

Certification Guide Series: IBM Tivoli Netcool/Webtop V2.0 Implementation

Detailed architecture and components discussion

Installation and configuration processing

Dynamic Web-based interface

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International Technical Support Organization

Certification Guide Series: IBM Tivoli Netcool/Webtop V2.0 Implementation

September 2009

Note: Before using this information and the product it supports, read the information in "Notices" on page vii.

First Edition (September 2009)

This edition applies to Version 2, Release 0, Modification 0 of IBM Tivoli Netcool/Webtop (product number 5724-S51).

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Preface

This IBM® Redbooks® publication is a study guide for the IBM Tivoli® Netcool®/Webtop V4.0 implementation certification test. It is aimed at the IT professional who wants to be an IBM Certified Professional for this product.

The IBM Tivoli Netcool/Webtop V2.0 certification test is offered through the IBM Professional Certification program. It is designed to validate the skills required of technical professionals who work in the implementation and deployment of IBM Tivoli Netcool/Webtop V2.0.

This book provides the necessary information for understanding the subject matter. It includes sample questions. The sample questions help evaluate your personal progress. It familiarizes you with the types of questions that may be encountered in the exam.

This guide does not replace practical experience and it is not designed to be a stand-alone guide for the subject. Instead, this guide should be combined with educational activities and experiences and used as a very useful preparation guide for exam.

For your convenience, the chapters are based on the certification objectives of the IBM Tivoli Netcool/Webtop V2.0 implementation certification test. Those requirements are planning, prerequisites, installation, configuration, administration, and problem determination. These chapters will help you prepare for the objectives of the exam.

The team that wrote this book

This book was produced by a team of specialists from around the world working at the International Technical Support Organization, Austin Center.



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1

Certification overview

This chapter provides an overview of the skills requirements needed to obtain an IBM Certified Deployment Specialist - IBM Tivoli Netcool/Webtop V7.2 certification. This chapter provides a comprehensive review of the topics that are essential for obtaining the certification:

- 1.1, "IBM Professional Certification Program" on page 2
- 1.2, "IBM Tivoli Netcool/Webtop V2.0 test objectives" on page 8
- ▶ 1.3, "Certification achieved" on page 21
- ► 1.4, "Recommended study resources" on page 27

1.1 IBM Professional Certification Program

Having the right skills for the job is critical in the growing global marketplace. IBM Professional Certification is designed to validate your skills and proficiency with the latest IBM solution and product technology. It can help provide that competitive edge.

The Professional Certification Program from IBM offers a business solution for skilled technical professionals seeking to demonstrate their expertise to the world. The program is designed to validate your skills and demonstrate your proficiency in the latest IBM technology and solutions. In addition, professional certification may help you excel at your job by giving you and your employer the confidence that your skills have been tested. You may be able to deliver higher levels of service and technical expertise than non-certified employees and move to a faster career track.

The certification requirements are difficult, but they are not overwhelming. IBM Professional Certification is a rigorous process that differentiates you from everyone else. The mission of IBM Professional Certification is to:

- Provide a reliable, valid, and fair method of assessing skills and knowledge.
- Provide IBM with a method of building and validating the skills of individuals and organizations.
- Develop a loyal community of highly skilled certified professionals who recommend, sell, service, support, and use IBM products and solutions.

The Professional Certification Program from IBM has developed certification role names to guide you in your professional development. The certification role names include IBM Certified Specialist, IBM Certified Solutions/Systems Expert, and IBM Certified Advanced Technical Expert. These role names are for technical professionals who sell, service, and support IBM solutions. For technical professionals in application development, the certification roles include IBM Certified Developer Associate and IBM Certified Developer. An IBM Certified Instructor certifies the professional instructor.

The Professional Certification Program from IBM provides you with a structured program leading to an internationally recognized qualification. The program is designed for flexibility by allowing you to select your role, prepare for and take tests at your own pace, and, in some cases, select from a choice of elective tests best suited to your abilities and needs. Some roles also offer a shortcut by giving credit for a certification obtained in other industry certification programs.

You can be a network administrator, systems integrator, network integrator, solution architect, solution developer, value-added reseller, technical coordinator, sales representative, or educational trainer. Regardless of your role, you can start charting your course through the Professional Certification Program from IBM today.

The IBM Professional Certification Program Web site is available at the following address:

http://www.ibm.com/certify/index.shtml

1.1.1 Benefits of certification

Certification is a tool to help objectively measure the performance of a professional on a given job at a defined skill level. Therefore, it is beneficial for individuals who want to validate their own skills and performance levels, their employees, or both. For optimum benefit, the certification tests must reflect the critical tasks required for a job, the skill levels of each task, and the frequency by which a task needs to be performed. IBM prides itself in designing comprehensive, documented processes that ensure that IBM certification tests remain relevant to the work environment of potential certification candidates.

In addition to assessing job skills and performance levels, professional certification can also provide such benefits as:

- For employees:
 - Promotes recognition as an IBM certified professional
 - Helps to create advantages in interviews
 - Assists in salary increases, corporate advancement, or both
 - Increases self-esteem
 - Provides continuing professional benefits
- For employers:
 - Measures the effectiveness of training
 - Reduces course redundancy and unnecessary expenses
 - Provides objective benchmarks for validating skills
 - Makes long-range planning easier
 - Helps to manage professional development
 - Aids as a hiring tool
 - Contributes to competitive advantage
 - Increases productivity
 - Increases morale and loyalty

Specific benefits can vary by country (region) and role. In general, after you become certified, you should receive the following benefits:

Industry recognition

Certification may accelerate your career potential by validating your professional competency and increasing your ability to provide solid, capable technical support.

Program credentials

As a certified professional, you receive through e-mail your certificate of completion and the certification mark associated with your role for use in advertisements and business literature. You can also request a hardcopy certificate, which includes a wallet-size certificate.

The Professional Certification Program from IBM acknowledges the individual as a technical professional. The certification mark is for the exclusive use of the certified individual.

Ongoing technical vitality

IBM Certified professionals are included in mailings from the Professional Certification Program from IBM.

1.1.2 IBM Tivoli Software Professional Certification

The IBM Tivoli Professional Certification program offers certification testing that sets the standard for qualified product consultants, administrators, architects, and Business Partners.

The program also offers an internationally recognized qualification for technical professionals seeking to apply their expertise in today's complex business environment. The program is designed for those who implement, buy, sell, service, and support IBM Tivoli solutions and want to deliver higher levels of service and technical expertise.

Benefits of being Tivoli certified

Tivoli certification provides the following benefits:

- For the individual:
 - IBM Certified certificate and use of logos on business cards
 - Recognition of your technical skills by your peers and management
 - Enhanced career opportunities
 - Focus for your professional development

- ► For the IBM Business Partner:
 - Confidence in the skills of your employees
 - Enhanced partnership benefits from the IBM Business Partner program
 - Billing your employees out at higher rates
 - Strengthens your proposals to customers
 - Demonstrates the depth of technical skills available to prospective customers
- ► For the customer:
 - Confidence in the service professionals handling your implementation
 - Ease of hiring competent employees to manage your Tivoli environment
 - Enhanced return on investment (ROI) through more thorough integration with Tivoli and third-party products
 - Ease of selecting a Tivoli Business Partner that meets your specific needs

Certification checklist

The certification process is as follows:

- 1. Select the certification that you want to pursue.
- 2. Determine which test or tests are required by reading the certification role description.
- 3. Prepare for the test, using the following resources:
 - Test objectives (1.2, "IBM Tivoli Netcool/Webtop V2.0 test objectives" on page 8)
 - Recommended educational resources (1.4, "Recommended study resources" on page 270
 - Sample/assessment test (Appendix A, "Sample test" on page 157)
 - Other reference materials
 - Opportunities for experience
- 4. Register to take a test by contacting one of our worldwide testing vendors:
 - Thomson Prometric
 - Pearson Virtual University Enterprises (VUE)
- 5. Take the test. Be sure to keep the Examination Score Report provided upon test completion as your record of taking the test.

- 6. Repeat steps three through five until all required tests are successfully completed for the desired certification role. If additional requirements are needed (such as another vendor certification or exam), follow the instructions on the certification description page to submit these requirements to IBM.
- 7. After you complete your certification requirements, you will be sent an e-mail asking you to accept the terms of the IBM Certification Agreement before receiving the certificate.
- 8. Upon acceptance of the terms of the IBM Certification Agreement, an e-mail will be sent containing the following electronic deliverables:
 - A Certification Certificate in PDF format, which can be printed in either color or black and white
 - A set of graphic files of the IBM Professional Certification mark associated with the certification achieved
 - Guidelines for the use of the IBM Professional Certification mark
- 9. To avoid unnecessary delay in receiving your certificate, ensure that we have your current e-mail on file by keeping your profile up to date. If you do not have an e-mail address on file, your certificate will be sent through postal mail.

After you receive a certificate by e-mail, you can also contact IBM at mailto:certify@us.ibm.com to request that a hardcopy certificate be sent by postal mail.

1.1.3 Growth through skills

Customers want to work with experts who understand their business and can help them achieve their objectives. IBM Business Partners who have expertise across the IBM software portfolio are well positioned to deliver high client value.

IBM Software is announcing the next step in our Business Partner channel strategy by focusing on Growth Through Skills. In October 2009, IBM will roll out a new controlled distribution model to maximize value to our Business Partners and customers.

A subset of the IBM software portfolio will continue to be offered through the open distribution model or by using Software ValueNet®. The benefits of the growth through skills program are:

- Protects and maximizes your return on investment (ROI) in the technical, sales and marketing skills you have developed.
- Places a premium on your skills and solutions that differentiate your ability to offer your customers guidance in a tough economy.

- Rewards the value you bring throughout the sales cycle through the lucrative IBM Software Value Incentive (SVI).
- Provides financial rewards for integrating IBM software with your business solutions through the Value Advantage Plus (VAP) incentive.
- Accelerates your growth with experienced software Value Added Distributors (VADs).
- Improves access to IBM resources, including industry-leading sales, technical, and marketing.

Authorization to resell IBM software products within controlled distribution is achieved at the product group level. There are 14 products groups across the five brands.

- ► WebSphere®
 - SOA Foundation
 - Connectivity
 - Business Process Management
 - Commerce
 - SOA Appliances
 - Enterprise Solutions (IBM System z®)
- Tivoli
 - Storage Management
 - Security & Compliance Management
 - Automation
 - Enterprise Asset Management
- Information Management
 - Heritage CM
 - Data Management
- ► Lotus®
- Portal
- Rational®

The criteria for authorization to resell IBM Software products within controlled distribution include:

► Membership in the IBM PartnerWorld® program

- Approved participation in Software Value Incentive (SVI) or Value Advantage Plus (VAP)
 - For SVI, technical and sales skills in the product group(s) you want to sell
 - For VAP, an approved solution containing the product group(s) you want to sell
- An approved PartnerPlan
- ► Minimum revenue participation levels within SVI and VAP after the first year

IBM provides comprehensive enablement options to support the education, training, and certifications necessary to qualify for authorization to resell:

- Leverage the readiness assessment tools and work with your Distributor or IBM Business Partner Sales Representative to explore enablement opportunities and support.
- Visit the Subject Matter Expert (SME) Zone on the Virtual Innovation Center as a single point of entry to review software education and customized roadmaps.
- ► Learn about the You Pass, We Pay education reimbursement.
- Participate in readiness events throughout the year and revisit the Web for updates and the latest support materials.

