entire audit trail of data associated with the node.

Quick_Check_by_Serial

Allows users to manually enter a specific, unique serial number and retrieve an entire audit trail of data associated with the node.

Service Level Management Reports

Slow_to_Acknowledge

Identifies all events not acknowledged by operators within a threshold time interval (for example, 30 seconds). Assists network operators and managers in measuring and enhancing responsiveness to service-affecting alarms.

Avg_Ack_Time_by_Owner

Returns average acknowledge times across all owners (OwnerUID) within the network management environment. Assists operators and managers in pinpointing and addressing discrepancies in acknowledge rates across the network.

Avg_Ack_Time_by_Group

Returns average acknowledge times across all groups (OwnerGID) within the network management environment. Assists operators and managers in pinpointing and addressing discrepancies in acknowledge rates across the network.

Reporter 2.2 Sample Reports and Freeform Reports

To access these reports:

1. Select the **My Folders** link in the navigation panel.
2. Select the **Reporter 2.2** link in the My Folders section on the *My Folders* page.
3. The Reporter 2.2 folder is opened. This folder contains the following sub-folders:
 - Sample Charts
 - Sample Freeform Reports
 - Sample Tabular Reports
 - Supporting Files

Sample Charts

This folder contains lightweight charts (LCharts) generated using the Lightweight Chart Property Designer, with different output types such as Pie, Line, Bar, Stack, Time Series, and so on.

Time Series looks similar to an ordinary Line chart but with richer formatting options on the X Axis. Only Date type data can be used on the time axis (X Axis).

A listing of the sample lightweight charts is provided below:

- **Event_Detail_Report_All_Loc_Hor_Stack_Lchrt.lchrt**
Horizontal Stack LChart showing number (count(*)) of events by Manager, by Severity, ordered by count(*) desc. Last 90 days.
- **Event_Detail_Report_All_Loc_Pie_Lchrt.lchrt**
Pie LChart showing number of events by Original Severity.

`Select OriginalSeverity count(*) from REPORTER_STATUS where date >= (getdate-90) group by Original Severity`
- **Event_Detail_Report_All_Loc_TimeSeries_Lchrt.lchrt**
TimeSeries LChart showing number of events per day for last 90 days.

`Select date, count(*) from REPORTER_STATUS where date >= (getdate -90) group by day.`
- **Event_History_Report_By_Loc_Hor_Stack_Lchrt.lchrt**
Horizontal Stack LChart showing number (count(*)) of events by Manager, by Severity, ordered by count(*) desc. Last 90 days.
- **Event_History_Report_By_Loc_Pie_Lchrt.lchrt**
Pie Lchart showing number of events by Original Severity.

`Select OriginalSeverity count(*) from REPORTER_STATUS where date >= (getdate-90) group by Original Severity .`
- **Event_History_Report_By_Loc_TimeSeries_Lchrt.lchrt**
TimeSeries LChart showing number of events per day for last 90 days.

`Select date, count(*) from REPORTER_STATUS where date >= (getdate -90) group by day.`
- **Event_Sources_Report_All_Dev_Hor_Stack_Lchrt.lchrt**
Horizontal Bar LChart showing number (count(*)) of events by Manager, by Severity, ordered by count(*) desc. Last 30 days.
- **Event_Sources_Report_All_Dev_Pie_Lchrt.lchrt**
Pie LChart showing number of events by Original Severity.

`Select OriginalSeverity count(*) from REPORTER_STATUS where date >= (getdate-30) group by Original Severity`
- **Event_Sources_Report_All_Mngrs_Hor_Stack_Lchrt.lchrt**
Horizontal Bar LChart showing number (count(*)) of events by Manager, by Severity, ordered by count(*) desc. Last 30 days.

- **Event_Sources_Report_All_Mngrs_Pie_Lchrt.lchrt**

Pie LChart showing number of events by Original Severity.

```
Select OriginalSeverity count(*) from REPORTER_STATUS where date >=
(getdate-30) group by Original Severity
```

- **Event_Type_Report_All_Loc_Hor_Stack_Lchrt.lchrt**

Horizontal Stack LChart showing number (count (*)) of events by Manager, by Severity, ordered by count (*) desc. Last 30 days.

- **Event_Type_Reprot_All_Loc_Pie_Lchrt.lcht**
Pie LChart showing number of events by Original Severity.

```
Select OriginalSeverity count(*) from REPORTER_STATUS where date >= (getdate-30) group by Original Severity
```
- **Event_Volume_Report_All_Dev_Pie_Lchrt.lcht**
Pie LChart showing number of events by Original Severity.

```
Select OriginalSeverity count(*) from REPORTER_STATUS where date >= (getdate-90) group by Original Severity
```
- **Event_Volume_Report_All_Dev_Stacked_Bar_Lchrt.lcht**
Stacked bar LChart showing number of events by Original Seveity per month for last 12 months.

```
Select month, OriginalSeverity, sum(Tally) from REPORTER_STATUS where date >= (getdate -365) group by month, Original Severity.
```
- **Event_Volume_Reprot_All_Dev_TimeSeries_Lchrt.lcht**
TimeSeries LChart showing number of events per day for last 90 days.

```
Select date, count(*) from REPORTER_STATUS where date >= (getdate -90) group by day.
```
- **Event_Volume_Report_All_Dev_TimeSeries_SumTally_Lchrt.lcht**
TimeSeries LChart showing number of events per day for last 90 days.

```
Select date, sum(Tally) from REPORTER_STATUS where date >= (getdate -90) group by day.
```
- **Event_Volume_Report_By_Mngr_Pie_Lchrt.lcar**
Pie LChart showing number of events by Original Severity.

```
Select OriginalSeverity count(*) from REPORTER_STATUS where date >= (getdate-90) group by Original Severity
```
- **Event_Volume_Report_By_Mngr_Stacked_Bar_Lchrt.lcar**
Stacked bar LChart showing number of events by OriginalSeveity per month for last 12 months.

```
Select month, OriginalSeverity, sum(Tally) from REPORTER_STATUS where date >= (getdate -365) group by month, Original Severity.
```
- **Event_Volume_Report_By_Mngr_TimeSeries_Count_Lchrt.lcar**
TimeSeries LChart showing number of events per day for last 90 days.

```
Select date, count(*) from REPORTER_STATUS where date >= (getdate -90) group by day.
```

Sample Freeform Reports

This folder contains various presentations generated using the enhanced Freeform Report Designer. These presentations combine the sample charts, as described in the above section, into Freeform templates. They include:

- Event_Detail_Report_All_Loc.xml
- Event_Detail_Report_All_Loc_HTML.xml
- Event_History_Report_By_Location.xml
- Event_History_Report_By_Location_HTML.xml
- Event_Source_Report_All_Dev.xml
- Event_Source_Report_All_Dev_HTML.xml
- Event_Source_Report_All_Mngrs.xml
- Event_Source_Report_All_Mngrs_HTML.xml
- Event_Type_Report_All_Locations.xml
- Event_Type_Report_All_Locations_HTML.xml
- Event_Volume_Report_All_Dev.xml
- Event_Volume_Report_All_Dev_HTML.xml
- Event_Volume_Report_By_Mngr.xml
- Event_Volume_Report_By_Mngr_HTML.xml

Sample Tabular Reports

This folder contains sample (parameterized) tabular reports created using the Report Designer. They include:

- Event_Detail_Report_All_Loc_Report_Top20.rpt
Table showing top 20 devices (Node) generating alarms in last 90 days. Columns: Node, NodeAlias, sum(Tally), count(*). Top 20 devices are the ones which have the highest sum(Tally).
- Event_History_Report_By_Loc_Report_Top20.par
Table showing top 20 devices (Node) generating alarms in last 90 days. Columns: Node, NodeAlias, sum(Tally), count(*). Top 20 devices are the ones which have the highest sum(Tally).
- Event_Sources_Reprot_All_Dev_DrillAcross_Master.rpt
Table showing all devices (Node) generating alarms in last 30 days. Columns: Manager(Break) Node, NodeAlias, sum(Tally), count(*). Drill-across on Node to show the detail report, as described below.
 - Event_Sources_Report_All_Dev_DrillAcross_Detail.par
 - Columns: Node, NodeAlias, Summary, AlertKey, AlertGroup, Location, FirstOccurrence, LastOccurrence, Tally, OriginalSeverity.
Conditional format on OriginalSeverity(red=5, orange=4, yellow=3, blue=2, purple=1, green=0)

- **Event_Sources_Report_All_Mngrs_DrillAcross_Master.rpt**
Table showing all probes (Managers) generating alarms in last 30 days. Columns: Manager(Break), Location, sum(Tally), count(*). Drill-across on Manager to show the detail report, as described below.
 - **Event_Sources_Report_All_Mngrs_DrillAcross_Detail.par**
 - Columns: Node, NodeAlias, Summary, AlertKey, AlertGroup, Location, FirstOccurrence, LastOccurrence, Tally, OriginalSeverity.
Conditional format on OriginalSeverity(red=5, orange=4, yellow=3, blue=2, purple=1, green=0)
- **Event_Type_Report_All_Loc_DrillAcross_Master.rpt**
Table showing top 20 devices (Node) generating alarms in last 30 days. Columns: Node(break), NodeAlias, sum(Tally), count(*). Top 20 devices are the ones which have the highest sum(Tally). Drill-across on Node to show the detail report, as described below.
 - **Event_Type_Report_All_Loc_DrillAcross_Detail.par**
 - Columns: Node, NodeAlias, Summary, AlertKey, AlertGroup, Location, FirstOccurrence, LastOccurrence, Tally, OriginalSeverity.
Conditional format on OriginalSeverity(red=5, orange=4, yellow=3, blue=2, purple=1, green=0)

Supporting Files

This folder contains drill across definitions, lightweight chart property files, and the netcool image which is displayed in the Freeform report output.

- Event_Horizontal_Stack_Chart.xml
- Event_Line_Chart.xml
- Event_Line_Chart_For_sumTally.xml
- Event_Pie_Chart.xml
- Event_Stack_Bar.xml
- Event_Table_Style.xml
- Event_Table_Style_For_HTML.xml
- Event_TimeSeries_Chart.xml
- Event_TimeSeries_Chart_For_sumTally.xml
- Event_Sources_Report_All_Dev_DrillAcross_xml
- Event_Sources_Report_All_Mngrs_DrillAcross_xml
- Event_Type_Report_All_Loc_DrillAcross_xml
- netcool_soution

Appendix E. Advanced Server Configuration

This appendix describes how to configure and customize the Netcool Reporter server.

It contains the following sections:

- "Introduction" on page 222
- "Netcool Reporter Parameters to Change the Default Functionality" on page 223
- "Netcool Reporter Parameters to Configure the Database Driver" on page 231
- "Netcool Reporter Miscellaneous Configuration Parameters" on page 235
- "Netcool Reporter Parameters to Configure Freeform Report Designer" on page 237

Introduction

You can configure and customize many aspects of the Netcool Reporter functionality. You can change all of the Netcool Reporter server-related configuration parameters that appear within the `infosrv.conf` file. This file is located in the `$INFOHOME/server/` directory on a UNIX machine, and in the `%INFOHOME%\server\` directory on a Windows system.

Auditing and Logging Netcool Reporter Usage

Auditing and logging are controlled, for the most part, through parameters in the `infosrv.conf` file. There is also one auditing parameter that is located in the `$INFOHOME/websqlbr/admin/spacesql.cfg` file.

The auditing and logging log files are stored as text files in the `infospc/server/infolog` directory. By default, both auditing and logging information is sent to the same log file. The log file names are based on the form `infolog##` (where `##` is a number from 00 to the maximum number of files from the `MAX_LOG_FILES` parameter as described in "Parameters Related to Logging In" on page 227). In order to send auditing information to a separate auditing log file, uncomment the `INFO_AUDIT` parameter in the `infosrv.conf` file as described in "Parameters Related to Auditing" on page 228.

The auditing log files are named `infoaudit0.timestamp`, where `0` is the server number and `timestamp` is the current time when the file is created. Auditing files are generated in CSV format.

Infoaudit Files

With audit files, you can monitor the usage of Netcool Reporter. Every time you run the Netcool Reporter server by running the `infosrv.bat` file on a windows system or the `infosrv` script file on a UNIX machine, a new `infoaudit` file is created.

The contents of the audit file follow this format:

```
Header:Message
```

Example of a Header in an Audit File

The following is an example of a header message in an audit file:

```
S:4:L:3:C:2:O: obj_cmd: 2 Msg: null
```

In the example, `obj_cmd:2 Msg: null` is the log message and `S:4:L:3:C:2:O:` is the header.

Within the header, `S` is subject and `4` is the subject identification (ID) number, which is the object. `L` is the log information level. Level `3` is the information level. `C` is the client ID. In the above example, client ID is `2`. `O` is the prefix of the object ID (this feature is not yet implemented). The log message `obj_md:2 Msg: null` is the log information regarding the object binding by client with ID `2`.

Example of a Message in an Audit File

```
Date Client/process_Connection_Info HostName/IP_Address
```

When a client session ends, the file contains the following information:

```
Date Logoff: HostName/IP Address user:<username> after <session
duration> connection:
<current_number_of_users>:<total_user_sessions_permitted>
```

Logging Files

Logging files contain debugging information regarding the actions of the Netcool Reporter Server.

The log files follow this format:

```
Header:Message
```

However, the information is not recorded in CSV format.

The following line shows an example entry in a logging file.

```
Fri Jun 04 16:07:09 PDT 1999-S:3:L:3:C:2:O:<null>engine: infosql is up,
Prompt : INFOSQL>
```

Netcool Reporter Parameters to Change the Default Functionality

The following sections explain server parameters that you can configure to change the default functionality of the Netcool Reporter server. All the server parameters are in the `infosrv.conf` file. You can find the `infosrv.conf` file in the following locations:

- On a UNIX system: `$INFOHOME/server/`
- On an Windows 2000 system: `%INFOHOME%\server\`

A note indicates when a parameter is mandatory.

Parameters Related to Installation

JAVAPATH

This parameter is the path to the Java executable on your system.



Note: This parameter is mandatory.

The Netcool Reporter server expects to start the Java executable for the back-end engine from this directory. For example:

- For UNIX systems: JAVAPATH | \$INFOHOME/tools/usr/bin/
- For Windows systems: JAVAPATH | %INFOHOME\tools\usr\bin\

CLASSPATH

This parameter is the path to the Java class library on your system.



Note: This parameter is mandatory.

The Netcool Reporter server sets up the `-classpath` argument to point to this location when any Java back-end engine is started. For example:

- For UNIX systems: CLASSPATH | \$INFOHOME/tools/usr/lib/classes.zip
- For Windows systems: CLASSPATH | %INFOHOME\tools\usr\lib\classes.zip

INFOHOME

This parameter is the path where all Netcool Reporter files are installed.



Note: This parameter is mandatory.

This parameter needs to use a forward slash on all operating systems and must end with a slash (/). For example:

```
INFOHOME | /http/webserver/htdocs/infospc/
```

Where *webserver* is the location of your web server, for example, apache. If this parameter is not set up correctly, it can cause file operations to fail.

INFODOC

This parameter allows the users to save files in a directory other than the INFOHOME. This setting applies to all users. For example:

```
INFODOC | c:/user/scott
```

The default is null.

QUERY_OP

The values of this parameter specify different databases that the user can access.

Example:

```
QUERY_OP|infosql|c:/Website/htdocs/infospc/bin/infosql  
QUERY_OP|infodbc|c:/Website/htdocs/infospc/bin/infodbc
```

In the example above, the two database types that are accessible to the user are Oracle and ODBC.

FILE_OP

This parameter defines a new file type so that the Netcool Reporter server can start it for the client. The default is null. For example:

```
FILE_OP|AVGr|java -classpath packages infospc.filters.Readavg
```

INFO_MEMORY_CHECK

This parameter is for internal use only.

Parameters Related to General Operations

INFOPORT

This parameter is the port on which the server listens for the connection. The port value is set up during installation, which is defaulted to 6889. Once set up, it is recommended not to change the port to other values.

ENGINE_BUF

This parameter defines the flow control between server and engine. It defines how many commands a server can send to the database drivers. For a lightly loaded system, a higher value can speed up the performance. The default is 3. For example:

```
ENGINE_BUF | 5
```

SERVER_BUF

This parameter defines the length of the command queue at the server side. This is the flow control value between the client and the Netcool Reporter server. For a slow server, increase the buffer size to handle more commands from the client. If the outstanding command queue contents is greater than this number, the session is shut down. The default is 20. For example:

```
SERVER_BUF | 100
```

MAX_CONNECTIONS

This parameter specifies the maximum number of connections that this server can handle. The number can be roughly calculated by the following equation:

```
connection = available memory / 2M
```

As the number of current sessions increases, the response time slows. The default is 40. For example:

```
MAX_CONNECTIONS | 10
```

INFO_SERVICE

Do not edit this parameter. When set during installation, this parameter enables the Netcool Reporter server **Service Startup** option. For example:

```
INFO_SERVICE | InfoSrv
```

MIN_MEMORY_REQUIRED

This parameter is for internal use only. Do not edit this line.

Parameters Related to Logging In

INFO_LOG_INFO

This parameter specifies whether the header is to be included in the log files. Setting 1 includes the header. Setting 0 removes it. The default is 1. For example:

```
INFO_LOG_INFO | 1
```

INFO_LOG_TIME

The setting of this parameter enables or disables the time stamp in the log file. Setting 1 enables the time stamp. Setting 0 disables the time stamp. The default is 1. For example:

```
INFO_LOG_TIME | 1
```

MAX_LOG_FILES

This parameter specifies the maximum number of log files that can be generated in the `infolog` directory. After the log files reach this number, new log files start to replace old ones, starting from the first one. The default is 10. For example:

```
MAX_LOG_FILES | 20
```

MAX_LOG_RECORDS

This parameter specifies the number of lines that the Netcool Reporter server can add to each log file before it generates a new log file. The default is 2000. For example:

```
MAX_LOG_RECORDS | 5000
```

DEB_LEVEL

This parameter sets the level of detail for logging. The valid levels are from 0 to 4 and the default is 2.

- 0 - ERROR
- 1 - WARNING
- 2 - EVENT
- 3 - INFO
- 4 - DETAIL

For example:

```
DEB_LEVEL | 3
```

DEB_INTERNAL_LEVEL

This parameter sets the level of details for internal logging.

Remove the comment mark # that appears before it in the `infosrv.conf` file to enable it. For example:

```
DEB_INTERNAL_LEVEL | 6
```

The default is 6 for full debugging.

INFO_CONSOLE

This parameter enables or disables the log output to console. You do not need to give this parameter any value to enable it. Remove the comment mark # that appears before it in the `infosrv.conf` file to enable it. For example:

```
INFO_CONSOLE |
```

The default is off.

Parameters Related to Auditing

INFO_AUDIT

Setting this parameter results in the audit information being included in the audit file. You do not need to give this parameter any value to enable it. Remove the comment mark # that appears before it in the `infosrv.conf` file. For example:

```
INFO_AUDIT |
```

The default is off.

INFO_AUDIT_INFO

If you enable the setting of this parameter, the Netcool Reporter server includes the header in the audit log message. The header of an audit message is the same as the header for a log message. For information on what information this type of header includes, see "Example of a Header in an Audit File" on page 223. For example, the following enables the header information:

```
INFO_AUDIT_INFO | 1
```

The default is disabled.

INFO_AUDIT_TIME

The on setting of this parameter includes an audit time stamp in the audit file. To enable this parameter, remove the comment mark # appearing before it. For example:

```
INFO_AUDIT_TIME | 1
```

The default is disabled.

INFO_AUDIT_LEVEL

The setting of this parameter sets the audit level of the information in the audit file. To specify a specific audit level, remove the comment mark # from the parameter and change the value to the one you want. The valid levels are 0 - 4.

- 0 - ERROR
- 1 - WARNING
- 2 - EVENT
- 3 - INFO
- 4 - DETAIL

For example:

```
INFO_AUDIT_LEVEL | 3
```

The default is 2.

Session-Related Server Parameters

IDLE_ALLOW_UNIT

This parameter indicates the idle time allowed for each session. Once this idle time has elapsed, the server shuts down the session. A unit is 5 seconds. The default is 8640 = 12 hours. For example:

```
IDLE_ALLOW_UNIT | 720 = 1 hour  
IDLE_ALLOW_UNIT | 12 = 1 minute
```

INFO_RESOLVE_IP

This parameter resolves the host name of the client from the IP address. If the response from the DNS is very slow, setting this parameter may result in a slow connect time. The default is 0. For example:

```
INFO_RESOLVE_IP | 0
```

The server does not attempt to resolve the IP address. To enable the parameter, remove the comment.

Server Parameters Related to Objects

MAX_OBJECTS

This parameter is for internal use only.

MAX_OBJECT_ARGUMENTS

This parameter is for internal use only.

OBJECT, OBJECT_INIT

These parameters are mainly for internal use. `OBJECT` specifies the settings for objects and `OBJECT_INIT` initializes objects when the server is brought up.

The only object you may need to modify is `GRSqlSrv`. Its `reconnect` attribute causes the Netcool Reporter server to attempt recovery if the back end repository database is brought down.

The Netcool Reporter server connects to a back end repository database (`REP_REPOSITORY_TWO`) that you set up during installation. In some cases, the repository may be taken down for maintenance, or it may be down for unforeseen reasons. In either situation, the Netcool Reporter server must be restarted after the repository database is brought online in order to reestablish the connection.

The `reconnect` attribute prevents you from having to restart the Netcool Reporter server manually. When `reconnect` is set to `true`, the connection from the Netcool Reporter to the repository database is restarted when the next user of the system logs onto Netcool Reporter. If the database repository is still down they cannot log on, but if it is running, Netcool Reporter tries to reestablish connections once, and if successful, the connection remains up and running from that point forward.



Note: Do not confuse this feature with data sources that users may connect to for reporting purposes. This feature only applies to the database repository used by Netcool Reporter.

To set the `reconnect` attribute, locate the following line in `infosrv.conf`. The line should look like the following:

```
OBJECT|GRSqlSrv|initWorker=2;maxWorker=16;  
sleepTime=1;TraceLevel=0;reconnect=true
```

Server Parameters Related to Applet Operation

INFO_HOME

The startup HTML should set the following parameter if it needs to get the CGI-related information.



Note: This parameter is mandatory.

To force the applet to use the same port as the Netcool Reporter server, `INFO_HOME` must be set in the startup HTML file.

Default: `infosrv.conf`

INFO_CONF

This parameter is optional. It sets the debug level.

INFO_DEBUG

This parameter is optional. Once the `ClntSrvInfo` object is created, the following are available:

`info_port`

`info_conf`

`info_home`

These variables are initialized to the value defined in `infosrv.conf`.

INFO_PORT

By setting `INFO_PORT` in the HTML, the applet will be forced to connect to that port number instead of the default port number, 6889, or the port number in `infosrv.conf`. This is valid only when the `infogetCGI` script is not set up.

HTTP Server-Related Parameter

HTTP_PORT

This parameter sets the HTTP port. It is for internal use only.

Authenticator Parameter

AUTHENTICATOR

This parameter is for internal use only.

Netcool Reporter Parameters to Configure the Database Driver

The `spacesql.cfg` file contains parameters that affect the configuration of the database drivers. You can find the `spacesql.cfg` file at `infospc\websqlbr\admin\` on a windows system and at `$INFOHOME/websqlbr/admin/` on a UNIX system. These parameters are listed and explained below.

Parameters for Configuring Database Engine Drivers

CLASSPATH

This parameter is set by the installation script. This path to the directory contains Netcool Reporter Java class libraries. The Java classes are needed for GIF generation to print charts. For example:

```
CLASSPATH=C:\Website\htdocs\infospc\packages;  
C:\Website\htdocs\infospc\lib\classes.zip
```

JAVAPATH

This parameter is set by the installation script. If you change the location of the Java executable, you need to change the value of the JAVAPATH configuration parameter. This path to the directory contains the Java executable. For example:

```
JAVAPATH=C:\Website\htdocs\infospc\tools\
```

CGIPATH

This parameter defines the location of the cgi-bin directory (the directory which holds executable files run when the browser requests), and is set by the installation script. However, if you want to use the cgi-bin directory of a web server other than the default one you set up during installation, you must change the value of the CGIPATH variable to point to the new cgi-bin directory. For example:

```
CGIPATH=http://mycomputer/cgi-bin
```

BUFFER_CACHE_SIZE

This parameter determines the Input/Output buffer size of the database drivers. The value is in bytes. The default is 65536. For example:

```
BUFFER_CACHE_SIZE=65536
```

LONG_DATA_SIZE

The LONG_DATA_SIZE configuration parameter sets the size of the largest column value that can be fetched from the databases. The value is in bytes.



Note: Column values that are longer than the LONG_DATA_SIZE are truncated.

For example:

```
LONG_DATASIZE=2048
```

MAX_RETURN_ROWS

This parameter sets the maximum number of values that the database lookup can return when creating list values for parameters for a user running a parameterized report. The default is 500. For example:

```
MAX_RETURN_ROWS=80
```

DEFAULT_TEMPLATE

This parameter sets the default template that you would like your reports, charts, presentations, and cubes to use. You can find the templates directory in the following location:

- For Windows systems: `infospc\websqlbr\admin\`
- For UNIX systems: `$INFOHOME/websqlbr/admin/`

For example:

```
DEFAULT_TEMPLATE=rockymountain.html
```

ENCODE_URL

This parameter allows you to encrypt the report, chart, or cube file name that end users see in their web browser when they run a report, chart, presentation, or cube. Encrypting the URL ensures that unauthorized users cannot try to guess names of other reports, charts, presentations, and cubes from the URL that they are not supposed to see. To encode a URL, remove the comment before the `ENCODE_URL` parameter.

RECORD_BATCH_FILES

When you normally run the batch file to create reports, charts, presentations, and cubes, these files are sent to the `websqlbr` directory and are added to your user repository by default. They also appears in the Reporter Designer user interface. To prevent the reports, charts, presentations, and cubes created using the batch file from appearing in the user repository and thus in Netcool Reporter, set `RECORD_BATCH_FILES=n`. The default is `y`. For example:

```
RECORD_BATCH_FILES=n
```

DEFAULT_FLOAT_SCALE

This parameter sets the scale (number of decimal digits) of a float value returned from a database. The default value is 2. For example:

```
DEFAULT_FLOAT_SCALE=5
```

MAIL_SERVER

The mail server value is set to the value the administrator provides during the installation program. If you change the e-mail server after installation, you need to input the new value here to make sure that the e-mail facility of the scheduler works correctly. For example:

```
MAIL_SERVER=mailserver.mycompany.com
```

DOCHOME

If you would like your report, chart, presentation, cube, and HTML form files to reside outside the `websqlbr` directory, name that directory here. This feature gives you added security so that users cannot guess the location of your sensitive data.

For Windows systems:

```
DOCHOME=\\bigserver\c:\infodoc
```

For UNIX systems:

```
DOCHOME=marathon/doc/infodoc
```

FILETYPE

You can securely distribute content of different types of files using the publish feature of Netcool Reporter . Specify the following information regarding your content type as the value of this parameter:

```
file extension; MIME type; BINARY or TEXT
```

For example:

```
FILETYPE=.txt; text/plain;TEXT or BINARY  
FILETYPE=.gif; image/gif; BINARY
```

Once you have set the file type, you can publish all files of that type in the `websqlbr` directory under `infospc`.

LOOKUP_TABLE

You can restrict the tables that a user can access. The `table.cfg` file gives some samples for restricting this value for each database type. The `table.cfg` file exists in the `%INFOHOME%\websqlbr\admin\` directory on a Windows system and in the `$INFOHOME/websqlbr/admin/` directory on a UNIX system.

LOOKUP_COLUMN

You can restrict the columns in tables that users of Netcool Reporter can access. The `column.cfg` file gives some samples of restricting this value for different database types. The `column.cfg` file exists in the `%INFOHOME%\websqlbr\admin\` directory on a Windows system and in the `$INFOHOME/websqlbr/admin/` directory on a UNIX system.