1.2 IBM Tivoli Netcool/Webtop V2.0 test objectives

Here is the IBM Tivoli Netcool/Webtop V2.0 test information:

- ► Number of questions: 36
- ► Time allowed in minutes: 60
- Required passing score: 63%
- Test languages: English

The test has the objectives covered in these sections:

- ► 1.2.1, "Planning" on page 9
- 1.2.2, "Installation" on page 10
- 1.2.3, "Configuring" on page 11
- ▶ 1.2.4, "Performance tuning and performance determination" on page 18

For the most updated objectives of the IBM Tivoli Netcool/Webtop V2.0 test (test #922), refer to the following address:

http://www-03.ibm.com/certify/tests/obj922.shtml

1.2.1 Planning

Given that an IBM Tivoli Netcool/Webtop V1.3.1 (Webtop) deployment is required, define all the necessary settings so that the Webtop architecture is planned, with emphasis on performing the following steps:

- 1. Determine IBM Tivoli Netcool/Webtop prerequisites.
- 2. Determine the Web browser supportability.
- 3. Obtain the license keys.
- 4. Identify all the data sources.
- 5. Determine the desktop architecture.
- 6. Determine the Web Administration Application Programming Interface (WAAPI) requirements.
- 7. Determine the ObjectServer architecture.
- 8. Determine the location of the server.
- 9. Determine the ObjectServer details.
- 10. Determine the security settings.

Given a list of users and security requirements, define users and groups for IBM Tivoli Netcool/Webtop deployment, with emphasis on performing the following steps:

- 1. Define users.
- 2. Determine roles (Read only, Read/Write, and Admin).
- 3. Define groups.

Given that a customer requires IBM Tivoli Netcool/Webtop to be deployed, define all the GUI elements necessary to address the customers' requirements, so that the dashboard requirements are defined, with emphasis on performing the following steps:

- 1. Determine the user filters.
- 2. Determine the user views.
- 3. Define the entities.
- 4. Define the views.
- 5. Define the customer dashboard requirements.
- 6. Determine the chart requirements.
- 7. Define the maps.
- 8. Define the resources.
- 9. Define the pages.
- 10.Define the workflows.
- 11.Define the tools.
- 12.Define the menus.

1.2.2 Installation

Given that a license server is installed, set up IBM Tivoli Netcool/Webtop licensing so that the IBM Tivoli Netcool/Webtop license keys are available, with emphasis on performing the following steps:

- 1. Obtain license files from the IBM download software site.
- 2. Place the files in /etc.
- 3. Read the new license keys by running /bin>nc_read_license (for UNIX) or by using ImTools (for Windows).
- 4. Verify IBM Tivoli Netcool/Webtop keys by running /bin/nc_print_license (for UNIX) or using ImTools (for Windows).

Given that IBM Tivoli Netcool/Webtop software is available and you have the license and ObjectServer details, install IBM Tivoli Netcool/Webtop, with emphasis on performing the following steps:

- 1. Read the installation instructions in the ReadMe file.
- 2. To start the installation, run install_webtop (on UNIX) or run setup.exe (one Windows).
- 3. Review the license agreement.
- 4. Specify the IBM Tivoli Netcool/Webtop installation location and click Next.
- 5. Specify the license server and port. Select Next.
- 6. Enter the ObjectServer details: host, port, ObjectServer name, user name, and password. Select **Next**.
- 7. Select Complete or Custom installation.
- 8. For a custom installation, select the components Webtop server, WAAPI, and licensing. Select **Next**.
- 9. Install the software.

Given that Tivoli Netcool/GUI Foundation (NGF) is installed, licensed, configured, start the Tivoli Netcool/GUI Foundation server and verify the operational status, with emphasis on performing the following steps:

- 1. Start the server by running NCHOME/bin/ngf_server start on UNIX or using the Windows Services GUI. for Windows
- 2. Start the Web browser and go to http://<NFG server host>:<port>.
- 3. Log in as a IBM Tivoli Netcool/Webtop user with administrator rights.
- 4. Check the IBM Tivoli Netcool/Webtop demo pages by selecting the Webtop Desktop from the --Pages-- drop-down menu.

- 5. Check that the IBM Tivoli Netcool/Webtop admin pages are available by selecting the Webtop Administration from the --Pages-- drop-down menu.
- 6. Log out of the Tivoli Netcool/GUI Foundation server.
- 7. Check that WAAPI is working by running </

1.2.3 Configuring

Given that WAAPI is installed, make changes to the WAAPI configuration as defined in the statement of work, with emphasis on performing the following steps:

- 1. Open the WAAPI configuration file /waapi/waapi.init in a text editor.
- 2. Modify the property waapi.port and give it a different value.
- 3. Modify the property waapi.host and give it a different value.
- 4. Modify the user and password details in waapi.init (waapi.user and waapi.password).
- Modify the SSL connection details in waapi.init (waapi.secureport and waapi.ssl).

Given the ObjectServer connection details, modify the IBM Tivoli Netcool/Webtop configuration so that the data sources are updated, with emphasis on performing the following steps:

- Open the data sources definition file (/config/datasources/newdatasources definitions.xml) in a text editor.
- 2. Change the default ObjectServer connection details: host, port, user, and password.
- 3. Add a backup ObjectServer (host an d port).
- 4. Add a second ObjectServer data source (name, host, port, user, password).
- 5. Configure a dual server ObjectServer cluster (name, upassword password, host (primary), host (backup), and read cloud).
- 6. Save the file.
- 7. Start the IBM Tivoli Netcool/Webtop server using /bin/server (on UNIX) or the Windows Services GUI.

Given that NGF is installed and running, change the configuration so that NGF is running in SSL mode, with emphasis on performing the following steps:

- 1. Stop NGF.
- 2. Create a self-signed certification by running the following command:

@\$NCHOME/platform/arch/jre_version/bin/bin/keytool -certreq -keyalg
RSA -alias ngf -file certreq.csr -keystore <keystore path and
filename>

- 3. Enter a password for the keystore, which must be the same as the previous password> enter the organization's details and host name of the NGF server, accept the details, and enter the key password.
- 4. Modify NCHOME/guifoundation/conf/server.xml by uncommenting <connector> by adding the key details (keystore file and keystore password).
- 5. Start NGF.
- 6. Verify that the NGF server is working correctly by logging into https://<NGF server host>:8443 and logging into the server as the user.

Given that IBM Tivoli Netcool/Webtop V2.0 is installed and running and you are signed in as an NGF administrator, create a user that authenticates against a Netcool Omnibus ObjectServer as defined in the Statement of Work, with emphasis on the following steps:

- 1. Select the Security tab in the NGF Administration window.
- 2. Select the Users pane in the Security tab.
- 3. Select the User Details tab.
- 4. Assign the same user name that is assigned in the ObjectServer.
- 5. Check the Authenticate externally check box.

Given that IBM Tivoli Netcool/Webtop V2.0 is installed and running and you are signed in as an NGF administrator, modify the users, with emphasis on performing the following steps:

- 1. Select the **Security** tab within the NGF Administration window.
- 2. Select the Users pane in the Security tab.
- 3. Click the Edit User icon next to the user you wish to modify.
- 4. Modify the user details.
- 5. Click Save.

Given that IBM Tivoli Netcool/Webtop V2.0 is installed and running and you are signed in as an NGF administrator, delete users as defined in the Statement of Work, with emphasis on performing the following steps:

- 1. Select the **Security** tab in the NGF Administration window.
- 2. Select the Users pane in the Security tab.
- 3. Check the check box next to each user that you wish to delete.
- 4. Click the **Delete** button.
- 5. Click OK when asked for confirmation to delete the user.

Given that IBM Tivoli Netcool/Webtop is installed and running and you are signed in as administrator, create a view as defined in the Statement of Work, with emphasis on performing the following steps:

- 1. Launch View Builder from the AEL or the Desktop view.
- 2. Click the Add View button.
- 3. Enter the view name, fields, sort order, column titles, and ObjectServer.
- 4. Save the view.

Given that IBM Tivoli Netcool/Webtop is installed and running and you are signed in as administrator, create a filter as defined in the SOW, with emphasis on performing the following steps:

- 1. Launch the Filter Builder from the Active Event List (AEL) or the Desktop view.
- 2. Click the Add Filter button.
- 3. Enter the filter name, ObjectServer data source, filter criteria, and metric.
- 4. Save the filter.

Given that IBM Tivoli Netcool/Webtop is installed and running and you are signed in as administrator, create a new ACL and define users that are members of the ACL, with emphasis on performing the following steps:

- 1. From the Webtop Admin window, select Access and Utilities.
- 2. Select Users and ACLs.
- 3. Select ACLs.
- 4. Select Create ACLs.
- 5. Enter an ACL name.
- 6. Save the ACL.
- 7. Modify the created ACL.
- 8. Add/Remove users from the ACL.
- 9. Return to the ACL Editor.

Given that NGF is installed and running, create Groups, using NGF, for IBM Tivoli Netcool/Webtop users, with emphasis on performing the following steps:

- 1. Log in to NGF as a user with NGF Administrator privileges.
- 2. Access the Administration windows.
- 3. Select the Security tab.
- 4. Select the Groups menu.
- 5. Click the Add Group button.
- 6. Under the Group Properties tab:
 - a. Provide a Group name.
 - b. Add a Display Name, if required.
 - c. Add an External Authentication Name, if required.
 - d. Make the Group inactive, if required.
 - e. Add Group members as necessary.
- 7. Under the Group Roles tab, select roles appropriate for the Group.

Given that IBM Tivoli Netcool/Webtop is installed and running and you are signed in as the administrator, create an entity as defined in the SOW so that an entity is available for use, with emphasis on performing the following steps:

- 1. From the Webtop Admin window, select Entities from the Content tab.
- 2. Click the Add Entity button.
- 3. Enter the entity details: name, type (filter, dependent), group, view, metric, and label.
- 4. Click Add this Entity.
- 5. If filtered, enter the filter SQL. If dependent, select current dependencies.
- 6. Click Modify This Entity.

Given that IBM Tivoli Netcool/Webtop is installed and running and you are signed in as an administrator, create an entity view as defined in the SOW, with emphasis on performing the following steps:

- 1. From the Webtop Admin window, select Entity Views.
- 2. Click Create Entity View.
- 3. Enter the view name.
- 4. Select the ObjectServer name, select the Group Name, and click OK.
- 5. In the Entity View Editor, enter fields, column titles, sort order, and layout. Click **Apply**.