AUDIT_LEVEL

When properly set, this parameter will let you audit information regarding user logins to Netcool Reporter. The audit information will be written into audit files under:

```
infospc/Infolog/Log_datastamp.log
```

To make this parameter work at logging, you must ensure that:

1. This `AUDIT_LEVEL` parameter is set to 1;
2. The debug levels are set to `DEBUG` for two of the parameters in `debuglog.xml`:
 - `rs`

– root

This configuration file can be found under:

```
infospc/configs/debuglog.xml
```

The following examples indicate the type of information passed by setting this parameter:

```
OPNAME=LOGINUSER, User=scott, LOGINTIME=13-Sep-2006 18:08:41
```

For example, the following shows login to Netcool Reporter by the user scott:

```
DEBUG p.sqlc
-ANFOSQL>OPID=1,OPNAME=LOGINUSER,USER=scott,LOGINTIME=13-Sep-2006
18:08:41
Login to Netcool Reporter by the user scott and the exact time.
```

TITLE_STYLE

Setting this parameter value to 1 allows you to have report titles in the first row of the report data table. The value of 0 makes the titles appear on top of the report data table. The default is 0.

For example:

```
TITLE_STYLE = 1
```

SET_DRILLPATH

If you are using the Application Server, you need to set this parameter to value *y*. Setting the value *y* for this parameter allows for the creation of absolute paths to report files so that the browser can find the new pages of a report when you click the **NEXT** or **PREVIOUS** buttons of a multi-page report or when you drill down a drill-down report. For example:

```
SET_DRILL_PATH=y
```

CHART_CAB_ZIP

The *y* setting for this parameter allows the use of `spacechart.zip` or the `spacechart.cab` class files for rendering charts in the browser. Using the compressed cab files speeds up loading the chart applets. We recommend that you always use this option. For example:

```
CHART_CAB_ZIP =y
```

Netcool Reporter Miscellaneous Configuration Parameters

The `universal.conf` file lets you specify a number of miscellaneous configuration parameters. Most of them are automatically set during installation, and should not be edited afterwards. The editable parameters are `reportDS` and `MMColorList`.

reportDS

The `reportDS` parameter determines whether users may run reports that draw on data sources which the users do not have permission to access. The possible settings are:

- 0 - (default) Users can run reports regardless of whether they have permission to open the data source.
- 1 - Users can only run reports if they have permission to open the data source used by the report.
- 2 - Users can only run reports if they have permission to open the data source used by the report. If a user does not have permission to open the data source, they are given the option of selecting one of the data sources available to them. If the password for that data source is set to null or zero, the user is prompted for a password. If the user has only one data source available, the user is prompted for a password for that data source.
- 3 - Same as 2, except that if the password for that datasource is null or zero, Netcool Reporter tries to log on with the user's portal password.

For example:

```
reportDS=2
```

MMColorList

This parameter determines what type of colors is listed in the Netcool color list. To access the list:

1. Open a Report Designer tabular report.
2. While on the **Report** tab, click **Properties**.
3. Go to the **Conditional Format** tab.
4. Click on **Add New Condition**.
5. The **show background color in** and **text color in** drop-down lists contain color options available as either conditional colors or a standard set of named colors.

The `MMColorList` parameter can be set to toggle the color list between conditional colors and named colors.

The possible settings are:

- `false` - The default value. Sets up a standard set of named colors to the color list. For instance, Red, Pink, Green, and so on.
- `true` - Sets up the conditional colors to the color list. For instance, Clear, Warning, Minor, Major, and so on. Each of these conditional colors corresponds to a specific standard color.

Netcool Reporter Parameters to Configure Freeform Report Designer

This section mainly discusses the parameters related to the configuration of the Freeform Report Designer.

stylereport.properties

This configuration file is located at
`$INFOHOME/packages/stylereport.properties`.

Template

The following properties are used to set up default templates of Freeform Report Designer.

- `template.rows`: How many rows the templates will be displayed in *Create Report* page.
- `template.cols`: How many columns the templates will be displayed in *Create Report* page.
- `template.root`: The root path of template files. The value must be relative to `INFOHOME/packages/`, and the path separator is `/`.
- `template.filepath`: The actual path of template definition files in XML. The value must be relative to the value of `template.root`.
- `template.imgpath`: The actual path of images representing the templates, and the images are shown in the *Create Report* page. The value must be relative to the value of `template.root`.
- `template.list`: The list of default templates used in Freeform Report Designer. Each template name must be separated by a comma (,).
- `template_name.description`: Each template needs a description for display in the *Create Report* page. For example, if there is a template called `blank`, there must be a property with name `blank.description` in this configuration file.

The names of physical template definition files and images must be corresponding to the template names listed in `template.list`. For example, if there is a template called `blank`, there must be a template definition file `blank.xml` existing in path specified by `template.filepath`; and there must be an image file `blank.gif` existing in path specified by `template.imgpath`.

Example

Here below are some examples of the properties:

```
template.rows=3
template.cols=4
template.root=inetsoft/report
template.filepath=/template
template.imgpath=/images/template
template.list=2areas,1table,1chart,blank
2areas.description=2 areas
1table.description=1 table
1chart.description=1 chart
blank.description=blank template
```

Designer

The following properties affect Freeform Report Designer user interface.

debug

Description: controls whether to display debug message in Applet Java console. Exception stack trace is displayed if debug is turned on.

Available values: true|false

Default value: false

design.font.fixunderline

Description: controls whether the Fixed length underline option for text element which works for PDF only is enabled or not.

Available values: true|false

Default value: false

Font

For PDF output, the following font setting must be configured.

font.trueType.path

Description: Specifies the directories for TrueType fonts. Each directory item must be separated by a semi-colon (;).

Default value: c:/winnt/fonts

font.cmap.path

Description: Specifies CMap file directories. CMap is basically used for CID fonts.

Default value: relative path `../CMap` compared to paths specified in
`font.truetype.path`.
`font.afm.path`

Description: Specifies AFM directories. AFM is the standard font format used by Acrobat to store font data. Type 1 font information is stored in AFM file. PDF generator will use the directory to find AFM files for the Type 1 fonts.

Default value: NONE

FontConfig.xml

This configuration file is located at `$INFOHOME/websqlbr/admin/FontConfig.xml`. It provides lists of available font names and font sizes used in Freeform Report Designer and Lightweight Chart Property Designer.

Appendix F. Middleware Testing

This appendix describes how to test the middleware that can be used to connect the Netcool/Reporter server with the database engines if the applications are on separate machines.

It contains the following sections:

- "Testing Oracle SQL*Net Connections" on page 240
- "Testing Microsoft SQL Server Connections" on page 242

Testing Oracle SQL*Net Connections

The following section describes the tests you can perform if you are using Oracle SQL*Net middleware to connect between the Netcool/Reporter server and the repository database located on separate machines.

See the Oracle SQL*Net documentation for instructions on the installation and configuration of this middleware application.

Testing the Database and the Connection

To test the database and the connection:

1. Ensure the Oracle server is running. To start Oracle server on a Windows system, enter `svrmgr23`. To start the Oracle server on a UNIX system, enter `svrmgr`.

The following commands are for the Windows system.

```
svrmgr23
```

```
SVRMGR> connect internal
```

```
SVRMGR> startup
```

```
SVRMGR> exit
```

2. Connect to your Oracle server using the SQL*Net Bequeath driver. For example, enter:
`sqlplus scott/tiger`

or

```
sqlplus scott/tiger@local_beq
```

Where *scott* is the user name and *tiger* is the password.



Note: The Bequeath driver is always installed.

3. To test the TCP/IP connection, the Oracle Listener needs to be running. To check the listener's status, at the system prompt enter:
`lsnrctl status`
4. The message `TNS-12224:no listener` means the listener is not available. To display the listener, enter the following command at the system prompt:
`lsnrctl start`
5. When the listener is up, enter the following command at the system prompt:
`sqlplus scott/tiger@local_tcp`

Testing the Netcool/Reporter Connection to Oracle on a Windows System

To test the Netcool/Reporter connection to Oracle on a Windows system:

1. From a command prompt, issue the following commands:
`C:> %INFOHOME%\bin\infosql INFOHOME=%INFOHOME% # invoke utility`
`INFOSQL> connect reporter/reporter@local_tcp # connect to Oracle`
`INFOSQL> all-table # retrieve a list of all tables`
`INFOSQL> user-table # retrieve names of user's tables`
`INFOSQL> exit # leave this utility`
The response from `infosql` is not displayed in this document.
2. From Netcool/Reporter Designer, test the Oracle connection through SQL*Net adaptor:
`user: scott`
`passwd: tiger`
`connect string:local_tcp`

Testing the Netcool/Reporter Connection to Oracle on UNIX

To test the connection from Netcool/Reporter to Oracle on UNIX:

1. From the UNIX command prompt, issue these commands:

```
$INFOHOME/bin/infosql INFOHOME=$INFOHOME

# invoke Netcool/Reporter utility

INFOSQL> connect reporter/reporter@local_tcp

# connect to Oracle

INFOSQL> all-table

# retrieve a list of all tables

INFOSQL> user-table

# retrieve names of user's tables

INFOSQL> exit

# leave this utility
```

The response from `infosql` is not shown in this document.

2. From SQL Product Designer, test the Oracle connection through SQL*Net adaptor. For example:

```
user: reporter
passwd:reporter
connect string:local_tcp
```

Testing Microsoft SQL Server Connections

The following section describe the tests you can perform if you are using the Microsoft SQL Server.

See the Microsoft SQL Server documentation for instructions on installation and configuration.

Testing the ODBC Connection for Microsoft SQL Server

You should test your Microsoft SQL Server database using the SQL query tool that is part of the Microsoft SQL Server Enterprise Manager. You can test your ODBC configuration using any software that supports ODBC, such as Microsoft SQL Server Query, which comes with Microsoft Office.

The Netcool/Reporter server ODBC driver requires 32-bit ODBC and the data sources must be defined as System DSNs to appear in the Netcool/Reporter *Connect* window.

Testing the Netcool/Reporter Back-End ODBC Driver Manually

If you have configured your ODBC driver and tested that it works using a third-party application such as Microsoft Query, then you should test the Netcool/Reporter back-end driver (`infodbc.exe`) manually from a command prompt on the machine on which you installed the Netcool/Reporter server.

To test the Netcool/Reporter server back-end driver manually:

1. Bring up a Windows command prompt and go to the `%INFOHOME%\bin` directory, which should be under the document root of the web server.
2. Enter the following command:
`infodbc INFOHOME=%INFOHOME%`
3. The following command prompt is displayed:
`INFOSQL>`
4. Enter the connect command, in which `datasourcename` is the data source name you used in the system DSN when you configured the ODBC driver for the Netcool/Reporter database:
`connect reporter/reporter@datasourcename`

You can check the available ODBC system DSNs by displaying the ODBC Administrator from the Control Panel, clicking **System DSN**, and clicking **Setup**.

5. Once you have entered the connect command, the message should be `CONNECTED`.
6. Type `all-table` and click **Return**. The system should return a list of tables from the database. If this test is successful and data is returned, you have proven back-end connectivity from Netcool/Reporter server `infodbc.exe` driver through the ODBC driver to Microsoft SQL Server.

Appendix G. Troubleshooting

This appendix describes any errors and problems that may arise when using Netcool Reporter, with possible solutions.

This appendix contains the following sections:

- "Troubleshooting" on page 244
- "Server Error Codes" on page 257
- "Key User Messages and Errors" on page 260

Troubleshooting

This section describes methods of troubleshooting the performance of different components of the Netcool Reporter application. Most key components of the portal, the server, and JRun can be diagnosed using the methods and the logs referred to below.

It provides topics as listed below:

- "How to Troubleshoot Netool Reporter" on page 244
- "Netcool Reporter Directory Structure" on page 245
- "Clearing the Temporary File Directory" on page 247
- "Setting the Display Environment for X Servers/XVFB" on page 247
- "Port Conflicts" on page 248
- "Netcool Reporter Components" on page 249
- "Netcool Reporter Java Server - infomanager" on page 250
- "Using INFOSRV.CONF to Control Logging" on page 252
- "Debugging JRun Servlet Connections" on page 254
- "Testing the Connection to the Netcool Reporter Repository Database" on page 255
- "Orphan Infosql" on page 256

How to Troubleshoot Netool Reporter

When properly set up, the Reporter server and JRun can generate logs which may be helpful for troubleshooting problems.

Before beginning a debugging cycle, it is good practice to refer to the `FinalInstallInfo.txt` file as reference, as this file contains all the installation settings and is a map to the configuration. See the sections below to locate this file on Windows or UNIX:

- "Installation Information File" on page 51
- "Installation Information File" on page 82

Logging levels can be changed dynamically as needed using InfoManager, but for systematic analysis of logs to debug a specific problem, it is good practice to shut down Reporter, clear the existing logs, modify the log levels, restart Reporter and replicate the problem. The logs that are then generated will be more valuable for diagnosis and debugging. This process is outlined below, and more details are provided in the sections that follow.

1. Shut down the Reporter server and JRun.
2. Go to these directories and delete or rename existing logs, to force the generation of new logs:
 - %INFOHOME%/server/infolog
 - %JRUN_HOME%/jrun/logs
3. Set debug levels:

Some configuration parameters control the detail level of Reporter logs. By default, minimal information will be written into the log files, so for debugging purposes, it is necessary to change these parameters to get more detail in the logs.

 - Change log level for the Reporter server in the %INFOHOME%/server/infosrv.conf file.
 - Change log level for session manager.
 - Change log level for InfoServlet.
4. Restart JRun and Reporter server.
5. Reproduce the error. When the error comes up:
 - Capture Java console error, if any.
 - Capture the Reporter server console.
 - In case you need to kill the Reporter process: execute command `kill -6 process#`. When you do this, a lot of messages will show up at the Reporter console. Please capture the information.
 - Monitor the Reporter console and specific logs to watch for evidence of the problem.
 - Use the InfoManager utility to dynamically increase the level of detail being written into the logs, as needed.
6. Review the logs for evidence and diagnosis of the problem. If you find evidence, provide details from the log to Support for further analysis.
7. After the debug cycle is completed, modify and turn off or lower the logging and trace levels, and restart the Reporter server and JRun default servers.

Netcool Reporter Directory Structure

The Directory Structure is where the Java packages, templates, SQL scripts, documentation, reports, uploaded files and content, pages and user preferences are stored. It is very important to understand this structure. The following outline will provide an overview.

- `Infospc` - The root of your Reporter directory. All of your files are stored here on the server, except those placed in the Web server's `cgi-bin` directory and those associated with the JRun application.
 - `bin` - Contains the database specific gateways for SQL and OLAP access. For example, `infosql.exe`.
 - `database` - Contains configuration information regarding the data sources defined by the Reporter Administrator.
 - `doc` - Contains product documentation in HTML format.
 - `images` - Contain the `.gif` files used to display images within Reporter.
 - `packages` - Contain the java class files used by Reporter and custom portlets.
 - `server` - Contains the configuration files, license key, and startup scripts for the Reporter server, and executables.
 - `sql` - Contains the SQL scripts to create the Reporter repository.
 - `templates` - Contain files used in the Reporter interface.
 - `tools` - Contain programs used by the Reporter installation process.
 - `util` - Contains utility programs for configuring and maintaining the Reporter server.
 - `websqlbr` - The parent directory for all the data, contains the most frequently modified files. This is the directory that should be backed up most frequently.
 - `admin` - Contains the configuration files for the Report Designer database gateways. In particular, `SpaceSQL.exe` controls many properties of the database gateways.
 - `schedule` - Where the jobs that get loaded into the scheduling tool are loaded.
 - `tmp` - Contains the snapshot files generated when definitions are previewed. At installation, the administrator is given the option of removing files from this subdirectory automatically, which would be cleaned out in the nightly run at 1:00 a.m.
 - `user` - Contains subdirectories for each user of Reporter who saved a definition or snapshot file.
 - The default directory paths for Reporter and JRun on UNIX are:
 - `/opt/netcool/reporter` and
 - `/opt/netcool/reporter/jrun`
 - The default directory paths for Reporter and JRun on Windows are:
 - `C:\Program Files\Apache Group\Apache\htdocs\infospc`
 - `C:\Jrun30\`
- or, it is also possible to install under alternative paths:
- `C:\http\htdocs\infospc`

- C:\http\htdocs\jrun30

One advantage of this configuration is that all the directories are under the same of this directory structure, \http\htdocs, so the logs are easier to manage and review. Also, it is possible to use another drive names than C:\. The only issue that comes up in this situation is that IIS wants to live under the C:\ drive, but this can be managed by adding a new mapping in the IIS for a virtual drive for the \infospc directory on a separate drive.

Clearing the Temporary File Directory

Reporter system temporary files reside in the \$INFOHOME/websqlbr/tmp directory. This directory needs to be emptied periodically to avoid occupying too much storage space.

During the installation of Reporter server, the installer program prompts you to enable automatic deletion of this directory. If you have chosen to enable the service, Reporter will create schedule jobs on the server operating system.

To check if your Reporter server has had this job scheduled,

- On UNIX, run the following command to retrieve the list of scheduled run jobs:

```
crontab -l command
```

- On Windows, use Task Scheduler or type `at` in a command window to see if the job has been added.

If either of the commands shows no job has been created for emptying the directory, you may use the Temp File Manager utility to do the cleaning. This utility can be accessed by clicking **Administration** then the **Temporary File Management** link.

You may also manually create schedule jobs on your Reporter server operating system to enable the automatic deletion. If you are not familiar with operations specific to your server operating system, consult your system administrator or OS documentation.

Setting the Display Environment for X Servers/XVFB

In order to save a chart as a GIF or a PDF, the `DISPLAY` variable of the Reporter server needs to be set to a machine running an X server or XVFB. You may install the X server or XVFB on the Reporter server machine or on a remote machine.

To set a temporary `DISPLAY` environment variable, type the following command:

```
xhost + localmachinename
```

Where *localmachinename* is the name of the local machine.

Or, when the remote machine has been configured to accept connections from the Reporter server machine, type the following command on the Reporter server:

```
xhost + Remotemachinename(ip)
```

Where *Remotemachinename* is the name of the remote machine or its IP address.

You may also edit `$INFOHOME/server/infosrvorg` and change the `DISPLAY` environment variable to point to the proper machine. This ensures that the variable is automatically applied every time the Reporter server is started.

Port Conflicts

Netcool Reporter uses several default ports: 6889, 6998, 7000, 1099, 7777, and 21/20.

Reporter 2.0 requires port 6889 to be open for Java Applets that are downloaded into the user's browser and communicate with the Reporter server. Port 6889 is used rather than going back through port 80 in the Web Server. The process is as follows:

- All Java Applet interaction passes through port 6889.
- Port 6889 uses a socket-to-socket TCP/IP connection for all Java Applet interaction.
- All Socket requests are originated by the applet on the user's workstation.
- No Socket requests are initiated by the web server.

Other ports:

- Reporter and Jrun use ports 7000 and 6998 to communicate.
- Port 1099 is defined for RMI communication. This can cause conflict with other applications, and can be changed to any other available port (`INFOHOME/server/cluster.conf`)
- Server Admin uses port 7777 (non-configurable)
- The FTP Server uses ports 21/20 by default, but they are configurable at install time.

If you need to check to see if a certain port is already in use, for example on port 7000, run the commands below:

```
netstat -an |grep 7000
```

If you suspect a port conflict or wish to change to a different default port, after installation you must edit three files to make the application work. Modify the relevant files to reflect the new port number. For example, if you want to change the Reporter to use port 7005:

1. Edit `$INFOHOME/server/cluster.conf` and modify the line:

```
80;srvport=7005;url=http;servlet=servlet/InfoServlet;tracelevel=2;poll=
60;wait=20;traceFile=C:/tmp/log
```

2. Edit `$INFOHOME/server/infosrv.conf` and modify the line:

```
OBJECT|ISStartSmgr|
port=7005;sleepTime=1;TraceLevel=0;instance=1;StdoutOnly=false
```

3. Edit `$JRUN_HOME/servers/default/default-app/WEB-INF/web.xml` and modify the line:

```
<param-name>infoport</param-name>

<param-value>7005</param-value>
```

Netcool Reporter Components

Operating Netcool Reporter relies on three underlying components: the web server, JRun servlet engine, and the Reporter Java server. Several servlets are supplied to verify if these components are working.

JRun - CounterServlet

The CounterServlet servlet uses Cookies to store the number of times a user has visited your servlet. To start the servlet, enter the URL:

```
http://example.com:port_no/demo/servlet/CounterServlet
```

where, `example.com` refers to the fully qualified domain name of your JRun server (usually the Netcool Reporter server), and `port_no` is the HTTP port number that the JRun server listens to (if using default 80 port, this value can be ignored).

This test returns a Cookie Counter page if the JRun server is running properly, as shown in the figure below.

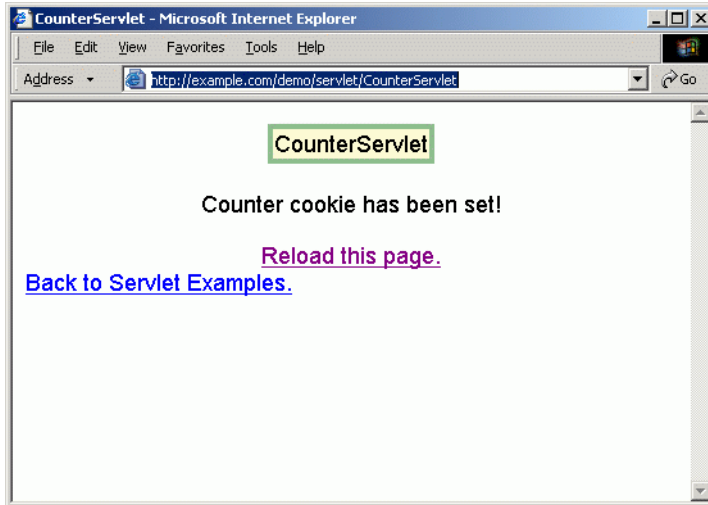


Figure 79. Cookie Counter page

If the JRun server is not running correctly, it will return the following message:

"Could not connect to JRun Server"

SnoopServlet

The SnoopServlet servlet displays header information and any form data. This servlet is useful as a diagnostic tool to see what your browser is sending to your servlet. To start the servlet, enter the URL:

`http://example.com:port_no/demo/servlet/SnoopServlet`

InfoServlet - Session Manager

The InfoServlet servlet demonstration option verifies whether the session manager is working properly. To start the servlet, enter the URL:

`http://example.com:port_no/servlet/InfoServlet?APPL=Demo`

If the session manager is working, this test returns the following result:

`Echo response back from demo: null.`

Netcool Reporter Java Server - infomanager

To test if the Netcool Reporter server is running, open a command window and go to the INFOHOME\server directory and run the InfoManager utility. A key feature of this utility is the ability to dynamically change the log levels. The InfoManager is stored in the server directory and is run from the command line.

Infomanager supports the following parameters:

- `infomanager ?`
This command will return a list of options available to the user.
- `infomanager -help`
This command will show some information relevant to this utility.
- `infomanager -start`
This command will start the Reporter server.
- `infomanager -shutdown`
This command will shut down the Reporter server console.
- `infomanager -sessions`
This command will list the session id, IP address and user information about the session. Two default sessions are assigned to the session proxy and session agent.
For example, on a Windows operating system, go to:

```
C:\netcool\reporter\htdocs\infospc\server
```

Then type the command `infomanager.bat -sessions`, for example,

```
C:\netcool\reporter\htdocs\infospc\server>infomanager.bat -sessions
```

If the Netcool Reporter server is working correctly, a message like the following will be returned:

```
VIC instance 0 portal session information
```

```
=====
Session Id          User          IP Address
-----
8512625180672      viador        100.19.20.28
```

If the server is not running, you will get a message like the following:

```
D:\Inetpub\wwwroot\infospc\server>infomanager.bat -sessions
```

```
-<Generic>;L:0;SID:null;C:9999;O:<infospc.ClnLib.ClnORB@76a746>Can't
Attach to peer Communication Error in attach to MARTINENG:6889
```

```
-<Generic>;L:0;SID:null;C:9999;O:<infospc.SpaceManager.SMNodeManagerPro
xy@5ff48b>Can't Attach to peer Can't Attach to Peer, Communication Error
in attach to MARTINENG:6889
```

```
Unable to obtain session information! The VIC is probably down.
```

- `infomanager -summary`
This command will return a summary of the total number of portal sessions, total number of connections to Reporter components, and the number of connections to each component.

- `infomanager -logout [sessionId]`

This command will kill a particular session with the specified ID.

- `Infomanager -setloglevel [loglevel]`

This command is a dynamic command that will assist debugging in realtime. It can be used to set the level of detail for logging while the server is up and there is no need to restart the server.

To use the command, make sure that logging is enabled on the server (by uncommenting `DEB_LEVEL` in `infosrv.conf` and restarting the server). Log messages will be shown in the `infosrv` console. The valid levels are from 0 to 7 and the default is 2.

0 - ERROR

1 - WARNING

2 - EVENT

3 - INFO

4 - DETAIL

5 - SESSION-Level Information

6 and 7 - These two levels are for debugging extreme situations. They will generate a great deal of database-level information, and will have an impact on performance, so it is important to lower it back to 2 or 4 when the debugging process is completed.

- `Infomanager -settracelevel [traceLevel]`

This command is a dynamic command used to set the trace level for Session Manager. It will assist debugging in realtime.

Using INFOSRV.CONF to Control Logging

Log files for the Netcool Reporter Java server are very useful tools for diagnosing issues. The amount of detail written into standard logs is controlled by parameters set in the `\infospc\server\infosrv.conf` file. It should be noted that settings in this file are static, and will take effect only after restarting the server.



Note: Some of the logging related parameters can be dynamically set using the InfoManager utility. For example, to change the Java server logging levels, run this utility with the `setloglevel` parameter. Using InfoManager does not require restarting the server and can be run when the server is running.

- To generate the most detail, find the line with `DEB_LEVEL |`. If this line is commented out with a # sign, uncomment it. Change it to `DEB_LEVEL | 5`. Five (5) is the suggested level as this will generate session-level information. It should be noted that there are two additional debug levels, 6 and 7 available in debugging extreme situations. These levels will generate a great deal of database-level information, and will have an impact on performance, so it is important to lower it back to 4 when the debugging process is completed.

A dynamic method for changing the logging levels is also provided, using the InfoManager utility. For example, go to the `$INFOHOME\server` directory and run:

```
Infomanager -setloglevel [loglevel]
```

- Add a new line `DEB_INTERNAL_LEVEL | 5`. This allows numbered collections of logs to be written to the `\infospc\server\infolog` directory. For example: `infolog01`.
- Change the parameter `TraceLevel=2` on the line for the "OBJECT | ISStartSmgr |". This will increase the logging level for the session manager.

This can also be accomplished using the dynamic InfoManager command:

```
Infomanager -settracelevel [traceLevel]
```

- Set `GRSqlSrv TraceLevel` to 2. This allows collection of an SQL query submitted to the database. The log file will be written into the `\infospc\server\infolog` directory. For example: `grsqlsrv.log`
- By default, `INFO_AUDIT` is off. Remove the comment mark (#) preceding the line containing `INFO_AUDIT |`, to turn on the user level audit logging feature. There is no parameter value needed, because it is either on or off. This will generate a separate log with user level activity logging.
- The `MAX_LOG_FILES` parameter specifies the maximum number of log files that can be generated in the `infolog` directory. The log file names are based on the form `infolog##`, where, ## is a number from 00 to the maximum value set by this parameter. After the log files reach this number, new log files start to replace old ones, starting from the first one. The default is 10. For example:

```
MAX_LOG_FILES | 20
```

- Use the `MAX_LOG_RECORDS` parameter to set the length of log files, by specifying how many lines that the server can add to each log file. The default is 2000. For example:

```
MAX_LOG_RECORDS | 5000
```

- Set the `INFO_LOG_TIME` parameter to 1 or 0 to turn on or off the time stamp in the log file names. For example:

```
INFO_LOG_TIME | 1
```

This setting will add a time stamp in log file names, for example, `log_20060718` (YearMonthDay)

- Enable the `INFO_CONSOLE` parameter by removing the comment mark `#` that appears before it. This setting allows log information shown on the server console. For example:

```
INFO_CONSOLE |
```

- Look at the java console of the desktop that is trying to load the failing applet for additional information about the client environment, and look for Java Plug-In versions, and so on.