Given that IBM Tivoli Netcool/Webtop is installed and running, create a chart configuration so that a chart template is available for use, with emphasis on performing the following steps:

- 1. Log in to the IBM Tivoli Netcool/Webtop server host as the Netcool administrator.
- 2. Change the directory to \$NCHOME/etc/webtop/charts/definitions.
- 3. Copy the chart definition XML file that best matches the type of chart you require.
- 4. Open the copy of the XML file and change the variable <ncchart name> to be the same as the file name without the .xml extension.
- 5. Define the Chart Title by entering a name in the <header text> field.
- 6. Set the x Scale Element Title value to represent the x Axis label.
- 7. Set the y Scale Element Title value to reflect the y Axis label.
- 8. Define the colors to use for the chart in the Chart Renderer section.
- 9. Define the Chart Data Set in the DataConfig section.
- 10.Save the file.
- 11. Verify that the chart configuration works by performing these steps:
 - a. Log in to NGF as a IBM Tivoli Netcool/Webtop administrator with page customization permissions.
 - b. Create a new page or customize an existing one.
 - c. Add a Viewpoint (using the ChartView type) to the page.
 - d. Click the Save and Return button to get back to the page.
 - e. Customize the default ChartView and select the required chart to display.
 - f. Verify that the chart renders as expected.

Given that IBM Tivoli Netcool/Webtop is installed and running and you are signed in as an administrator, create a new map, with emphasis on performing the following steps:

- 1. Go to the Webtop Admin window and select Maps.
- 2. Select Create Map and ensure that Java[™] Editor is selected.
- 3. Enter the name of the map.
- 4. Define the map properties: Access Control (Groups), height/width, and background color/image. (The heading in the Java Editor still has "Access Control" in the GUI but the drop-down is filled with Groups from NGF.)
- 5. Add components to the map, as defined in the SOW: buttons, active buttons, lava lamp/monitors, icons, active icons, lines, and text.

- 6. Right-click the added elements and bring up the Properties dialogue box.
- 7. Define the required properties for the selected icons.
- 8. For Active icons, define action, URL, Entity, Datasource, and target.
- 9. Save the map.

10. Preview the map to verify that the configuration is correct.

Given that IBM Tivoli Netcool/Webtop is installed and running, create a new tool so that the tool is available to be added to a menu, with emphasis on performing the following steps:

- 1. Log in to NGF as the IBM Tivoli Netcool/Webtop administrator.
- 2. From the Webtop Admin window, select the **Tools** menu.
- 3. Click the Create Tool button.
- 4. Enter a tool name and select the tool type (CGI/URL, SQL, or Command Line).
- 5. Click OK.
- 6. For a CGI/URL tool, enter a URL, select groups, select a method, select whether to open in new window or specific window, and select the fields to be passed.
- 7. For SQL, enter the SQL statements, select groups, and enter the Journal text.
- 8. For Command Line, select groups, select the platform for command, enter the command line to run, and select the fields to pass. Click **OK**.

Given that IBM Tivoli Netcool/Webtop is installed and running, create and register a new CGI program so that it is available for use in IBM Tivoli Netcool/Webtop tools, with emphasis on performing the following steps:

- 1. Place the CGI script in the NCHOME/etc/webtop/cgi-bin/ directory.
- 2. Select Webtop Admin from the Pages drop-down list.
- 3. Select the CGI Registry menu item.
- 4. Click **Register**. The Register CGI window opens. In the CGI Name field, enter a name for the CGI script.
- If the output of the CGI script is HTML data that contains IBM Tivoli Netcool/Webtop SmartPage commands, select the Use Smart Commands check box.
- 6. Enter the file name of the script in the File Name text field.
- 7. If you want to make the CGI script available, click the **Groups** button and select the groups to which you want to allow access.
- 8. Click Register.

Given that IBM Tivoli Netcool/Webtop is installed and running, create a new menu item and make it available for use, with emphasis on performing the following steps:

- The user has been added to the Webtop User and Webtop Admin roles (this is required in order for the user to have access to the IBM Tivoli Netcool/Webtop admin utils).
- 2. Select Webtop Admin from the drop-down menu.
- 3. Select Menu.
- 4. Select Create Menu.
- 5. Enter a name and label.
- 6. Add existing tools to the new menu.
- 7. Arrange a new separator, if required.
- 8. Save the changes.

Given that IBM Tivoli Netcool/Webtop V2.0 is installed and running and you are signed in with IBM Tivoli Netcool/Webtop administration rights, add a new resource to a given map so that it is available for use in the Map Editor, with emphasis on performing the following steps:

- 1. Navigate to the Webtop Admin page n the NGF.
- 2. Select Map Resources.
- 3. Select the map that you wish to add a resource to from the list.
- 4. Click the Add Map Resource button.
- 5. Enter a resource file name or browse for a file to upload.
- 6. Click the Add Resource button.

Given that IBM Tivoli Netcool/Webtop is installed and running, create a new directory and upload HTML files so that they are available for use, with emphasis on performing the following steps:

- Log in to NGF as the IBM Tivoli Netcool/Webtop administrator.
- From the Webtop Admin window, select the **Tools** menu.
- Select the File Manager menu.
- ► Enter a name for a new sub directory and click Create Sub Directory.
- Select the sub directory that was just created.
- Click the **View Dir** button.
- Click the **Browse** button to select file to upload.
- Click the **Add file to Dir** button.

Given that IBM Tivoli Netcool/Webtop is installed and running, create a new HTML page, with emphasis on performing the following steps:

- 1. Open a text editor to create a new HTML file.
- 2. Ensure that appropriate HTML syntax is followed: <html> <head> </html>.
- 3. Enter the HTML commands as required. Enter the Smart Page commands as defined in the SOW.
- 4. Save the file.
- 5. From the Webtop Admin window, select File Manager.
- 6. Change the directories to the appropriate location for the new file or create a new subdir
- 7. Browse for the file created above.
- 8. Select Add file to Dir.
- 9. Validate the file by selecting the file added, click **View File**, and then **link to file**.

Given that IBM Tivoli Netcool/Webtop is installed and running and you are signed in as an administrator, check who is logged in to IBM Tivoli Netcool/Webtop and revoke user sessions so that selected users are logged out of IBM Tivoli Netcool/Webtop, with emphasis on performing the following steps:

- 1. Navigate to the Webtop Admin window.
- 2. Select the **Sessions** tab. A list showing the logged in users appears.
- 3. To revoke a given user, click the **Revoke** button next to the user. The user will be logged out of IBM Tivoli Netcool/Webtop.

1.2.4 Performance tuning and performance determination

Given that IBM Tivoli Netcool/Webtop is installed and running, determine the cause of IBM Tivoli Netcool/Webtop performance issues, with emphasis on performing the following steps:

- 1. From the Webtop Admin window, click the **Sessions** tab to determine how many users are logged in.
- 2. If the number of users is very high, revoke the user sessions.
- 3. Select **System Information** → **Server Runtime** to determine how much memory is being used.
- 4. Check the number of events in the ObjectServer by running the **nco_sql** command.
- 5. Check the response times when using Native Desktop.

- 6. Determine if there is a performance problem for all IBM Tivoli Netcool/Webtop components.
- 7. Determine if all users are experiencing slow responses.
- 8. Determine if other applications are running on the IBM Tivoli Netcool/Webtop server host.
- 9. Check the IBM Tivoli Netcool/Webtop log files in NCHOME/log/webtop.log.

Given that NGF is installed and running, determine the reason for user login failure, or failure to access IBM Tivoli Netcool/Webtop, with emphasis on performing the following steps:

- 1. Determine if Security Manager is running.
- 2. Determine if the user has an NGF account.
- 3. Determine if the user has an active NGF account.
- 4. Determine if the user has an appropriate IBM Tivoli Netcool/Webtop role.
- 5. Determine if the user is using the correct password.
- 6. Determine if the user has an accessible home page.
- 7. Determine if the ObjectServer is running and if IBM Tivoli Netcool/Webtop can connect to it.

Given that IBM Tivoli Netcool/Webtop V2.0 is installed, identify the cause of startup problem, with emphasis on performing the following steps:

- 1. Log into the IBM Tivoli Netcool/Webtop server machine.
- 2. Check the environment variables in NCHOME.
- 3. Look in \$NCHOME/log/webtop.log and \$NCHOME/log/guifoundation/ logs for information about the cause of the problem.
- 4. Types of problems to look for: licenses not available, ports already in use, and unable to connect to the ObjectServer.

Given that IBM Tivoli Netcool/Webtop is installed and running, verify the cause of IBM Tivoli Netcool/Webtop's inability to connect to the ObjectServer, with emphasis on performing the following steps:

- 1. Log in to the IBM Tivoli Netcool/Webtop server machine.
- 2. Verify that you can log in to the ObjectServer.
- Verify that the correct ObjectServer is configured for IBM Tivoli Netcool/Webtop by looking in the \$NCHOME/etc/webtop/datasources/ncwDataSourceDefinitions.xml directory.
- 4. Verify that the user and passwords are correct by looking in the \$NCHOME/etc/webtop/datasources/ncwDataSourceDefinitions.xml directory.

5. Confirm that the IBM Tivoli Netcool/Webtop server can connect to the ObjectServer host and port.

Given that IBM Tivoli Netcool/Webtop is installed and running, create a backup copy of the IBM Tivoli Netcool/Webtop configuration, with emphasis on performing the following steps:

- 1. Stop IBM Tivoli Netcool/Webtop.
- Make copies of the following files and directories: \$NCHOME/etc/webtop/, \$NCHOME/webtop/waapi/etc/, and \$NCHOME/guifoundation/webapps/.
- 3. Start IBM Tivoli Netcool/Webtop.

Given that NGF is installed, troubleshoot NGF issues, so that NGF is running and users are able to log in to IBM Tivoli Netcool/Webtop, with emphasis on performing the following steps:

- 1. Log in to the machine where NGF is installed.
- 2. Check the status of NGF server by running **\$NCHOME/bin/ngf_server status** (on UNIX) or by checking the status of the appropriate service (on Windows).
- 3. If the NGF server is not running, start it by running **\$NCHOME/bin/ngf_server start** (on UNIX) or by starting the service (on Windows)
- 4. Check the NGF log files \$NCHOME/log/guifoundation for possible causes of startup issues and resolve them (if there are any).
- If users are unable to log in to IBM Tivoli Netcool/Webtop at http://<server>:<port>, make sure that Security Manager is running.

Given that Security Manager is installed, determine the cause of Security Manager Performance issues, with emphasis on performing the following steps:

- 1. Determine if Security Manager is running by performing these steps:
 - a. From a command line, with appropriate permissions, run the script \$NCHOME/security/bin/ncsm_status.
 - b. From a browser window, attempt to connect to the Security Manager HTTP port (the default is 8077).
- 2. Determine if the authentication source is available by performing these steps:
 - a. Check the specified authentication source by selecting the **NGF Security** tab and then selecting the **Domain** menu.
 - b. Check the box to set it to available.
 - c. Check the access credentials.
 - d. Check NCHOME/etc/sm/server.props.

- Change the authentication source to \$NCHOME/security/install/ncsm_config.
- Check the Security Manager log files in \$NCHOME/security/log/SM_server.log.