Debugging JRun Servlet Connections

This section describes how to debug servlet connections using the JRun Application Management Console and Server Administrator. It is important to note that JRun logging levels can be changed using the JRun Admin Server, but do not take effect until the JRun Default server is restarted.

To open the JRun Application Management Console and Server Administrator, see "Starting the JRun Application Management Console on Windows" on page 82 and "Starting the JRun Application Management Console on UNIX" on page 83.

Changing JRun Logging Levels

To change the logging levels:

1. On the *Management Console* page, expand the **JRun Default Server** heading in the left frame by clicking the plus button, as shown below.

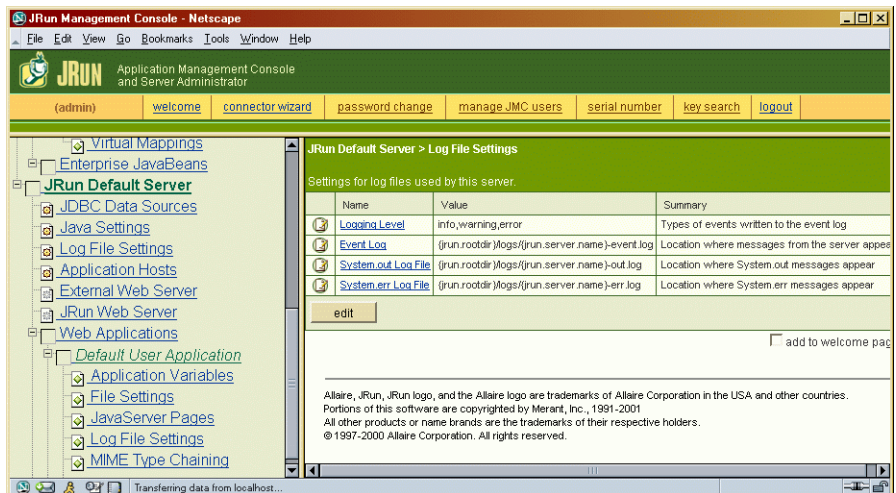


Figure 80. Management Console Page

2. Click the **File Settings** link. The File Settings section is displayed in the right frame.

3. Click the **Login Level** link in the File Settings section. The *Edit* window is displayed, as shown below.

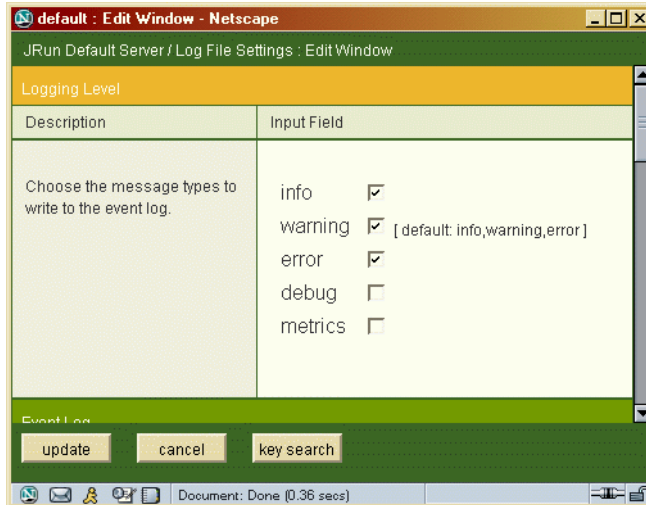


Figure 81. *Edit Window*

4. Select the logging levels and click **Update**.
 - **info** - Informational messages, including messages generated during startup and method timing messages.
 - **warning** - Warning messages.
 - **error** - Error messages.
 - **debug** - Debug information.
 - **metrics** - Messages about the system and the connection between a web server and JRun.
5. Restart Jrun Default Server.

Testing the Connection to the Netcool Reporter Repository Database

This section discusses how to test the connection of the Netcool Reporter server with the repository database.

To test the database and the connection (the example commands are for UNIX):

1. Ensure the database server hosting the repository is running.
2. Change the directory to \$INFOHOME/bin. For example,

`/opt/netcool/reporter/apache/htdocs/infospc/bin`
3. Type the command `ioraconn` supposing an Oracle database; or type the command `iodbconn` if you are using ODBC for connection with the repository database. For example,

```
$ ioraconn INFOHOME=..
```

```
SQL>
```

4. Connect to your database server by providing `username/password@connectstring`. For example, for an Oracle database host, enter:

```
connect repository_two/repository_two@orasid
```

5. If the connection is successful, you will get the message:

```
Connected.
```

If the connection failed to be established, you will get the error message:

```
Error: Connection Fail.
```

6. When the connection succeeded, you can try to run some queries to test if the repository tables are available. For example, type in:

```
SQL>
```

```
sexec=select * from RPUSER
```

The purpose of this SQL statement is to get data from the `RPUSER` table. Confirming that the drivers are able to connect can be very useful when debugging issues.

Orphan Infosql

Symptom

Shutting down the Netcool Reporter server does not terminate the `infosql` process. That is, the `infosql` process is still visible in the Windows system Task Manager. Over time, this will have a negative impact on performance.

Possible reason

There may be a small time period when the system runs short of resources. During this time the Netcool Reporter server can fork the process but cannot establish the pipe to the child process. In this situation, the client is reported with an engine startup failure. However, `infosql` is still running without any hookup to the Netcool Reporter server. This usually happens only when there are a large number of concurrent users.

Solution

Kill the `infosql` process and increase system memory to prevent this problem from recurring.

Server Error Codes

Server errors are logged by setting the `INFO_AUDIT_LEVEL` parameter in the `infosrv.conf` file. For more information, see "INFO_AUDIT_LEVEL" on page 229.

By default, the log is generated in the `infolog` directory with the following path:

- For Windows systems: `infospc\server\infolog`
- For UNIX systems: `$INFOHOME/server/infolog`

The following sections give the complete list of current server error codes and their corresponding reasons and actions.

ISRV-0001:Port: my_port is unavailable, kill InfoSrv process

Reason: The port was not released. Either Netcool Reporter is already running, or a previously running server was not shut down properly.

Action: Kill the Netcool Reporter Server or the hanging engine and report it to Technical Support.

ISRV-0002:InfoSrv: infoSrvInit() error, Shutdown

Reason: The Server Initialization failed because it could not properly configure the server.

Action: Check the setup in `infosrv.conf`.

ISRV-0003:System.memory too low

Reason: The server detected that the memory is running low for the number of concurrent users.

Action: Kill some user sessions or allocate more memory for the Java VM by increasing the memory option (`-ms`) in the `infosrv` startup script.

ISRV-0004:Exception while getting socket streams

Reason: The server cannot set up the communication channel for this client request. A lack of system resources may be the problem.

Action: If there are too many users, disconnecting some of them may correct the problem. Otherwise, restart the server.

ISRV-0005:Connection limitation is reached

Reason: The maximum connections limit has been reached.

Action: Increase the `MAX_CONNECTIONS` in `infosrv.conf` if the server has enough memory to support it. The recommendation is 2 MB per user session.

ISRV-0006:Invalid input

Reason: The server received an invalid message format from the client.

Action: Contact IBM technical support.

ISRV-0007:request: .. Not supported

Reason: The server received an unsupported type of request from the client.

Action: Call IBM technical support.

ISRV-0008:Incorrect Input String

Reason: The server received an invalid message format from the client.

Action: Call IBM technical support.

ISRV-0009:Incorrect Input String: no end of para

Reason: The server received an invalid message format from the client.

Action: Call IBM technical support.

ISRV-0010:Illegal dir name

Reason: The server received a file operation request (read or write) for a nonexistent directory/file.

Action: This is a programming error in the client code. Call Technical Support. Up to this version, the Netcool Reporter server only allows files to be read or written to under the `INFOHOME` directory.

ISRV-0011:Mkdir fail for Drammen

Reason: The server cannot create the directory.

Action: Check the permissions of the parent directory.

ISRV-0012:file: filename couldn't start

Reason: The server could not start the file filter program.

Action: Check the execution permission for this filter.

ISRV-0013:File Type: filetype is not supported

Reason: The server received a request for an unsupported file type.

Action: Make sure this type of file is configured in `infosrv.conf`.

ISRV-0014:Couldn't start engine. Check data base/Engine executable code

Reason: Any of the following reasons could be the cause:

1. The database is not up.
2. The permission of the engine program is not properly set up.

Action: Identify and correct from the reasons given above.

ISRV-0015:Cmd buffer full, Please extend it

Reason: The command buffer at the server is full because the engine is too slow to handle the request from the client. The connection is dropped when this situation occurs.

Action: Increase the `SERVER_BUF` in `infosrv.conf`. The estimate on server memory required is on average $(2 \text{ KB}) * (\text{server buffer value})$.

ISRV-0018:Out stream is not set

Reason: Internal error.

Action: IBM technical support.

ISRV-0026:InfoSrv Shutdown for Exception on listening

Reason: The server encountered an error while it was waiting for the client request. It may be due to a lack of system resources.

Action: The server needs to be shut down. Restart the server.

ISRV-0030:Unrecognized connection

Reason: This server has received an unrecognized message from the client. It may be caused by the client program using an old version of the class library.

Action: Make sure the `CLASSPATH` in the client environment is pointing to the correct location and clear the cache of the browser if the request is coming from an applet.

Key User Messages and Errors

Connection Failed:INFO-0000: infosql command error, number of command = %d not 6.

The infosql is not set correctly as \$INFOHOME. Check if the \$INFOHOME environment variable is set to the infospc directory. This directory is located under the document root directory of the web server.

Cannot run reports in Netcool Reporter - 'INFO-0151 Connection failed'

Check to see if repository_two is configured (sqlplus repository_two@ORACLE_SID/repository_two select * from tab) If the tables are not there, re-run the SQL script included with Reporter or find on the support site. Then re-define the reporter_two user and Reporter datasource (cd \$INFOHOME/util SetRepLogin repository_two repository_two ORACLE_SID). Log in as 'administrator', select UserAdmin applet, select datasource tab, and make sure the ORACLE_SID is in the ConnectString field for the Reporter database.

Error: INFO-0001: Cannot allocate memory, driver terminated

The server failed to allocate memory for requests and has stopped the connection to the database. A restart of the Reporter server is needed.

Error: INFO-0040: Out of memory

The memory overflows. This may be caused by the number of concurrent users exceeding the limit or users running oversized report data. A restart of the Reporter server is needed.

Error: INFO-0446: Connection failed

Check if the database connection is correct. Use methods for testing database connections.

Job list failed to be loaded.

A: Reporter is not able to load all the created jobs in scheduled tasks. This may occur because there is invalid jobs or other job files not generated by Reporter.

Applet loading error. Please contact your system administrator.

This may occur as you try to open applet components like Report Designer. In such cases you need to check if you have installed JRE plug-in on client machines.

Could not upload file.

You need to check if your FTP connection is normal or not. Use the ftp testing methods to test it.

Appendix H. Frequently Asked Questions

This appendix lists some of the most asked questions that Netcool Reporter users have had.

This appendix contains the following section:

- "Netcool Reporter Queries and Reports" on page 262
- "Netcool Reporter Administration" on page 267
- "Netcool Reporter Problems and Solutions" on page 271

Netcool Reporter Queries and Reports

1. What is the recommended size for the Reporter alerts repository in Oracle?

A: Set aside 1.5-2K Bytes per row in the ObjectServer.

This allows for deduplication, user assignments, severity changes and journals.

The DBA will need to set up a TEMP Tablespace as well, which is typically about 25% of the main Tablespace but will depend upon the type of queries being run amongst other things.

2. How do I generate a report showing events which occurred in the last hour?

A: This can be accomplished using the following condition:
where

```
(getdate() - FIRSTOCCURRENCE)*24 < 1
```

In Oracle if you subtract two dates you get the result in fractions of a day. Hence the *24 to get the answer in hours.

If using Sybase or SQL Server the syntax will be something like:

```
datediff(getdate, FIRSTOCCURRENCE) < 3600
```

3. How does the Reporter Gateway database manage de-duplication of alarm events in the REPORTER_STATUS table?

A: Each event received in the ObjectServer will create one row in the REPORTER_STATUS table. You will also get a row populated in the REP_AUDIT_SEVERITY, REP_AUDIT_OWNER, REP_AUDIT_GROUP, REP_AUDIT_ACK tables. The REP_AUDIT tables store changes to the Severity, Owner, Group and Acknowledgment status of the alarm.

For every change to the event Severity, a row will be written to the REP_AUDIT_SEVERITY table recording the new/old Severity values. The same principle applies to the OwnerUID and OwnerGID fields. The REP_AUDIT_ACK table records the UserID of the user which 1st acknowledges the event.

4. I am trying to calculate the time between a startdate and an enddate so that the result is the number of hours down in seconds.

A: Time based calculations can be achieved by subtracting the two date values from each other, e.g EndDate-StartDate.

The result will be presented in hours. To get the number of seconds you will need to multiply the result by 3600.

If using Sybase/SQL Server the datediff function can be used to get the difference between the two dates.

5. Freeform Designer uses the same url to output both html and pdf report formats.

A: To view them properly, browser caching needs to be disabled.

To do this in IE:

Tools --> Internet Options --> General --> Settings for cache. Change 'Check for newer versions of stored pages' to Always.

In Netscape:

Edit-->Preferences-->Advanced-->Cache

Set 'Documents in cache is compared to document on network' to Every Time.

6. My Reporter 2.0 REP_AUDIT tables are not being populated.

A: Ensure the LastModified field is in the gateway mapping and db table. Entries to this field activate the Rep_Audit triggers.