1.3 Certification achieved

The IBM Tivoli Netcool/Webtop V2.0 Implementation test (#922) is a prerequisite for achieving the following certifications:

- 1.3.1, "Tivoli Netcool Core V3.0" on page 21
- ► 1.3.2, "Tivoli Fault Management Solutions 2008" on page 24
- ▶ 1.3.3, "Tivoli Performance Management Solutions 2008" on page 24
- 1.3.4, "IBM Service Management Network and Service Assurance 2009" on page 25
- 1.3.5, "IBM Service Management Data Center Management and Transformation 2009" on page 26

1.3.1 Tivoli Netcool Core V3.0

Tivoli Netcool Core V3.0 is an IBM Certified Deployment Professional certification.

Target audience

An IBM Certified Deployment Professional - Tivoli Netcool Core V3.0 is a technical professional responsible for the planning, installing, configuring performance tuning, problem determination, and documenting of solutions for IBM Tivoli Netcool/OMNIbus V7.2 and IBM Tivoli Netcool/Webtop V2.0. This individual will be expected to perform these tasks with limited assistance from peers, product documentation, and support resources.

Recommended prerequisite skills

The IBM Tivoli Netcool/OMNIbus V7.2 key areas of competency are:

- ► Describe the IBM Tivoli Netcool/OMNIbus V7.2 architecture and components.
- Plan and design an IBM Tivoli Netcool/OMNIbus V7.2 solution based on a customer requirements/environment.
- Install and configure prerequisites to IBM Tivoli Netcool/OMNIbus V7.2.

- Install and configure IBM Tivoli Netcool/OMNIbus V7.2 infrastructure components (probes, gateways, desktops, process control, accelerated event notification (AEN), IPV6 configuration, automated failover, and failback).
- Use various interfaces to configure and administer the IBM Tivoli Netcool/OMNIbus V7.2 environment.
- Perform performance tuning and problem determination for IBM Tivoli Netcool/OMNIbus V7.2.

The IBM Tivoli Netcool/OMNIbus V7.2 required prerequisites are:

- Strong working knowledge of IBM Tivoli Netcool/OMNIbus V7.2 infrastructure components (ObjectServer, probes, gateways, desktop and process control, accelerated event notification (AEN), IPV6 configuration, and dual server desktop)
- Strong working knowledge of IBM Tivoli Netcool/OMNIbus V7.2 administration (triggers, procedures, tools, menus, automated failover and failback, AEN channels, and so on)
- Strong working knowledge of network management principles
- Working knowledge of operating system (UNIX and Windows), networking, and firewall concepts
- Knowledge of IBM Tivoli Netcool licensing
- Working knowledge of security (SSL and system user accounts)
- Working knowledge of SQL (including procedures)
- Working knowledge of scripting languages (shell scripting, Rules files, and regular expressions)
- Working knowledge of protocols, including TCP/IP and SNMP
- Working knowledge of operating system utilities (ftp, telnet, sftp, ssh, and text editor)

The IBM Tivoli Netcool/OMNIbus V7.2 recommended prerequisites are:

- Basic knowledge of help desk and database systems
- Knowledge of network management systems

The IBM Tivoli Netcool/Webtop V2.0 key areas of competency are:

- Describe the IBM Tivoli Netcool/Webtop V2.0 architecture and components.
- Plan and design an IBM Tivoli Netcool/Webtop V2.0 solution based on a customer requirements/environment.
- ► Install and configure prerequisites to IBM Tivoli Netcool/Webtop V2.0.
- Install and configure IBM Tivoli Netcool/Webtop V2.0 infrastructure components (server, Webtop Administration API, event lists, maplets, and charts).
- Use various interfaces to configure and administer the IBM Tivoli Netcool/Webtop V2.0 environment.
- Perform performance tuning and problem determination for IBM Tivoli Netcool/Webtop V2.0.

The IBM Tivoli Netcool/Webtop V2.0 required prerequisites are:

- Strong working knowledge of IBM Tivoli Netcool/Webtop V2.0 infrastructure components
- Strong working knowledge of IBM Tivoli Netcool/Webtop V2.0 administration (tools, menus, maplets, entities, resources, users, filters, views, SMARTPage commands, and so on)
- Strong working knowledge of HTML, CGI, XML, and SQL.
- Strong working knowledge of IBM Tivoli Netcool/OMNIbus V7.x, IBM Tivoli Netcool/Security Manager V1.3, IBM Tivoli Netcool/GUI Foundations[™] V1.x, and associated architectures
- Working knowledge of IBM Tivoli/Netcool licensing
- Working knowledge of operating system (UNIX and Windows), networking, and firewall concepts
- Working knowledge of security (SSL and system user accounts)
- Working knowledge of scripting languages (shell scripting and regular expressions)
- Working knowledge of Web browsers and Java applications

The IBM Tivoli Netcool/Webtop V2.0 recommended prerequisites are:

- Basic knowledge of network management systems
- ► Knowledge of Web application development techniques (JavaScript[™] and HTML style sheets)
- Working knowledge of protocols, including TCP/IP
- Working knowledge of operating system utilities (ftp, telnet, sftp, ssh, text editor, and so on)

Requirements

This certification requires two tests:

- ► Test 933 IBM Tivoli Netcool/OMNIbus V7.2 Implementation
- ► Test 922 IBM Tivoli Netcool/Webtop V2.0

1.3.2 Tivoli Fault Management Solutions 2008

Tivoli Fault Management Solutions 2008 is an IBM Certified Advanced Deployment Professional certification.

Target audience

An IBM Certified Advanced Deployment Professional - Tivoli Fault Management Solutions 2008 is an individual who has demonstrated a higher level of implementation knowledge and skill both in breadth and in depth in the IBM Tivoli Fault Management solutions area.

Requirements

This certification requires four tests:

- Any one of the following tests:
 - Test 901 IBM Tivoli Netcool/OMNIbus V7.1 Implementation
 - Test 933 IBM Tivoli Netcool/OMNIbus V7.2 Implementation
- Test 922 IBM Tivoli Netcool/Webtop V2.0
- Any two of the following tests:
 - Test 890 IBM Tivoli Monitoring V6.1 Implementation
 - Test 897 IBM Tivoli Network Manager IP Edition V3.7 Implementation
 - Test 905 IBM Tivoli Composite Application Manager for WebSphere V6.1
 - Test 920 IBM Tivoli Composite Application Manager for Response Time V6.2 Implementation
 - Test ITIL® Information Technology Infrastructure Library -- Foundations
 - Test 436 IBM Tivoli Business Service Manager V4.1.1 Implementation
 - Test 938 IBM Tivoli Netcool Impact V4.0 Implementation
 - Test 908 IBM Tivoli Monitoring V6.2 Implementation

1.3.3 Tivoli Performance Management Solutions 2008

Tivoli Performance Management Solutions 2008 is an IBM Certified Advanced Deployment Professional certification.

Target audience

An IBM Certified Advanced Deployment Professional - Tivoli Performance Management Solutions 2008 is an individual who has demonstrated a higher level of implementation knowledge and skill both in breadth and in depth in the IBM Tivoli Performance Management solutions area.

Requirements

This certification requires four tests:

- Any one of the following tests:
 - Test 901 IBM Tivoli Netcool/OMNIbus V7.1 Implementation
 - Test 933 IBM Tivoli Netcool/OMNIbus V7.2 Implementation
- Test 922 IBM Tivoli Netcool/Webtop V2.0
- Any two of the following tests:
 - Test ITIL Information Technology Infrastructure Library -- Foundations
 - Test 430 IBM Tivoli Netcool Service Quality Manager V4.1.1 Implementation
 - Test 434 IBM Tivoli Netcool Performance Manager for Wireless V9.1.2 Implementation
 - Test 931 IBM Tivoli Netcool/Proviso V4.4.1 Implementation

1.3.4 IBM Service Management Network and Service Assurance 2009

IBM Service Management Network and Service Assurance 2009 is an IBM Certified Advanced Deployment Professional certification.

Target audience

An IBM Certified Advanced Deployment Professional - IBM Service Management Network and Service Assurance 2009 is an individual who has demonstrated a higher level of implementation knowledge and skill both in breadth and in depth in the IBM Tivoli Network and Service Assurance solutions area.

Requirements

This certification requires four tests:

- Test 000-922 IBM Tivoli Netcool/Webtop V2.0
- ► Test 000-933 IBM Tivoli Netcool/OMNIbus V7.2 Implementation
- ► Test 000-938 IBM Tivoli Netcool Impact V4.0 Implementation

- Any one of the following tests:
 - Test ITIL Information Technology Infrastructure Library -- Foundations
 - Test 000-430 IBM Tivoli Netcool Service Quality Manager V4.1.1 Implementation
 - Test 000-434 IBM Tivoli Netcool Performance Manager for Wireless V9.1.2 Implementation
 - Test 000-931 IBM Tivoli Netcool/Proviso V4.4.1 Implementation

1.3.5 IBM Service Management Data Center Management and Transformation 2009

IBM Service Management Data Center Management and Transformation 2009 is an IBM Certified Advanced Deployment Professional certification.

Target audience

An IBM Certified Advanced Deployment Professional - IBM Service Management Data Center Management and Transformation 2009 is an individual who has demonstrated a higher level of implementation knowledge and skill both in breadth and in depth in the IBM Tivoli Data Center Management and Transformation solutions area.

Requirements

This certification requires three or four tests:

- Test 000-011 IBM Tivoli Application Dependency and Discovery Manager V7.1 Implementation
- ► Test 000-908 IBM Tivoli Monitoring V6.2 Implementation
- Any one or two of the following tests:
 - Test ITIL Information Technology Infrastructure Library Foundations
 - Test 000-012 IBM Tivoli Usage and Accounting Manager V7.1 Implementation
 - Test 000-253 IBM WebSphere Application Server Network Deployment V6.1 Core Administration
 - Test 000-435 IBM Tivoli Workload Scheduler V8.4 Implementation
 - Test 000-436 IBM Tivoli Business Service Manager V4.1.1 Implementation
 - Test 000-731 DB2® 9 DBA for Linux, UNIX, and Windows
 - Test 000-905 IBM Tivoli Composite Application Manager for WebSphere V6.1

- Test 000-920 IBM Tivoli Composite Application Manager for Response Time V6.2 Implementation
- Test 000-922 IBM Tivoli Netcool/Webtop V2.0 and Test 000-933 IBM Tivoli Netcool/OMNIbus V7.2 Implementation

1.4 Recommended study resources

Courses and publications are offered to help you prepare for the certification tests. The courses are recommended, but not required, before taking a certification test. If you wish to purchase Web-based training courses or are unable to locate a Web-based course or classroom course at the time and location you desire, please feel free to contact one of our delivery management teams at:

- Americas: tivamedu@us.ibm.com
- ► EMEA: tived@uk.ibm.com
- ► AP: tivtrainingap@au1.ibm.com

Note that course offerings are continuously being added and updated. If you do not see the course(s) listed below in your geography, please contact the delivery management team.

1.4.1 Classroom courses

Course title: IBM Tivoli Netcool/Webtop 2.0 Fundamentals

Course duration: 2 days

Course number: (TN050CE - Canada: TN051CE - Canada: TN05ES - Spain: TN051 - US) Course numbers vary depending on the geo education delivery area. Please refer to the Web site for this course.

Abstract: IBM Tivoli Netcool/Webtop 2.0 Fundamentals is a 2 day intensive course designed for the system administrator responsible for installing, configuring, customizing, and administering world class IT visual management services products. Focusing on development, deployment, configuration, and management of the IBM Tivoli Netcool/Webtop Server, this course takes students from the standard configuration tasks to more advanced configurations of related components. Each student installs the IBM Tivoli Netcool/Webtop server on their own lab machine and, from this point forward, the student is challenged with applying concepts and facts and creating real world scenarios. Later, as the course develops, the emphasis shifts and the student configures

customized maps, charts, and table views from real-time network data. This is a performance-based course and all students emerge with a thorough understanding of visualization server technology.

1.4.2 Web resource

IBM Tivoli Netcool/Webtop V2.0 product information can be found at the following address:

http://www-306.ibm.com/software/tivoli/products/netcool-webtop/

2

Planning

The planning information for IBM Tivoli Netcool/Webtop is discussed in the following sections:

- ► 2.1, "Webtop architecture" on page 30
- ► 2.2, "Installation prerequisites" on page 33
- ► 2.3, "Licensing for IBM Tivoli Netcool/Webtop V2.0" on page 34
- ► 2.4, "Deployment considerations" on page 34
- ► 2.5, "Security planning" on page 35
- ► 2.6, "Customization requirements" on page 38

2.1 Webtop architecture



Figure 2-1 shows the IBM Tivoli Netcool/Webtop V2.0 architecture.

Figure 2-1 IBM Tivoli Netcool/Webtop architecture

IBM Tivoli Netcool/Webtop is part of the infrastructure of the Netcool implementation. It is installed in Netcool GUI Foundation, which works with OMNIbus ObjectServer. It communicates with Netcool Licensing and Netcool Security Manager for licensing and user authentication. Other Netcool products use IBM Tivoli Netcool/Webtop for modifying and managing the Web interface and user customization.

Figure 2-2 on page 31 shows IBM Tivoli Netcool/Webtop interaction with other components.



Figure 2-2 Communication configuration

In Figure 2-2, IBM Tivoli Netcool/Webtop has several components:

- Administration tool: Managing user and access rights
- Map editor: Defining a background for as graphical map for user interfaces
- Filters and views definition and customization
- Event list applications: Active Event List (AEL), static table view, and Lightweight Event List (LEL)
- Managing Web pages: Defining HTML and Web pages definitions

There are several methods to access IBM Tivoli Netcool/Webtop:

Read-only client

Read-only clients have a non-interactive view of the network status. They can view tableviews, LELs, maps, and charts, but cannot view the AEL or execute management instructions against alerts.

These clients are often third-party users (for example, customers) who want to observe the events taking place on their network and obtain a high-level view of system performance.

Desktop (read write client)

Desktop clients are usually ObjectServer validated network operation center (NOC) personnel who are responsible for monitoring the status of a network. They have access to AEL pages, where they can use administrative tools to execute alert management instructions against field entries, and are capable of creating and modifying filters and views for use in the AEL.

The entities and tools for this type of user are created by the IBM Tivoli Netcool/Webtop administrator.

Administrator client

Administrators are ObjectServer validated superusers responsible for addressing the requirements of non-administrative IBM Tivoli Netcool/Webtop users. This includes creating:

- Filters
- Views
- Tools
- Maps
- Entities and entity views
- Charts

Administrators also establish the high-level alert processing criteria for each user, and configure the HTML pages on the server to display Netcool data in the appropriate manner.

WAAPI

The IBM Tivoli Netcool/Webtop Administration API (WAAPI) is a utility for remotely configuring IBM Tivoli Netcool/Webtop. The application is used to send configuration instructions in XML to a IBM Tivoli Netcool/Webtop server.

The WAAPI is used by administrators who want to rapidly deploy predefined configurations to target systems. This system can be considered a command-line alternative to using the Web-based administration page. WAAPI users must have root access privileges.

WAAPI users are not configured using the User Editor, and do not require a license to connect to the IBM Tivoli Netcool/Webtop server.

2.2 Installation prerequisites

This section describes the software and hardware requirements for a IBM Tivoli Netcool/Webtop installation. You cannot successfully install IBM Tivoli Netcool/Webtop if your system does not meet the requirements specified in this section.

2.2.1 Supported platforms

The UNIX platforms on which the IBM Tivoli Netcool/Webtop server is supported are shown in Table 2-1.

Platform	Versions
Solaris™	8, 9, 10
AIX®	V5.2 and V5.3
Red Hat® Enterprise Linux Advanced Server	3.0
HP-UX	11 and 11i

 Table 2-1
 Supported UNIX platforms

The supported Windows platforms are shown in Table 2-2.

Table 2-2 Supported Windows platforms

Platform	Version
Microsoft Windows	2000 Advanced Server XP Professional 2000 Professional 2003

2.2.2 Web browser requirements

Table 2-3 shows the Web browsers supported by IBM Tivoli Netcool/Webtop 2.0.

Platform	Browser	Version
Microsoft Windows	Internet Explorer®	6
	Mozilla Firefox	1.5 and 1.07
Solaris	Mozilla Firefox	1.5 and 1.07
Linux	Mozilla Firefox	1.5 and 1.07

Table 2-3Supported Web browsers

2.3 Licensing for IBM Tivoli Netcool/Webtop V2.0

The IBM Tivoli Netcool/Webtop server requires three license files to function correctly. The license files are available as part numbers: C922PIE, C94SAEN, and C922QIE. Each license file enables some of the features of the IBM Tivoli Netcool/Webtop server. The required license files are:

- cro_webtop refers to IBM Tivoli Netcool/Webtop server licenses.
- cro_netcool_rw refers to Netcool GUI Foundation read-write licenses.
- cro_netcool_ro refers to Netcool GUI Foundation read-only licenses.
- cro_ncw_os_con refers to ObjectServer data source connection licenses.

2.4 Deployment considerations

For performance reasons, IBM Tivoli Netcool/Webtop and the Netcool GUI Foundation should be installed separately from other Netcool products. Figure 2-3 on page 35 shows an example IBM Tivoli Netcool/Webtop deployment using three machines.



Figure 2-3 Example IBM Tivoli Netcool/Webtop deployment

Your deployment depends on the specification of the available hardware, the load to be placed on the system, the requirements of any other Netcool products, and any failover considerations.

2.5 Security planning

Define users and groups for Webtop deployment, so that User details and groups are defined, by performing the following steps:

1. Define users.

IBM Tivoli Netcool/Webtop users are defined as internal or external from a IBM Tivoli Netcool/Webtop point of reference. Internal user accounts are stored in the Security Manager itself and are maintained only in the Security Manager. External user accounts are defined in the Security Manager defined external source. LDAP, ObjectServer, and NIS authentication sources can all be used by the Security Manager server. There are several types of users, as listed in Table 2-4.

Type of user	Roles necessary	Description	
IBM Tivoli Netcool/Webtop administrator	IBM Tivoli Netcool/Webtop Administrator IBM Tivoli Netcool/Webtop User GUI Foundation user	The IBM Tivoli Netcool/Webtop administrator can access the IBM Tivoli Netcool/Webtop administrative functions using the Webtop Admin page, and also has access to the Webtop Desktop page.	
IBM Tivoli Netcool/Webtop read-write user	IBM Tivoli Netcool/Webtop User GUI Foundation read write GUI Foundation user	A IBM Tivoli Netcool/Webtop read-write user can access the Webtop Desktop, and can run AEL tools, and change the filter or view applied to an AEL. IBM Tivoli Netcool/Webtop read-write users who are also ObjectServer users can also modify ObjectServer data.	
IBM Tivoli Netcool/Webtop read-only user	IBM Tivoli Netcool/Webtop User GUI Foundation read only GUI Foundation user	A IBM Tivoli Netcool/Webtop read-only user can access the Webtop Desktop, but cannot run AEL tools or modify ObjectServer data.	
Netcool GUI Foundation administrator	GUI Foundation Administrator Security Administrator GUI Foundation user	A Netcool GUI Foundation administrator can access the Netcool GUI Foundation administrative functions through the Admin page, but cannot access IBM Tivoli Netcool/Webtop functionality.	

Table 2-4 User types

2. Determine roles.

The IBM Tivoli Netcool/Webtop roles user accounts define what they have access to do and what features of the product they can access. For example, only a IBM Tivoli Netcool/Webtop administrator can access the Webtop Admin page, configure other users' filters, and configure other users' views. The read-only role can prevent a user from running tools, and removing the user account from the ObjectServer can also prevent a user from running SQL tools. The predefined roles are listed in Table 2-5.

Table 2-5	Default roles

Role name	Description
ADMIN	Security administrator. This role enables access to Netcool Security Manager functionality, and is required by Netcool GUI Foundation administrators so that they have full control over users, roles, and groups.
DOMAIN_ADMIN	Security Domain Administrator.
GROUP_ADMIN	Security Group Administrator.

Role name	Description
admin	GUI Foundation Administrator.
user	GUI Foundation user. This role is required to make users operational and so must be assigned to all users.
netcool_ro	GUI Foundation read only. This role associates a Netcool read-only role with a user, and grants read-only access to IBM Tivoli Netcool/Webtop. Users with this role can access the AEL but cannot execute AEL tools or change event data.
netcool_rw	GUI Foundation read write. This role associates a Netcool read-write role with a user, and grants read-write access to IBM Tivoli Netcool/Webtop. This role has an equivalent function in IBM Tivoli Netcool/Webtop V2.0 to the Desktop license in IBM Tivoli Netcool/Webtop V1.3.x. Users with this role have access to AEL tools and can change event data.
ncw_admin	Webtop Administrator. This role allows a user access to the Webtop Admin page.
ncw_user	Webtop desktop view. This role allows a user access to the Webtop Admin page.
Test	Test role.

3. Define groups.

Groups are collections of roles that have already been defined. There are some groups that have been predefined in IBM Tivoli Netcool/Webtop, such as Desktop and Restricted, that have special meaning. The Desktop role allows users to access the welcome page. This group, Desktop, is mapped to the external group called Public so that ObjectServer user accounts are part of this group by default. The restricted group is an internal Security Manager group that gives IBM Tivoli Netcool/Webtop read write users in the ObjectServer the right to delete events. The default groups and their definitions are shown in Table 2-6.

Table 2-6	Predefined groups
-----------	-------------------

Group	Descriptions
Restricted	This IBM Tivoli Netcool/Webtop group replaces the restricted ACL from previous versions of IBM Tivoli Netcool/Webtop. The Delete tool is assigned to the restricted group by default. The IBM Tivoli Netcool/Webtop administrator must assign users to the restricted group before they can use the Delete tool.
System	This Netcool GUI Foundation group permits its members administrative access to certain Netcool products and to the Netcool GUI Foundation. The admin user is assigned to this group by default.

Group	Descriptions
Desktop	This Netcool GUI Foundation group is required to make users operational by permitting login. All IBM Tivoli Netcool/Webtop users are created as members of this group if the Auto assign groups/roles check box is checked. You must not remove any IBM Tivoli Netcool/Webtop users from this group. By default, this group is mapped to the ObjectServer public group. This means that all ObjectServer users can log into IBM Tivoli Netcool/Webtop.
VIEWS	This Netcool GUI Foundation group is specific to page creation. Views must be assigned to this group when they are created. Users and roles must not be assigned to this group.