7. Can Reporter use two different data sources for reports?
A: The results of two separate query results can be shown in one report using the Freeform Report Designer.
8. How can I add a new Data Source to the Reporter Server?
A: You may create new Data Sources as follows: Log into the Reporter Server as the administrator user, and select the User Admin applet. Next, select SQL DataSources, and create a new one with the required parameters. Then, assign this datasource to the users you would like to access it.
9. How do I publish a Form Based Report?
A: Reports or JSP forms that you can access from the Form Based Reports page can be made available on that page by using the Upload JSP utility. After you have created new JSP forms offline, log in as the "netcool" user, click Advanced Utilities on the left and click Upload JSP in the Upload section on the right. Select the location to which you want to upload; for example, Event Summaries. Choose where the JSP form is on your local drive, complete other options and click Upload. The JSP form is then displayed in the selected section on the Form Based Reports page. Any user who has access to that page can access and run that form.
10. Difference between a Report "definition" and a Report "snapshot" in Report Designer?
A: report "definition" is a SQL query (select statement) that has been saved by the user who built it. When another user opens and runs a report definition, they are running the query at that moment against the RDBMS. The returned data will reflect whatever is in the database at that very moment. A report "snapshot" is static view of a report that has been run and saved by a user. When another user opens and views a snapshot, they will not be querying the RDBMS. Instead, they will be viewing a static file containing data that was current when the original user ran and saved the snapshot.
11. How do I publish reports to customers who have different datasources?
A: The presentation reports allow the selection of datasources. A presentation can be created, based on the standard reports, and published to customers user account. e.g. Customer#1 has a datasource called 'oracle_1' and a user account called 'user1'. Customer#2 has a datasource called 'oracle_2' and a user account called 'user2'. The datasources are populated by two reporter gateways sending data from the two customers networks. A presentation report can be created for each datasource and published to the customer specific user account; Customer#2SummaryPresentation (uses only data from oracle_1) Customer#2SummaryPresentation (uses only data from oracle_2) These presentations can contain one or more of the standard reports.
12. How can I create a parameterised report?
A: As the user 'netcool',
– Start the report designer.
– Load the original report (Open -> netcool/EventSummaries/Reports Oracle_Events_by_Time.rpt)
– Add in the parameters for YEAR and MONTH.

- Select the Conditions (tab) STATUS_VW.LASTOCCURRENCE_YR. Add Parameter -> Allow Manual Entry and build a selection list using the Lookup values (Add>) and New Value... buttons ADD Creating the entry;
STATUS_VW.LASTOCCURRENCE_YR = &LASTOCCURRENCE_YR
STATUS_VW.LASTOCCURRENCE_MT
 - Add Parameter -> Allow Manual Entry and build a selection list using the Lookup values (Add>) and New Value... buttons ADD Creating the entry;
STATUS_VW.LASTOCCURRENCE_MT = &LASTOCCURRENCE_MT
 - Select the Report (tab).
 - Delete the first two levels of the report.
 - Change the Reporter Title (e.g. Events by Time).
 - Preview the report and then save the definition: My_Oracle_Events_by_Time.
 - This will create a parameterised report that can be run by 'netcool' or else published using the publish folder content.
13. I am trying to build a report in Reporter that is a breakdown by month. I am querying a Windows SQL Database. There is not a table in this database that allows me to convert month number to month name (1 = January, 3 = March). In Oracle I use the DECODE command to get this done, however I cannot find anything in Windows SQL that does the same thing. What is the date conversion command to do this in Windows SQL?

A: Use this function for converting dates in MS-SQL: `SELECT DATENAME(m, LastOccurrence)`.

14. I have question regarding reporter output field, the field is First Occurrence and Last occurrence. My question is, can the time part of First occurrence and Last occurrence display on report? I did not get display time in my report for above field. How I can display time in my report and use for condition?

A: Just using First Occurrence and Last occurrence will only give you the date, not date and time. To get the Date and Time, use this (assuming Oracle):

```
to_char(firstoccurrence, 'DD-MM-YYYY HH24:MI:SS') as FIRST,
to_char(lastoccurrence, 'DD-MM-YYYY HH24:MI:SS') as LAST
```

Also, in the Order By tab in Report designer you have the option of sorting by fields that are not columns in the report. This will enable reports with First and Last Occurrence to be sorted by time instead of the alpha-converted time strings.

15. I want to know how to generate the date in this format, dd-mm-yy hh24:mi, using the TO_DATE function. When I use the TO-DATE function the date is in format dd-mm-yy, for example 02-dic-2004, and I don't get hh:mi.

A: In a parameterized report with these columns, amongst others, the to-date function will work:

```
- to_char(firstoccurrence, 'DD-MM-YYYY HH24:MI:SS')
```

```
- to_char(lastoccurrence, 'DD-MM-YYYY HH24:MI:SS')
```

And the where clauses are:

```
firstoccurrence >= to_date(&start_date , 'DD-MM-YYYY HH24:MI:SS') AND  
firstoccurrence <= to_date(&end_date , 'DD-MM-YYYY HH24:MI:SS')
```

When run from the Reporter Inbox, you will get two windows for entering the date/time. You can enter just about any date/time format, and it accepts it without error message.

When adding the parameter from the **Conditions** tab, set it up as follows:

- Select Table.
- Highlight Column.
- Click on **Add Parameter**.
- Enter Description, such as Start date and Time (DD-MM-YYYY HH:MI:SS).
- Enter Parameter Name, such as start_date.
- Select **Allow Manual Entry**.
- Select **OK**.

This puts the new parameter &start_date in the New Condition box. Then build the rest of the clause around it: firstoccurrence >= to_date(&start_date, 'DD-MM-YYYY HH24:MI:SS').

16. I've been successful at grabbing a url for a report so I can bring it up from a "tools" item in Omnibus/Webtop. Has anyone done this with a parameterized report so I can substitute an Alarm value for the Parameter value?

A: In the Reporter service pack 2 there is a tool for running parameterized reports via a URL.

This tool has the following syntax:

```
url ::= 'http://' <machine>  
'/infospc/jsp/netcool/tools/runreport.jsp' <parameters>;  
machine ::= <qualified_hostname> | <unqualified_hostname>;  
parameters ::= '?' <required_parameters> [ <optional_parameters> ]  
<report_parameters>;  
required_parameters ::= 'usr=' <username> '&pwd=' <password>  
'&rep=' <report_name>;  
optional_parameters ::= '&show';  
report_parameters ::= <report_defined_parameters>;
```

For example, to run a report called Oracle_Quick_Check_by_Node.par which has one parameter, NODE, enter the URL:

```
http://hostname/infospc/jsp/netcool/tools/runreport.jsp?usr=netcool&pwd=  
=netcool&rep=Oracle_Quick_Check_by_Node.par
```

Netcool Reporter Administration

1. My Reporter server is up and running and has connected to the database, however I am unable to login. I get the following error in the log file:

Unable to start registry: node=0, registry port=0;1: Unable to start the registry. Port already in use: 1099; nested exception is: java.net.BindException: Address in use: JVM_Bind Exiting!

A: This is happening because there may be another java RMI daemon using port 1099. To resolve this, amend the

`$REPORTERHOME/apache/htdocs/infospc/server/cluster.conf` and change the value for `GLOBAL_SERVICE_REGISTRY|0|0;1|1099` to a different port.

2. How can I delete unwanted reports from the Reporter portal, and ensure they are removed from the hard drive.

A: Log into the Reporter portal. Select the My Folders link; select Manage Folder Content; select Delete; select the folder you wish to delete the items from; select Browse - this expands the folder list so you can see the contents; select the reports to be deleted; select Cascade Delete - this ensures the links are also removed from the hard drive.

3. The Oracle OCI JDBC drivers are listed in the Release Notes as a requirement for the upgrade from Reporter 2.0 to v2.1. Why is this necessary?

A: You'll need to have the Oracle OCI JDBC drivers installed in order to upgrade to Reporter 2.1. If they're not present, the upgrade will fail. They are required to enable the installation to update the Reporter Repository with the new sample freeform reports and the new portlets. They are only needed for the upgrade, but not for the day to day operation of Reporter and should be installed on the Oracle component local to the Reporter Server. They can be installed via the Oracle Installer by selecting the OCI JDBC component from the list of installable components or downloaded from Oracle at the following link:

http://www.oracle.com/technology/software/tech/java/sqlj_jdbc/index.html

4. How do I create a new user in Reporter, and assign the various groups and roles?

A: Login as a user with administrative rights, and open the UserAdmin applet. Select User -> New User; enter all the required information like user name and password; click OK. To assign the user to groups and roles, click the new user and select Edit User; go to the Parent Group tab; select a group for the user; go to the Roles tab, and select a role for that user.

5. How do I modify the display of applet charts to show more than 300 rows?

A: Set `chartMaxValues=500` in `$INFOHOME/Universal.conf`, where 500 is the number of rows you wish to see displayed.

6. My `$INFOHOME/websqlbr/tmp` folder rapidly fills up, too rapidly for the administrator to cope.

A: There are some things to understand about how Reporter utilizes temp files. First, if you are running a drill-down report, remember that Reporter has to create 1 tmp file for each drill-down set of results. Additionally, each set of results might have multiple pages, and there is 1 temp file for every URL link in your report. These files are created in `$INFOHOME/websqlbr/tmp` and need to exist through the lifecycle of the report that is being run/accessed.

Secondly, each report that is run will create about 8 tmp files in order to just build a simple 1 page report. Run a complex report, multiple times, and you will have a lot of temp files. An extreme example is a report from a db that had 2.6M rows could generate 4,000 temp files.

One way to minimize the quantity of temp files would be to limit the number of rows in a report. You can do this by user (User Admin) or by report (General Properties).

Here are some simple tricks to help you test/manage tmp file usage:

```
$find $INFOHOME/websqlbr/ | wc -l
```

```
$du -sk $INFOHOME/websqlbr/tmp
```

Also, if you have so many tmp files that "rm" won't work, try this:

```
$find $INFOHOME/websqlbr/tmp/ -atime 1 --exec rm {} \;
```

The above will purge all tmp files not accessed in the past 24 hours.

7. How can I adjust e-mail settings?

A: In the `$INFOHOME/websqlbr/admin/spacesql.cfg` file, there are two parameters that control e-mails sent from Reporter.

The `EMAIL_ID` property is for the email address that user alerts are sent from, while the `MAIL_SERVER` is the e-mail host.

8. I upgraded to a newer patch release of Reporter 2.1. Where is the upgrade installation log written?

A: The upgrade from Netcool Reporter 2.0 to 2.1 writes the installation log to `$INFOHOME/backup`. It also creates a backup file of the files being upgraded. This may involve significant amounts of disk space (~200mb). It is prudent to make sure there is enough space on the `$REPORTERHOME` partition, prior to running the upgrade, because this can cause the roll-back to fail. For this reason, it is best practice to back up the `$REPORTERHOME` directory using 'tar' in the worse case scenario where the upgrade fails, and the automatic roll-back fails.

9. What is JRun and how does it work with Reporter?

A: JRun is embedded, license-free, within Netcool Reporter and is installed and configured automatically along with the server. JRun is configured to handle communications with a Reporter specific Web server. JRun serves as a bridge between the Reporter server and the Web server's native calls, allowing the Reporter user to access the Web server's various services. The exceptions to this are the applets (e.g. Report Designer, HTML Customizer), which use their own "portlet code" and port 6889 to communicate with the Reporter server from a remote client.

10. I have Reporter installed with Oracle. Where is the Oracle server log kept?

A: The logs for the Oracle server are kept here:

```
$ORACLE_BASE/admin/$ORACLE_SID/bdump/alert_$ORACLE_SID.log
```

11. What is the purpose of the `infosrv.conf` file?

A: The `$INFOHOME\server\infosrv.conf` file sets server-related configuration parameters, such as auditing, logging and debugging levels, connection and timeout settings, and port settings.

12. We have installed a new database for the Reporter repository. How do I run `SetRepLogin` to modify the repository user or password?

A: The syntax is `$INFOHOME/util/SetRepLogin`, which expects three arguments separated by a single space, such as user name, password and connect_string. However, this depends on the database type in use and locality of access. For example, `repository_two repository_two GLOW` is appropriate, where GLOW is the remote Oracle SID. In the case of MS-SQL Server, the connect string is the name you have defined in the 'User DSN' or 'System DSN' entry which you should have defined in: Start -> Settings -> Control Panel -> Administrative Tools -> Data Sources (ODBC). This entry will point the ODBC connection from Reporter to the repository or data source tablespace in MS SQL Server.

13. How can I find which database account owns the Reporter repository?

The `SetRepLogin` script created an encrypted string which is stored in the file system. You can modify this utility to decrypt the string and retrieve the user account who owns the repository database. Make a copy of the `SetRepLogin` utility before performing the changes outlined here.

First, open the bat file in a text editor; keep the 1st, 4th and 5th lines and delete the rest ones; delete `username=%1 password=%2 connstr=%3` from the end of 5th line and replace it with `read`; the file will look like as follows:

```
@echo off

set INFOHOME=e:\http\htdocs\infospc

d:\jdk1.1.8\bin\java -classpath

d:\jdk1.1.8\lib\classes.zip:e:\http\htdocs\infospc\packages

infospc.RepLogin.RLMain INFOHOME=%INFOHOME% read
```

Save the file under a new name, like "check.bat".

Open a command window, cd to the `infospc\util` folder and run "check".

You will then be able to find out the three arguments for the connect string you originally used for the Reporter repository.

14. Is the database connect string required in Reporter datasources?

A: Yes, it is required during the creation and modification of datasources via the User Admin applet. This is done by the Reporter Administrator. To do this in the User Admin applet, select the SQL Data Sources tab, either new create a data source or double click on the required Data Source. Next, enter or modify the SID value in the space for Connect String.

15. We have scheduled a number of reports, which are published to some users. Is it possible to add the current date into the name of the report as it is run? Otherwise, how can I stop it being overwritten each day or week?

A: Yes, this is possible. When you schedule a report you are actually creating an entry in the cron tab of the Reporter server. The cron entry calls a script that is created by Reporter. Modify this script in order to add the current date to the name of the output report. These scripts are usually located under the `schedule` directory of the Reporter user and have the extension `*.spc`.

When you schedule the report, append the job name with DATE or TIME, or DATE_TIME. For example if you schedule a report to run daily and give it the job name TEST_DATE then the resulting file is:

`$INFOHOME/websqlbr/user/netcool/html/TEST_20060426.html`. If the report is downloadable in a csv (I think that's it) format, you also get:

`$INFOHOME/websqlbr/user/netcool/html/TEST_20060426.csv`. If you call the job TEST_TIME the resulting file is:

`$INFOHOME/websqlbr/user/netcool/html/TEST_172432 (17:24:32)`.