2.6 Customization requirements

The implementation of IBM Tivoli Netcool/Webtop consists of installing and customizing different aspects of IBM Tivoli Netcool/Webtop. The customization that can be performed for IBM Tivoli Netcool/Webtop includes:

- Determine user filters.
- Determine user views.
- Define entities.
- ► Define views.
- Define customer dashboard requirements.
- Determine chart requirements.
- ► Define maps.
- Define resources.
- Define pages.
- Define workflows.
- Define tools.
- Define menus.

The customization of these entities are discussed in more detail in Chapter 4, "Configuration" on page 77.

As IBM Tivoli Netcool/Webtop is mainly used as a front end to IBM Tivoli Netcool/OMNIbus, a good understanding of the fields of alerts are important. One of the most important tables is the alerts.status table. This table stores all open alerts in IBM Tivoli Netcool/OMNIbus. Some of the common fields in alerts.status table are listed in Table 2-7 on page 39.

Table 2-7 The alerts.status table

Column name	Data type	Description
Identifier	varchar(255)	Controls ObjectServer deduplication.
Serial	incr	The Tivoli Netcool/OMNIbus serial number for the row.
Node	varchar(64)	Identifies the managed entity from which the alarm originated. This could be a host or device name, service name, or other entity.
NodeAlias	varchar(64)	The alias for the node. For network devices or hosts, this should be the logical (layer-3) address of the entity. For IP devices or hosts, this should be the IP address.
Manager	varchar(64)	The descriptive name of the probe that collected and forwarded the alarm to the ObjectServer. This can also be used to indicate the host on which the probe is running.
Agent	varchar(64)	The descriptive name of the sub-manager that generated the alert.
AlertGroup	varchar(255)	The descriptive name of the type of failure indicated by the alert (for example, Interface Status or CPU Utilization).
AlertKey	varchar(255)	The descriptive key that indicates the managed object instance referenced by the alert (for example, the disk partition indicated by a file system full alert or the switch port indicated by a utilization alert).
Severity	integer	Indicates the alert severity level, which provides an indication of how the perceived capability of the managed object has been affected. The color of the alert in the event list is controlled by the severity value.
Summary	varchar(255)	The text summary of the cause of the alert.
StateChange	time	An automatically maintained ObjectServer time stamp of the last insertion or update of the alert from any source.
FirstOccurrence	time	The time in seconds (from midnight 1 Jan, 1970) when this alert was created or when polling started at the probe.
LastOccurrence	time	The time when this alert was last updated at the probe.
InternalLast	time	The time when this alert was last updated at the ObjectServer.
Poll	integer	The frequency of polling for this alert in seconds.
Туре	integer	The type of alert: 0: not set, 1: problem, 2: resolution, and so on.
Tally	integer	Automatically maintained count of the number of insertions and updates of the alert from any source. This count is affected by deduplication.

Column name	Data type	Description
Class	integer	The alert class used to identify the probe or vendor from which the alert was generated. Controls the applicability of context-sensitive event list tools.
Grade	integer	Indicates the state of escalation for the alert: 0: not escalated and 1: escalated.
Location	varchar(64)	Indicates the physical location of the device, host, or service for which the alert was generated.
OwnerUID	integer	The user identifier of the user who is assigned to handle this alert. The default is 65534, which is the identifier for the nobody user.
OwnerGID	integer	The group identifier of the group that is assigned to handle this alert.
Acknowledged	integer	Indicates whether the alert has been acknowledged (0/1).
ServerName	varchar(64)	The name of the originating ObjectServer. Used by gateways to control propagation of alerts between ObjectServers.
ServerSerial	integer	The serial number of the alert on the originating ObjectServer (if it did not originate on this ObjectServer). Used by gateways to control the propagation of alerts between ObjectServers.
URL	varchar(1024)	Optional URL that provides a link to additional information in the vendor's device or ENMS.
MasterSerial	integer	Identifies the master ObjectServer, if this alert is being processed in a desktop ObjectServer environment. This column is added when you run the database initialization utility nco_dbinit with the -desktopserver option. MasterSerial <i>must</i> be the last column in the alerts.status table if you are using a desktop ObjectServer environment.
ExtendedAttr	varchar(4096)	Holds name-value pairs (of IBM Tivoli Enterprise Console® extended attributes) or any other additional information for which no dedicated column exists in the alerts.status table. Use this column only through the nvp_get, nvp_set, and nvp_exists SQL functions.

3

Installation

The installation of IBM Tivoli Netcool/Webtop is discussed in the following sections:

- ► 3.1, "The installation overview" on page 42
- ► 3.2, "License server setup" on page 42
- ► 3.3, "Security Manager installation" on page 50
- ► 3.4, "IBM Tivoli Netcool/Webtop installation" on page 61
- ► 3.5, "Netcool/GUI Foundation" on page 72

3.1 The installation overview

IBM Tivoli Netcool/Webtop V2.0 eAssembly is provided in part number CR53SEN. The components that we use in this book are:

- Common license key part numbers:
 - Netcool/Webtop V2.0 License Key (C94SAEN)
 - Read Only Client License V1.0 English (C922PIE)
 - Read Write Client License V1.0 English (C922QIE)
- Linux installation part numbers:
 - Tivoli Netcool Security Manager for use with Impact V3.1 on all supported Linux versions - English (C923GIE)
 - Tivoli Netcool/Webtop V2.0.93 for Linux English (C14BQEN)
 - Netcool Common License Server V1.0 for Linux English (C924WIE)
- Windows installation part numbers:
 - Netcool Common License Server V1.0 for Windows English (C924XIE)
 - Tivoli Netcool Security Manager for use with Impact V3.1 on all supported Windows versions - English (C923HIE)
 - Tivoli Netcool/Webtop V2.0.93 for Windows English (C14BREN)

The overall installation process is covered in the following sections:

- ► 3.2, "License server setup" on page 42
- 3.3, "Security Manager installation" on page 50
- 3.4, "IBM Tivoli Netcool/Webtop installation" on page 61
- 3.5, "Netcool/GUI Foundation" on page 72

3.2 License server setup

We discuss the license installation in the following sections:

- UNIX installation in 3.2.1, "License server setup on UNIX" on page 43
- Windows installation in 3.2.2, "License server setup on Windows" on page 47

3.2.1 License server setup on UNIX

The installation process is as follows:

1. Install Netcool License Server from the installation media. The console based installation is shown in Example 3-1.

Example 3-1 License server installation

```
[root@localhost ncl]# ./INSTALL -console
Please enter installation directory [/opt/netcool]:
1523 blocks
1523 blocks
   . . .
Product: Netcool/License Server
Welcome to the Netcool text installer for Netcool/License Server
To continue press [Enter]:
End User License Agreement for Netcool/License Server
MICROMUSE END USER SOFTWARE LICENSE AGREEMENT ("EULA")
effective as of February 2006
The software (the "Licensed Software") enclosed with this End User
Software License Agreement ("EULA") or delivered via authorized
download and related documents, training materials and user guides
(collectively, the ("Documentation") are licensed solely to the
   . .
Do you agree to be bound by the terms of this license (Yes/No) []:
Yes
Product: Netcool/License Server
Select Feature
-----
 [I]
       1) License Server - This is the License Server for the
Netcool suite.
Select:
        1-1) Toggle feature
        s) Select all features
```

```
u) Unselect all features
           i) Install selected features
           q) Quit
   Option [i]: i
   installing Features
          _____
    [I]
           1) License Server - This is the License Server for the
   Netcool suite.
   Do you want to continue ([I]nstall/[M]ore/[C]ancel) []: I
   Installing product: Netcool/License Server.
   Product Netcool/License Server installed OK.
2. Set the NCHOME environment variable:
   export NCHOME=/opt/netcool
3. Start the license server by running the command nc start license found in
   $NCHOME/license/bin/.
4. Obtain the license files from the IBM download software site found at the
   following address:
   http://www-01.ibm.com/software/howtobuy/passportadvantage/pao custom
   ers.htm
5. Place the files in the license server folder $NCHOME/license/etc. The default
   location for UNIX is shown in Example 3-2.
Example 3-2 License file location and part numbers
[root@localhost etc]# pwd
/opt/netcool/license/etc
[root@localhost etc]# ls -l
```

```
total 12
-rw-r--r-- 1 root root 707 May 28 11:16 C922PIE.lic
-rw-r--r-- 1 root root 1168 May 28 11:16 C922QIE.lic
-rw-r--r-- 1 root root 713 May 28 11:16 C94SAEN.lic
```

6. Edit the license file contents of each of the license files. Replace the put_hostname_here entry shown in Example 3-3 on page 45 with the server's host name.

Example 3-3 License file default contents

```
[root@localhost etc]# cat C94SAEN.lic
SERVER put hostname here ANY 27000
VENDOR netcool
USE SERVER
FEATURE cro webtop netcool 20040331.0 permanent 9999 ck=182 \
SIGN="0078 283B D949 F6B7 B45E 4718 B811 E500 1D70 6FE9 5AE0 \
883E 321F 9597 11A5" SIGN2="0069 798B D533 CCE3 C5EE 748B 95F0 \
3E00 A9FC BB7F 66A4 679F 4B4B 4996 0558"
FEATURE cro ncw os con netcool 20040331.0 permanent 9999 ck=239 \
SIGN="002C 130B D862 EBE1 7357 A404 C005 DE00 9393 B839 2ABE \
A2B3 924F 5CEC 03BA" SIGN2="00B9 8B87 B132 E0CC B5DA 5C07 4525 \
F000 85BC 08FD EB76 4CDA C0BA 225D C20D"
FEATURE webtop netcool 20030630 permanent 9999 ck=183 \
SIGN=9CCD06ECB29E
FEATURE new os con netcool 20030630 permanent 9999 ck=179 \
SIGN=398623D88E9C
```

7. Read the new license keys by running nc_read_license found in /opt/netcool/license/bin, as shown in Example 3-4.

Example 3-4 Reading in newly installed license files

```
[root@localhost bin]# ./nc_read_license
lmreread - Copyright (c) 1989-2003 by Macrovision Corporation. All
rights reserved.
lmreread successful
```

8. Verify the IBM Tivoli Netcool/Webtop keys by running the nc_print_license command found in /opt/netcool/license/bin, as shown in Example 3-5.

Example 3-5 Verifying installed licenses

[root@localhost bin]# ./nc_print_license lmstat - Copyright (c) 1989-2003 by Macrovision Corporation. All rights reserved. Flexible License Manager status on Thu 5/28/2009 12:14

License server status: 27000@localhost.localdomain License file(s) on localhost.localdomain: /opt/netcool/license/etc//C922PIE.lic:/opt/netcool/license/etc//C922QIE.lic:/opt/netco ol/license/etc//C94SAEN.lic:

localhost.localdomain: license server UP (MASTER) v9.2

Vendor daemon status (on localhost.localdomain):

netcool: UP v9.2

Feature usage info:

Users of cro_nci_opview: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of nci_opview: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of webtop_ro: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of cro_webtop_ro: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of cro_nci_client: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of nci_client: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of nci_client: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of webtop_dt: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of cro_webtop_dt: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of ncp_tvs_rw: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of rad_user: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of cro_webtop_tro_rw: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of rad_user: (Total of 9999 licenses issued; Total of 0 licenses in use)

"cro_webtop" v20040331.0, vendor: netcool

floating license

root localhost.localdomain JavaDisplay (v20040331.0) (localhost.localdomain/27000 101), start Thu 5/28 11:44

Users of cro_ncw_os_con: (Total of 9999 licenses issued; Total of 1 license in use) "cro_ncw_os_con" v20040331.0, vendor: netcool

floating license

root localhost.localdomain JavaDisplay (v20040331.0) (localhost.localdomain/27000 201), start Thu 5/28 11:44

Users of webtop: (Total of 9999 licenses issued; Total of 0 licenses in use) Users of ncw_os_con: (Total of 9999 licenses issued; Total of 0 licenses in use)

3.2.2 License server setup on Windows

The license server setup on Windows is as follows:

1. Obtain the license files from the IBM download software site found at the following address:

http://www-01.ibm.com/software/howtobuy/passportadvantage/pao_custom
ers.htm

2. Place the files in the license server \etc folder. The default location for Windows is shown in Example 3-6.

Example 3-6 License file names and location on Windows

c:\>cd C:\Program Files\IBM\Tivoli\Netcool\license\etc C:\Program Files\IBM\Tivoli\Netcool\license\etc>dir Volume in drive C has no label. Volume Serial Number is C43F-BBF6 Directory of C:\Program Files\IBM\Tivoli\Netcool\license\etc 05/20/2009 01:02 PM <DIR> 05/20/2009 01:02 PM <DIR> 05/20/2009 01:03 PM 695 C922PIE.lic 05/20/2009 01:04 PM 1,156 C922QIE.lic 05/20/2009 01:04 PM 701 C94SAEN.lic 05/20/2009 01:02 PM 181 dummy.lic 4 File(s) 2,733 bytes 2 Dir(s) 57,429,340,160 bytes free

 Edit the license file's contents to add the host name of your license server. Figure 3-1 shows the default license file. Modify the license file to change the host name from put hostname here to your actual host name.



Figure 3-1 License file default values

 Select Programs → Netcool Suite → Flex License → ImTools, as shown in Figure 3-2.



Figure 3-2 License Server: Start menu shortcut

5. Select the **Start/Stop/Reread** tab and click the **Reread License File** button, as shown in Figure 3-3 on page 49.

LMTOOLS by Macro	vision Corporation http://	/www.macrovision.com	
Service/License File	System Settings Utilities [Start/Stop/Reread Server Status Server Diags Config Services Borr	owing
	Flexin	n license Services installed on this computer	
	Start Server Advanced settings >>	Stop Server ReRead License File Force Server Shutdown NOTE: This box must be checked to shut down a license server when licenses are borrowed.	
Using License File	e: C:\Program Files\IBM\Tivol	i\Netcool\license\etc	

Figure 3-3 License server: Start/Stop/Reread tab

6. To verify that the license server is reading the licenses correctly, use the ImTools. Under the Server Status tab, click the **Perform Status Enquiry** button, as shown in Figure 3-4. This generates a report of the license files found, license server version, names of licenses found, number of licenses available, and the number of licenses in use.

Figure 3-4 License Server: Server Status tab

3.3 Security Manager installation

This section discusses the installation of the Security Manager in the following sub sections:

- ▶ 3.3.1, "Security Manager installation on UNIX" on page 50
- ► 3.3.2, "Security Manager installation on Windows" on page 54

3.3.1 Security Manager installation on UNIX

The Security Manager installation on UNIX is as follows:

- 1. Start the installation by running **setup.sh** in console mode.
- 2. Type Yes and press Enter to accept the license agreement after reviewing it, as shown in Example 3-7.

```
Example 3-7 Security Manager installation welcome screen
```

```
[root@localhost C923GIE]#./setup.sh -console
```

Product: Netcool/Security Manager Welcome to the Netcool text installer for Netcool/Security Manager

To continue press [Enter]: Yes

End User License Agreement for Netcool/Security Manager

MICROMUSE END USER SOFTWARE LICENSE AGREEMENT ("EULA") effective as of February 2006

The software (the "Licensed Software") enclosed with this End User Software License Agreement ("EULA") or delivered via authorized download and related documents, training materials and user guides (collectively, the ("Documentation") are licensed solely to the entity named as licensee in Micromuse's business records (the "Licensee") subject to the terms of this EULA, unless such terms are expressly and unambiguously amended by a separate written license agreement between Licensee and Micromuse Inc. or one of Micromuse Inc.'s subsidiaries or affiliates (individually and collectively, "Micromuse" as used herein).

. . .

Do you agree to be bound by the terms of this license (Yes/No) []: Yes

3. By default, the Security Manager is selected for installation and there are no other components to select. Select n to continue to the next configuration screen, as shown in Example 3-8.

Example 3-8 Security Manager installation: component selection

Product: Netcool/Security Manager
SelectFeature
[I]1) Security Manager Server - The Netcool Security Manager Server
<pre>Select: 1-1) Toggle feature s) Select all features u) Select no features n) Next page (properties configuration). q) Quit Option [n]: n</pre>

4. In the next configuration screen, shown in Example 3-9, set the Security Manager host name, Server Port, HTTP Port, and DB Port. You need to know this information for the Security Manager failover setup, IBM Tivoli Netcool/Webtop installation, IBM Tivoli Netcool/Webtop upgrades, and application troubleshooting. You should make note of them now.

Example 3-9 Security Manager installation: ports defined

5. Select the method of external authentication for the Security Manager, as shown in Example 3-10, type n, and press Enter. In this example, you are using an ObjectServer as your authentication source.

Example 3-10 Security Manager installation: external authentication source type

Product: Netcool/Security Manager
Authentication Source
Select Authentication source
10bjectServerSELECTED 2LDAP 3NIS
<pre>Select: 1-3) Choose Authentication Source p) Previous page n) Next page q) Quit Option [n]: n</pre>

6. Enter the ObjectServer details, as shown in Example 3-11. The host name, Port, Username, and Password are details that the Security Manager needs to authenticate user accounts against the ObjectServer.

Example 3-11 Security Manager installation: external authentication details

```
ObjectServer

Please enter ObjectServer information

SelectProperties

------

Host [localhost]

2Port [4100]

3Username [root]

4Password [******]

Select:

1-4) Change Property

p) Previous page

n) Next page

q) Quit

Option [n]: n
```

```
Product: Netcool/Security Manager
```

7. Use the default values for the Application Registry, as shown in Example 3-12.

Example 3-12 Security Manager installation: application registry

8. Wait for the installer to complete. Example 3-13 shows the progress screen that you will see during the installation and the completion message.

Example 3-13 Security Manager installation: status screen

Installing product: Netcool/Security Manager.

Product Netcool/Security Manager installed OK.

9. Start the Security Manager Service and check its status by running the ncsm_status command, as shown in Example 3-14.

Example 3-14 Security Manager start script

```
root@localhost bin]# pwd
/opt/netcool/security/bin
root@localhost bin]# ./ncsm_server &
[2] 27658
[root@localhost bin]# Starting Server ...
Logging to file: log/SM_server.log
Apache Tomcat/4.1.8
Apache Tomcat/4.1.8
... Server Started.
[root@localhost bin]# ./ncsm_status
Netcool/SecurityManager license server is running (pid=9139 )
Netcool/SecurityManager Server is running (pid=27665 )
```

10.Open a browser and navigate to http://127.0.0.1:8077. The Security Manager creates a Web site at this address that is used to verify that the installation was successful and that the Security Manager is running, as shown in Figure 3-5.



Figure 3-5 Security Manager confirmation window

3.3.2 Security Manager installation on Windows

The installation process for Security Manager on Windows is as follows:

1. Start the installation by running **setup.msi**. The installation begins and the welcome window opens, as shown in Figure 3-6 on page 55. Click **Next**.



Figure 3-6 Security Manager installation: welcome window

2. Accept the license agreement and select **Next** to continue, as shown in Figure 3-7.



Figure 3-7 Security Manager installation: license agreement

3. The installer reads the NCHOME environment variable and populates the installation directory location, as shown in Figure 3-8.



Figure 3-8 Security Manager installation: NCHOME defined

4. Begin the Security Manager configuration by clicking **Next** on the window shown in Figure 3-9.

BM Tivoli Netcool Installer	
Feature Selection	TDM
Select the features you wish to install	╧╧╝╛╤╘⊚
Please select the features you wish to install	
Security Manager Server	
«Bark Next »	Cancel
- BOCK	

Figure 3-9 Security Manager installation: component selection

5. In Figure 3-10, set the Security Manager host name, Server Port, HTTP Port, and DB Port. This information is needed for IBM Tivoli Netcool/Webtop installation, IBM Tivoli Netcool/Webtop upgrades, and application troubleshooting.

🔮 IBM Tivoli Netcool I	installer	_ 🗆 🗵	
Security Manager Ser	rver	TORE	
Please enter Securit	y Manager Server information	T 1111 F *	
Server Host:	localhost		
Server Port:	1275		
Server HTTP Port:	8077		
Server DB Port:	5600		
	,		
	« Back Next :	» Cancel	

Figure 3-10 Security Manager installation: Security Manager ports defined

6. Select the method of external authentication for the Security Manager, as shown in Figure 3-11, and click **Next**. In this example, we use an ObjectServer as our authentication source.

🔮 IBM Tívoli Netcool Installer	
Authentication Source	M
Please select an Authentication source	171⊗
Netcool ObjectServer	
() LDAP	
C NIS	
«Back Next » Cance	1

Figure 3-11 Security Manager installation: external data source defined

7. Enter the ObjectServer details, as shown in Figure 3-12. The host name, Port, Username, and Password are the details the Security Manager needs to authenticate user accounts against the ObjectServer.

🙆 IBM Tivoli Netcool II	nstaller	
ObjectServer		TDM
Please enter ObjectS	erver information	LIGITL⊗
Host:	baseimage	-
Port:	4100	
Username:	root	
Password:		
	,	
	«Back Next	t » Cancel
	«Back Next	t » Cancel

Figure 3-12 Security Manager installation: define ObjectServer

8. Use the default values for the Application Registry, as shown in Figure 3-13.

Application Registry Please enter Application Registry Information Use Application Registry Security Manager Registry Name: NCSM-1 Registry Host: localhost Registry Port: 8080	
Please enter Application Registry information Image: Ima	
Use Application Registry Security Manager Registry Name: NCSM-1 Registry Host: Iocalhost Registry Port: 8080	
Use Application Registry Security Manager Registry Name: NCSM-1 Registry Host: Tocalhost Registry Port: 8080	
Security Manager Registry Name: NCSM-1 Registry Host: Jocalhost Registry Port: 8080	
Registry Host: Jocalhost Registry Port: 8060	
Registry Port: 8080	
Registry Location: /registry/services	
Registry Username: admin	
Registry Password: Accesses	

Figure 3-13 Security Manager installation: application registry

9. Start the installation by confirming your selections and clicking the **Install** button, as shown in Figure 3-14 on page 59.