16. Is there any way I can check to see what version and patch level is running on Reporter?

A: You can check for what patches are applied to the UNIX Reporter system by accessing the following URL:

`http://<host>/infospc/packages/patch/patch`

17. I started reporter server `$REPORTERHOME/bin/startreporter` through telnet. After I closed the telnet session, Reporter server dies with message there are stoppped jobs. How can I avoid this?

A: Be sure that all http processes are killed before you restart the application. Run `stopreporter` after you kill all http processes to confirm this. Check `netstat` and wait till connections are released before running `startreporter` again. If this does not help, try changing the `startreporter` file and add `NOHUP` in the `Jrun` part of the script. If you also add an ampersand and the contents of file are run in the background with interrupts, it should continue to run indepdently of the telnet session: example `$ nohup file &`

18. What is the proper format for the connect string for an MS-SQL database when using the SetRepLogin utility?

A: SetRepLogin takes three arguments, separated by spaces. In Oracle, it looks like this:

```
SetRepLogin user password user@db
```

For MS-SQL, the connect string is the name you have defined in the 'User DSN' or 'System DSN' entry which you should have defined in: Start -> Settings -> Control Panel -> Administrative Tools -> Data Sources (ODBC).

This entry will point the ODBC connection from Reporter to the repository or data source tablespace in MS SQL Server.

19. Can Reporter be configured in process control? If so, please tell me how to do it.

A: The reason why Reporter will not function well under PA is because when started by the startreporter script, it will also start up the Reporter FTP server, which requires an interactive terminal session. However, the FTP server can be commented out, and prevent this problem. This will have limited impact, as the FTP server functionality is limited to uploading documents into the Reporter BI-Portal.

20. I am currently having a problem with a new configuration on a new box with starting the infosrv process. The Reporter Gateway is running and I did run SetRepLogin but everytime I try to start up Infosrv I get the following error message:

```
GRSqlWkr 0 failed to login to Oracle as repository will try again after  
30 sec
```

A: There are several common causes of this problem. To diagnose it, answer three questions. Can you sqlplus into the repository database using repository user? Have you tried the command infosql, to check your connection to the Oracle database? Have you set the LD_LIBRARY_PATH to point to your Oracle library files directory?

Netcool Reporter Problems and Solutions

1. Can I login to Reporter remotely using a URL?

Yes, using the JSP login utility, and specifying the User and Password in the URL, as in the example below.

```
http://hostname:port_no/infospc/login.jsp?usr=netcool&pwd=netcool
```

2. When running Reporter in SSL mode the browser keeps switching back to HTTP mode. Is there a workaround for this?

A: This is an issue with Apache. When setting up Apache for Reporter in SSL only mode, do not specify a "Port" setting, but rather, insert a "Listen 443" setting in the `httpd.conf` file.

Specifying "Port 443" in `httpd.conf` causes Apache to open port 443, which is normally reserved for SSL communications, in a non-SSL mode. Since Apache is then not using the default port 80, all relative URLs will appear in the format

```
{protocol}://{server}:{port} i.e. http://myserver:443.
```

Removing the `httpd.conf` "Port" setting prevents Apache from opening a default listening port. Inserting a single "Listen 443" setting causes Apache to only open the port specified in the "Listen" statement. This allows for setting up a Apache SSL server on port 443 only.

In addition to the settings in the Apache `httpd.conf`, you need to add the following line to activate HTTPS in JRun, in the Default Server `web.xml` file in the following location:

`$JRUN_HOME\servers\default\default-app\WEB-INF\web.xml` file:

```
<init-param><param-name>usehttps</param-name><param-value>true</param-value></init-param>
```

3. My `websqlbr/tmp` directory fills up rapidly - what do I do to limit this?

A: This happens if the display is set in the properties tab to generate one page at a time - with this setting, there will be at least one file per html page. If the 'All on one html page' option is selected, only one file is generated.

For drilldown reports, where a page is generated per link, however, this will not apply.

4. My Infosql binary core dumps.

A: Ensure `$INFOHOME` is correctly set.

5. Unauthorized users can access the Reporter 2.0. htdocs tree from a web browser.

A: Add the following lines to your Apache `httpd.conf` file, from around line 349 onwards (after the setting for 'Controls who can get stuff from the server'):

```
#
# The following prevents users from directly browsing to a file via a
# URL, but
# allows the applied patches directory to be browsed.
#
<Location "/infospc/packages/patch">
    Order allow,deny
    Allow from all
    Options Indexes
</Location>
<Location "/infospc/websqlbr">
    Order deny,allow
    Deny from all
</Location>
#
```

6. When running the utility `SetRepLogin`, I am getting an error message `Exception in thread "main" java.lang.NoClassDefFoundError: infospc/RepLogin/RLMain returned` What does it mean?

A: This message indicates a problem with the CLASSPATH. In this case the current '.' directory is important as it is set in the script as part of the CLASSPATH. In order to result this you must be in the correct directory to run the script. e.g.

```
cd $INFOHOME/util/
$INFOHOME/util/SetRepLogin repository_two repository_two MYORACLE
```

7. The reports will not run. It was running yesterday.

A: Possible causes to explore include the availability of the datasource, changes to the datasource connection, and expiration of the datasource user account and/or password.

8. I cannot run the scripts to create the data schemas for Reporter.

A: Make sure the user running the scripts has administrative (DBA) privileges to create databases, tablespaces, users, and data objects. Once all of these are created, then the users "reporter" and "repository" will be able to log into the RDBMS without needing DBA-level privileges. Make sure sufficient disk space is available to create databases, tablespaces, users, and data objects. If disk space is tight, consider reducing the default table size in the repository. Edit the repository script (e.g. oracle.repository.sql) to reduce the default table size from 5MB to 1MB.

9. How can I copy reports from one server to the other?

A: There are three different scenarios outlined below, and two primary methods for completing the task.

- The production server is a brand new server and you want to copy all reports from the development machine to it.

Make a database dump file in the development environment and import it to the production machine. Then copy all the files in the USER directory in the development machine to the same directory in the production machine. Then, run the script `SaveFilesIntoRepository`, and take Option #3, to transfer reports for specific users, and it will register the files in the new product server environment.

- The production server is not a new server; it already has some reports and users, and you want copy all the reports from the development server to the production server.

Copy all report definition files from the `/WEBSQLBR/USER` directory to the production machine. Then, run the script `SaveFilesIntoRepository`, and take Option #3, to transfer reports for specific users, and it will register the files in the new product server environment.

- The production server is not a new server, and you just want to copy one file or a few files from the development server to the production server.

Use the `SaveFilesIntoRepository` script, with Option #3, and select the specific user that owns the reports being moved, and the new reports will be registered.

There is an alternative method which takes more time, but works. Create a new dummy report with the same data source and report name in the production server. Copy the original report file from `user\...\rpt` to `user\newname\rpt`; then use `SaveFilesIntoRepository` to load this report to the production server and then copy these report files to the related user directory in production machine.

10. Errors saving a universe.

A: Errors generated while saving universes can be logged into log files. You need to turn on the `grsql` trace to log such errors. To do this, set `tracelevel` to 2 by changing the following line in:

`INFOHOME/server/infosrv.conf`

Change from:

```
OBJECT|GRSqlSrv|
initWorker=2;maxWorker=16;sleepTime=1;TraceLevel=0;reconnect=true
```

to:

```
OBJECT|GRSqlSrv|
initWorker=2;maxWorker=16;sleepTime=1;TraceLevel=2;reconnect=true
```

and then restart the Reporter server.

After restarting the server, save the same universe again. The `grsql` log file under the `INFOHOME/server/infolog` directory will be filled in with log messages. They will help explain what happened in the repository when the universe was saved.

11. JRun Proxy Timeout

A: To avoid or prevent timeout errors when running large reports, select the `keepalive.html` report template for a specific report.

If you are creating a report using Report Designer, you can select this template from the **Template** drop-down list of the **General** tab of the *Property* window.

If you are creating a report using Easy Reporter, You can select this template from the **Template** drop-down list of the *Layout* window.

12. When installing, I used the IP address, but I should have used the Host Name? Can I change the configuration files to replace the HostName?

A: When you installed Reporter, if you used Host Name in the Host entry, you do not need change anything. If you used TCPIP address, it is better reinstall. To find out if you used TCPIP or Host Name, please open the file: `FinalInstallInfo.txt`, and look for the parameter: Host Name. It will tell you if you are using HostName or IP address.

Appendix I. Notices

This appendix contains the following:

- "Notices" on page 276
- "Trademarks" on page 278

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106-0032, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT

LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
958/NH04
IBM Centre, St Leonards
601 Pacific Hwy
St Leonards, NSW, 2069
Australia

IBM Corporation
896471/H128B
76 Upper Ground
London SE1 9PZ
United Kingdom

IBM Corporation
JBFA/SOM1
294 Route 100
Somers, NY, 10589-0100
United States of America

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

Portions of this documentation are reproduced under license from Sybase (UK) Limited.

The content of many websites is protected by the Copyright Law of the United States, related laws contained in Title 17 of the United States Code and international treaties. Your failure to comply with the provisions of such laws may result in the imposition of fine and/or damages against you.

Trademarks

The following terms are trademarks of International Business Machines Corporation in the United States, other countries, or both:

- IBM
- The IBM logo
- ibm.com
- AIX
- AIX 5L
- Tivoli
- Netcool

AIX[®], AIX 5L[®], DB2[®], Netcool, IBM[®], the IBM (logo)[®], Power PC[®], Tivoli[®], Tivoli Enterprise, and the Tivoli (logo)[®] are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both.

Intel, Intel Inside (logos), MMX, and Pentium are trademarks of Intel Corporation in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Sybase is a registered trademark of Sybase Inc.

Other company, product, or service names may be trademarks or service marks of others.

Index

A

- About Data Sources and Netcool/Reporter Users, 130
- About User Groups, 131
- absolute path - portlets, 161
- account
 - disable, 138
 - lockout, 135
- ACKNOWLEDGED stored
 - procedure, 187
- actions tab - new portlet window, 157
- actions, assigning to portlets, 157
- Administration Server
 - starting, 171
 - starting on UNIX, 118
 - starting on Windows, 117
 - stopping on UNIX, 118
 - stopping on Windows, 117
- administrator privileges, 140
- administrator username, 131
- Apache web server
 - installation on Windows, 54
- applet operation parameters in
 - infosrv.conf, 230
- architecture, 8
- Associating File Types with Applications, 165
- Associating File Types with Portlets, 165
- Associating Icons with File Types, 166
- audit files, 222
- AUDIT_LEVEL parameter
 - (spacesql.cfg), 235
- auditing parameters in
 - infosrv.conf, 228
- authentication
 - changing to LDAP, 195, 198
 - selecting internal, 41, 94
 - selecting LDAP, 48
 - selection on Windows, 72
- AUTHENTICATOR parameter
 - (infosrv.conf), 231
- authenticator parameters in

- infosrv.conf, 231
- Avg_Ack_Time_by_Group service
 - level management report, 216
- Avg_Ack_Time_by_Owner service
 - level management report, 216

B

- back-end repository, reconnecting to, 230
- BUFFER_CACHE_SIZE parameter
 - (spacesql.cfg), 232

C

- cartesian, 142
- cartridge - portlets, 161
- CGIPATH parameter
 - (spacesql.cfg), 232
- CHART_CAB_ZIP parameter
 - (spacesql.cfg), 235
- CLASSPATH parameter
 - (infosrv.conf), 224
- CLASSPATH parameter
 - (spacesql.cfg), 231
- client, Netcool/Reporter overview, 8
- cluster.conf file, LDAP, 195, 198
- components, supplied on
 - CD-ROM, 9
- connection string, 27
- Creating and Editing File Types, 164
- Creating and Editing Groups, 148
- Creating and Editing Netcool/Reporter Users, 137
- Creating and Editing Portlets, 156
- Creating and Editing Roles, 152
- Creating and Editing SQL Data Sources, 168

D

- data schema
 - configuration, 18
 - Microsoft SQL Server, 20, 26
 - Oracle, 19, 26
- data sources, 130
 - connection string, 27
 - creating, 143, 168
 - deleting, 169
 - editing, 169
 - managing, 166
 - planning, 167
 - required information, 167
 - SQL, 143
- database
 - configuration, 18
 - import users, 145
 - triggers, 187
- database engine drivers,
 - configuring, 231
- database tables, 177
 - derived audit tables, 177
 - static data tables, 178
- databases, supported versions, 16
- DEB_INTERNAL_LEVEL parameter
 - (infosrv.conf), 227
- DEB_LEVEL parameter
 - (infosrv.conf), 227
- DEFAULT_FLOAT_SCALE parameter
 - (spacesql.cfg), 233
- DELETEDAT stored procedure, 187
- Deleting Data Sources, 169
- Deleting Groups, 151
- Deleting Portlets, 162
- Deleting Roles, 154
- Deleting Users, 144
- DEMONITOR_TRIGGER database trigger, 187
- DNS for Microsoft SQL server, 22
- DOCHOME parameter
 - (spacesql.cfg), 233
- dynamic tables, 178
 - REP_AUDIT_ACK, 182
 - REP_AUDIT_OWNERGID, 183

- REP_AUDIT_OWNERUID, 184
- REP_AUDIT_SEVERITY, 182
- REPORTER_DETAILS, 180
- REPORTER_JOURNAL, 181
- REPORTER_STATUS, 178
- dynamic URL - portlets, 161

E

- ENGINE_BUF parameter (infosrv.conf), 226
- environment variables
 - INFOHOME, 34, 98
 - JRUN_HOME, 36, 98
 - LD_LIBRARY_PATH, 35, 98
 - REPORTERHOME, 36, 98
- error codes, 257-259
- event summaries, 205
- Event_by_AlertGroup summary report, 214
- Event_by_Class summary report, 213
- Event_by_Location summary report, 213
- Event_by_Location_Severity summary report, 214
- Event_by_Manager summary report, 213
- Event_by_Node summary report, 213
- Event_by_Node_Severity summary report, 214
- Event_by_Severity summary report, 214
- Event_by_Time summary report, 214

F

- fault diagnosis reports, 206
- file types
 - association to portlets, 159
 - creating and editing, 164
- file types tab - new portlet window, 159
- file types tab - user administrator window, 163
- FILE_OP parameter (infosrv.conf), 225
- FILETYPE parameter (spacesql.cfg), 234
- filter, LDAP importer script, 200
- FinalInstallInfo.txt

- LINUX, 100
- UNIX, 51
- Windows, 82
- FTP
 - commands, 191
 - uploading files, 192
- FTP server, 190
 - parameters, 192
 - reference, 190
 - restarting, 118
 - starting on UNIX, 115, 117
 - starting on Windows, 116
 - stopping on UNIX, 115, 117
 - stopping on Windows, 117

G

- general operations parameters in infosrv.conf, 225
- Get_All_Details fault diagnosis report, 215
- Get_All_Journals fault diagnosis report, 215
- Group Data Sources Tab, 150
- Group Roles Tab, 150
- group tab - user administrator window, 147
- groups
 - administrator privileges, 140
 - assigning subgroups, 149
 - create and edit, 138, 148, 152
 - create new, 36
 - creating and editing, 147
 - deleting, 151
 - functions, 131
 - LDAP importing, 133
 - LINUX, 88
 - management, 147
 - UNIX, 36
- groups, adding users to a, 148
- GRSqlSrv object (infosrv.conf), 230

H

- HTTP server-related parameters in infosrv.conf, 231
- HTTP_PORT parameter (infosrv.conf), 231
- httpscertificate, 52

I

- IDLE_ALLOW_UNIT parameter (infosrv.conf), 229
- import users, 145
- importer
 - filter, 200
 - LDAP script, 133, 196
 - LDAP script properties, 199
 - search bases, 200
- importer script, log files, 198
- importer.properties file
 - LDAP, 196, 199
 - terminology, 204
- Importing Existing Users from a Database, 145
- INFO_AUDIT parameter (infosrv.conf), 228
- INFO_AUDIT_INFO parameter (infosrv.conf), 228
- INFO_AUDIT_LEVEL parameter (infosrv.conf), 229
- INFO_AUDIT_TIME parameter (infosrv.conf), 228
- INFO_CONF parameter (infosrv.conf), 230
- INFO_CONSOLE parameter (infosrv.conf), 228
- INFO_DEBUG parameter (infosrv.conf), 231
- INFO_HOME parameter (infosrv.conf), 230
- INFO_LOG_INFO parameter (infosrv.conf), 227
- INFO_LOG_TIME parameter (infosrv.conf), 227
- INFO_MEMORY_CHECK parameter (infosrv.conf), 225
- INFO_PORT parameter (infosrv.conf), 231
- INFO_RESOLVE_IP parameter (infosrv.conf), 229
- INFO_SERVICE parameter (infosrv.conf), 226
- infoaudit file, 222
- INFODOC parameter (infosrv.conf), 224
- INFOHOME environment variable, 34, 98
- INFOHOME parameter (infosrv.conf), 224
- INFOPORT parameter (infosrv.conf), 225

- infoshtutdown, 116
- infosql process, 256
- infosrv, 115
- infosrv.bat, 222
- infosrv.conf file, 222
 - applet operation parameters, 230
 - auditing parameters, 228
 - authenticator parameters, 231
 - general operations parameters, 225
 - HTTP server-related parameters, 231
 - installation parameters, 224
 - logging parameters, 227
 - object-related parameters, 229
 - session-related parameters, 229
- installation
 - overview, 10
 - parameters in infosrv.conf, 224
 - server installation on LINUX, 88
 - server installation on UNIX, 37
 - server installation on Windows, 57
- install-reporter.sh script, 38, 44, 90
- Instead, 145

J

- Java plugin versions, 15
- JAVAPATH parameter (infosrv.conf), 224
- JRun
 - configuration, 51, 82
 - connection testing, 254
 - proxy timeout, 275
 - reference, 86
 - supported versions, 16
 - version, 13
- jrun -start, 115
- jrun -stop, 116
- JRUN_HOME environment variable, 36, 98

L

- LD_LIBRARY_PATH environment variable, 35, 38, 44, 98
- LDAP
 - authentication, 195, 198
 - importer log files, 198
 - importer script, 133, 195

- importer script mapping, 201
- importing users, groups and roles, 133
- introduction, 194
- properties file terminology, 204
- reference, 194
- LDAP Restrictions, 136
- ldapimport, LDAP script, 197
- ldapimportLog, LDAP importer log file, 199
- LINUX users and groups, 88
- lockout, users, 135
- log in
 - to Reporter, 120
 - to repository, 28, 51
- logging files, 223
- logging parameters in infosrv.conf, 227
- LONG_DATA_SIZE parameter (spacesql.cfg), 232
- LOOKUP_COLUMN parameter (spacesql.cfg), 234
- LOOKUP_TABLE parameter (spacesql.cfg), 234

M

- MAIL_SERVER parameter (spacesql.cfg), 233
- managing users, 135
- mapping, LDAP importer script, 201
- max row, 143
- MAX_CONNECTIONS parameter (infosrv.conf), 226
- MAX_LOG_FILES parameter (infosrv.conf), 227
- MAX_LOG_RECORDS parameter (infosrv.conf), 227
- MAX_OBJECT_ARGUMENTS parameter (infosrv.conf), 229
- MAX_OBJECTS parameter (infosrv.conf), 229
- MAX_RETURN_ROWS parameter (spacesql.cfg), 232
- memory requirements, 17
- Microsoft SQL Server
 - repository schema, 20, 26
 - supported versions, 16
 - testing the ODBC connection, 242
- middleware, overview, 14
- MIN_MEMORY_REQUIRED parameter (infosrv.conf), 226

- Mod SSL version, 13
- mod.so, 14
- mssql.drop_repository.sql, 29
- mssql.repository.sql, 21, 29

N

- netcool username, 131
- Netcool/Reporter
 - architecture, 8
 - data schema overview, 9
 - memory requirements, 17
 - overview, 7
 - pre-install checks, 37, 54, 89
 - server installation, 38, 44, 90
 - server installation on LINUX, 88
 - server installation on UNIX, 37
 - server installation on Windows, 57
 - server operating systems, 13
 - supported databases, 16
- Netcool/Reporter client, starting, 119
- Netcool/Reporter gateway
 - documentation, 121
 - overview, 9
 - starting, 120
- Netcool/Reporter server
 - configuring, 172
 - diagnostic messages, 173
 - displaying connection information, 172
 - displaying session information, 173
 - exiting, 175
 - starting on UNIX, 114, 117
 - starting on Windows, 116
 - starting/stopping using Server Administrator, 172
 - stopping on UNIX, 115, 117
 - stopping on Windows, 116
 - working with rows and columns, 174
- Netscape Navigator, supported versions, 15
- new data source window, 168
- new file types tab, 164
- new portlet window
 - actions tab, 157
 - file types tab, 159
 - portlet info tab, 156
- Note about Browser Caches, 15

O

- OBJECT parameter
 - (infosrv.conf), 230
- OBJECT_INIT parameter
 - (infosrv.conf), 230
- object-related parameters in
 - infosrv.conf, 229
- ODBC data sources, 22
- OpenSSL version, 13
- operating systems
 - required patches, 13
 - supported by Reporter server, 13
- operational performance reports, 206
- Oracle SQL*Net on Windows NT
 - testing the connection, 241
 - testing the database and connection, 240
- Oracle, repository schema, 19, 26
- oracle.drop_repository.sql, 29
- oracle.repository.sql, 19, 29, 30
- oracle_sid, 27
- OWNERID stored procedure, 187
- OWNERUID stored procedure, 187

P

- parameters
 - in infosrv.conf, 223
 - in spacesql.cfg, 231
 - in universal.conf, 235
- Parent Groups, 138
- parent groups tab - user administration window, 139
- password, 131
 - aging, 134
 - changing, 137
 - default, 120
 - length, 135
- patches to operating systems, 13
- Perf_by_Class operational performance report, 215
- Perf_by_Group operational performance report, 214
- Perf_by_Manager operational performance report, 215
- Perf_by_Owner operational performance report, 214
- Perf_by_Owner_Group operational performance report, 215
- Planning Data Sources, 167
- portlet info tab - new portlet

- window, 156
- portlet tab - user administrator
 - window, 155
- portlets, 142
 - absolute path, 161
 - cartridge, 161
 - create and edit, 156
 - deleting, 162
 - dynamic URL, 161
 - file types association, 159
 - relative path, 161
 - start methods, 158
 - types, 155, 160
 - URL, 161
- predefined reports
 - event summaries, 205
 - fault diagnosis, 206
 - operational performance reports, 206
 - service level management, 206
- privileges, 140, 142
- privileges tab - user administration
 - window, 142
- proxy timeout, 275

Q

- QUERY_OP parameter
 - (infosrv.conf), 225
- Quick_Check_by_Node fault diagnosis report, 215
- Quick_Check_by_Serial fault diagnosis report, 216

R

- rearrange columns, server administrator, 174
- reconnect attribute (infosrv.conf), 230
- RECORD_BATCH_FILES parameter
 - (spacesql.cfg), 233
- relative path - portlets, 161
- REP_AUDIT, 187
- REP_AUDIT_ACK table, 182
- REP_AUDIT_ACKNOWLEDGE
 - database trigger, 187
- REP_AUDIT_INS database trigger, 187
- REP_AUDIT_OWNERGID table, 183
- REP_AUDIT_OWNERUID table, 184
- REP_AUDIT_SEVERITY table, 182

- REP_AUDIT_UPD database trigger, 187
- repadmin user, 36, 88
- report definitions - loading, 30
- reportDS parameter
 - (universal.conf), 236
- reporter username, 131
- REPORTER_CLASSES table, 185
- REPORTER_CONVERSIONS table, 186
- REPORTER_DETAILS table, 180
- REPORTER_GROUPS table, 185
- REPORTER_JOURNAL table, 181
- REPORTER_MEMBERS table, 185
- REPORTER_NAMES table, 184
- REPORTER_REP_SEVERITY_TYPES table, 186
- REPORTER_REP_TIME_PERIODS table, 186
- REPORTER_STATUS table, 178
- REPORTERHOME environment variable, 36, 98
- repository
 - login, 28, 51
 - overview, 9
 - reconnecting to, 230
 - schema tables, 188
- repository scripts, 29
- resize columns, server administrator, 175
- Role Groups Tab, 153
- Role Portlets Tab, 154
- Roles, 141
- roles, 141
 - adding users, 153
 - creating and editing, 151
 - deleting, 154
 - LDAP importing, 133
 - predefined, 141
- roles tab - user administration window, 141
- roles tab - user administrator window, 151
- Roles, Groups, and Channels, 140
- RPT_TITLE_BR_COUNT parameter
 - (spacesql.cfg), 235
- RUNMONITOR stored procedure, 187

S

- SaveFilesIntoRepository script, 30

- search bases, LDAP importer script, 200
- secure certificate generation, 52
- security settings, 133
- Selecting SQL Data Sources for a User, 143
- server administrator, 170
 - disconnecting users, 174
 - displaying connection information, 172
 - displaying Netcool/Reporter session information, 173
 - exiting, 175
 - rearrange columns, 174
 - resize columns, 175
 - rows - sorting, 174
 - starting, 171
 - starting/stopping Netcool/Reporter server, 172
- server error codes, 257–259
- server, Netcool/Reporter overview, 8
- SERVER_BUF parameter (infosrv.conf), 226
- service level management reports, 206
- servlet, connection testing, 254
- session-related parameters in infosrv.conf, 229
- SET_DRILLPATH parameter (spacesql.cfg), 235
- SetRepLogin, 28
- Setting Portlets, 142
- Setting User Privileges, 142
- SEVERITY stored procedure, 187
- SHLIB_PATH environment variable, 35, 38, 44
- Slow_to_Acknowledge service level management report, 216
- sorting rows, server administrator, 174
- spacesql.cfg file, parameters, 231
- SQL data sources, 143
 - creating and editing, 168
 - required information, 168
- SQL data sources tab - user administration window, 143
- SQL data sources tab - user administrator window, 167
- SSL supported web servers, 13
- SSL, generate certificate, 52
- STARTMONITOR stored procedure, 187
- startreporter script, 115, 117
- static tables

- REPORTER_CLASSES, 185
- REPORTER_CONVERSIONS, 186
- REPORTER_GROUPS, 185
- REPORTER_MEMBERS, 185
- REPORTER_NAMES, 184
- REPORTER_REP_SEVERITY_TY PES, 186
- REPORTER_REP_TIME_PERIOD S, 186
- stopreporter, 115, 117
- stored procedures, 187
 - enabling, 143
- subgroups, 149
- system security, 133

T

- tables, repository schema, 188
- temporary file directory,
 - clearing, 247
- timeout, report, 275
- TITLE_STYLE parameter (spacesql.cfg), 235
- Top_Classes fault diagnosis report, 215
- Top_Manager fault diagnosis report, 215
- Top_Nodes fault diagnosis report, 215
- troubleshooting, 244

U

- universal.conf file, 192
- universal.conf file, parameters, 235
- UNIX users and groups, 36
- uploading reports, 30
- URL - portlets, 161
- user
 - channels, 140
 - creating new, 137
 - disable account, 138
 - editing, 138
 - editing and creating, 137
 - groups, 140
 - import, 145
 - IP address for login, 135, 138
 - LINUX, 88
 - management, 135
 - privileges, 142

- roles, 140
- UNIX, 36
- user administration window, 133
 - parent groups tab, 139
 - privileges tab, 142
 - roles tab, 141
 - SQL data sources tab, 143
 - user info tab, 137
- user administrator window
 - file types tab, 163
 - functions, 130
 - group tab, 147
 - portlet tab, 155
 - roles tab, 151
 - SQL data sources tab, 167
 - starting, 132
 - users tab, 136
- user groups see groups
- user info tab - user administration window, 137
- users
 - create new, 36
 - default, 120
 - delete, 144
 - disconnecting using server administrator, 174
 - LDAP importing, 133
 - lockout, 135
 - predefined, 131
- users tab - user administrator window, 136
- Using the Data Sources Tab, 166
- Using the File Types Tab, 163
- Using the Groups Tab, 147
- Using the Portlet Tab, 155
- Using the Roles Tab, 151
- Using the Users Tab, 136

W

- web server
 - Apache installation on Windows, 54
 - supported types, 13
- Windows 95 and 98 - not supported, 15

X

- X servers, 247
- XVFB, 9