Figure 3-14 Security Manager installation: component confirmation

10. Wait for the installer to complete. Figure 3-15 shows the progress window that you will see during the installation.

🖞 IBM Tivoli Netcool Installer	-
Installing	TEM
Installation in progress	±±74710
Installation in progress	
jre142	
	Cancel

Figure 3-15 Security Manager installation: progress window

11. After the installer completes, the installer displays the installation results, as shown in Figure 3-16. Click **Finish** to complete the installation.

😫 IBM Tivoli Netco	ol Installer
	Netcool Installer Wizard Completed
letcool	Setup has finished installing Netcool/Security Manager . Click Finish to exit the wizard.
Tivoli	
	Finish

Figure 3-16 Security Manager installation: summary window

- 12. Start the Netcool Security Manager service.
- 13. Open a browser and navigate to http://127.0.0.1:8077. The Security Manager creates a Web site at this address that is used to verify that the installation was successful and that the Security Manager is running, as shown in Figure 3-17.



Figure 3-17 Security Manager confirmation page

3.4 IBM Tivoli Netcool/Webtop installation

The installation of IBM Tivoli Netcool/Webtop itself is discussed in the following sections:

- ► 3.4.1, "IBM Tivoli Netcool/Webtop installation on UNIX" on page 61
- ► 3.4.2, "IBM Tivoli Netcool/Webtop installation on Windows" on page 66

3.4.1 IBM Tivoli Netcool/Webtop installation on UNIX

The IBM Tivoli Netcool/Webtop installation on UNIX is performed as follows:

1. After reviewing the ReadMe file that is included with the IBM Tivoli Netcool/Webtop installation, start the installer by executing the INSTALL script, as shown in Example 3-15.

```
Example 3-15 IBM Tivoli Netcool/Webtop installation: welcome screen
```

[root@localhost C1YR3ML]# ./INSTALL -console

Product: Netcool/Webtop

Welcome to the Netcool text installer for Netcool/Webtop

To continue press [Enter]:

2. Accept the license agreement and type Yes to continue the installation, as shown in Example 3-16.

Example 3-16 IBM Tivoli Netcool/Webtop installation: license agreement

End User License Agreement for Netcool/Webtop

MICROMUSE END USER SOFTWARE LICENSE AGREEMENT ("EULA") effective as of February 2006

The software (the "Licensed Software") enclosed with this End User Software License Agreement ("EULA") or delivered via authorized download and related documents, training materials and user guides (collectively, the ("Documentation") are licensed solely to the entity named as licensee in Micromuse's business records (the "Licensee") subject to the terms of this EULA, unless such terms are expressly and unambiguously amended by a separate written license agreement between Licensee and Micromuse Inc. or one of Micromuse Inc.'s subsidiaries or affiliates (individually and collectively, "Micromuse" as used herein).

Do you agree to be bound by the terms of this license (Yes/No) []: Yes

3. Confirm the IBM Tivoli Netcool/Webtop components that you want to install. By default, all components are selected, as shown in Example 3-17. If you want to deselect a component, press the number key that corresponds to it.

Example 3-17 IBM Tivoli Netcool/Webtop installation: component selection

Product: Netcool/Webtop

SelectFeature

[I] 1) Netcool/Webtop - Netcool/Webtop

[I] 2) Netcool/Webtop Migrator - Migration utility to migrate from Netcool/Webtop 1.3.x to Netcool/Webtop 2.0. Will be installed in NCHOME/webtop/migrator.

[I] 3) WAAPI - WAAPI client for Netcool/Webtop. Will be installed in NCHOME/webtop/waapi.

Select:

- 1-3) Toggle feature
- s) Select all features
- u) Unselect all features
- i) Install selected features
- n) Next page (properties configuration)
- q) Quit
- Option [i]: n
- 4. Define the user name, HTTP port, and server host name of the Security Manager server that the IBM Tivoli Netcool/Webtop server is connecting to for authentication. The NCHOME value will default to /opt/netcool if nothing is defined in the environment, but if the NCHOME is already set to a custom value, the installer will use that value. The installer would not add this value (or any other variables) in /etc/profile; you have to add it manually for IBM Tivoli Netcool/Webtop to function correctly. Refer to Example 3-18 on page 63 for more details.

Example 3-18 IBM Tivoli Netcool/Webtop installation: NCHOME and Security Manager defined

Product: Netcool/Webtop

SelectProperties

- 1 NCHOME default destination directory [/opt/netcool]
- 2 Default host name for the Security Manager. [localhost]
- 3 HTTP Port Number for the security Manager. [8077]
- 4 Administrators username for the Security manager. [admin]

Select:

- 1-4) Change Property
- i) Install product
- p) Previous page
- n) Next page
- q) Quit

Option [i]: n

5. Set the Security Manager account password, license server host name, license server port, and HTTP port for Netcool GUI Foundation, as shown in Example 3-19. The HTTP port is the port you will be using to connect to the IBM Tivoli Netcool/Webtop server with a browser. In this example, you would need to use the URL http://localhost:8080 to connect.

Example 3-19 IBM Tivoli Netcool/Webtop installation: dependencies continued

Product: Netcool/Webtop

Option [i]: n

```
SelectProperties

1 Administrators password for the Security manager. [netcool]

2 Default address for the license server. [localhost]

3 Default port for the license server. [27000]

4 NGF HTTP Server Port. [8080]

Select:

1-4) Change Property

i) Install product

p) Previous page

n) Next page

q) Quit
```

6. Set the NGF Server Control Port, NGF Database Port, ObjectServer name, and ObjectServer host name, as shown in Example 3-20. The ObjectServer host name should be a fully qualified domain name if you are using a remote server. The NGF control port and DB port do not normally need to be modified, but you should be aware that your application is using them to avoid conflicts and port scans.

Example 3-20 IBM Tivoli Netcool/Webtop installation: properties

```
Product: Netcool/Webtop
```

SelectProperties

1 NGF Server Control Port. [8085] 2 NGF Database Port. [8089] 3 Existing ObjectServer name [NCOMS] 4 Existing ObjectServer host [localhost]

Select:

- 1-4) Change Property
- i) Install product
- p) Previous page
- n) Next page
- q) Quit

Option [i]: n

7. Set the ObjectServer port, user name, and password that IBM Tivoli Netcool/Webtop will be using for event data, as shown in Example 3-21.

Example 3-21 ObjectServer attributes

```
Product: Netcool/Webtop

SelectProperties

1 Existing ObjectServer port [4100]

2 Existing ObjectServer username [root]

3 Existing ObjectServer password []

Select:

1-3) Change Property

i) Install product

p) Previous page

q) Quit

Option [i]: i
```

8. Confirm your application component select one last time before beginning the installation. Press i and Enter to begin the installation, as shown in Example 3-22.

Example 3-22 Installation feature

installing Features

[I] 1) Netcool/Webtop - Netcool/Webtop

[I] 2) Netcool/Webtop Migrator - Migration utility to migrate from Netcool/Webtop 1.3.x to Netcool/Webtop 2.0. Will be installed in NCHOME/webtop/migrator.

[I] 3) WAAPI - WAAPI client for Netcool/Webtop. Will be installed in NCHOME/webtop/waapi.

Do you want to continue ([I]nstall/[M]ore/[C]ancel) []: i

 Wait for the installation to complete. After the installer completes, you will get message shown in Example 3-23. The installation will not actually be complete until the Netcool/GUI Foundation (NGF) server is started for the first time and provisioned successfully. This is covered in 3.5, "Netcool/GUI Foundation" on page 72.

Example 3-23 Installation complete

Installing product: Netcool/Webtop.

Product Netcool/Webtop installed OK.

3.4.2 IBM Tivoli Netcool/Webtop installation on Windows

The IBM Tivoli Netcool/Webtop installation on Windows is as follows:

 After reviewing the ReadMe file that is included with the IBM Tivoli Netcool/Webtop installation, start the installer by executing setup.exe. Click Next in the welcome window shown in Figure 3-18.



Figure 3-18 IBM Tivoli Netcool/Webtop installation: welcome window

2. Accept the license agreement and click **Next** to continue the installation, as shown in Figure 3-19.



Figure 3-19 IBM Tivoli Netcool/Webtop installation: license agreement

3. The installer reads the environment variable for your system (%NCHOME%) and displays your IBM Tivoli Netcool/Webtop installation location, as shown in Figure 3-20. If %NCHOME% is not displayed here, cancel the installation and review your system configuration.

BM Tivoli Netcool Installer]
Netcool Home	
Select a home location	
The Netcool Suite default folder is already defined as follows:	
C:\Program Files\IBM\Tivoli\Netcool Browse	
If this location is not suitable, abort the current installation. Ensure that you change the value	
of the environment variable NCHOME before restarting this installer.	
«Back Next » Cancel	

Figure 3-20 IBM Tivoli Netcool/Webtop installation: %NCHOME% defined

4. Confirm the IBM Tivoli Netcool/Webtop components that you want to install. By default, all components are selected, as shown in Figure 3-21. If you want to de-select a component, double-click the component name.

BM Tivoli Netcool Installer Feature Selection Select the features you wish to install	uz IBM.
Please select the features you wish to install Netcool/Webtop Migrator WAAPI Description	
«Back Next »	Cancel

Figure 3-21 IBM Tivoli Netcool/Webtop installation: component confirmation

5. Enter the license server host name and port, as shown in Figure 3-22.

M Tivoli Netcool Installer			
cool Licensing License Server Configuration		I	BM.
Please enter the details of the l existing license server, or instal	icense server you want this app II one as part of this installation.	lication to use. You can	use an
License Server Host:	localhost		
License Server Port:	27000		
After installation, configure the	license server before running th	nis application.	
	« Back	Next » C	ancel

Figure 3-22 IBM Tivoli Netcool/Webtop installation: License Server defined

6. Enter the ObjectServer name, host name of the ObjectServer, ObjectServer port, user name, and password, as shown in Figure 3-23. This information will be used to create your data source file so that it defines where IBM Tivoli Netcool/Webtop gets its event data from. This information is not used for authentication.

	debaile of the Object Community of Makes all Makes to accord to	
Speciry the (Jecails of the ObjectServer you want Netcool) webtop to connect to	
Name:	NCOMS	
Hostname:	baseimage	
Port:	4100	
Specify the u	username and password of an ObjectServer user with administrative	e permissions.
Username:	root	
Password:		

Figure 3-23 IBM Tivoli Netcool/Webtop installation: ObjectServer defined

7. Enter the Security Manager host name and HTTP port, as shown in Figure 3-24. IBM Tivoli Netcool/Webtop uses this information for its internal and external user account authentication.

🖞 IBM Tivoli Netcool Installer		_O×	
Netcool GUI Foundation		TONE	
Security Manager Client		TTA1116	
Configure Security Manager	used by this instance of the Netcool GUI Foundation:		
Security Manager Host:	localhost		
Security Manager Port:	8077		
	«Back Next »	Cancel	

Figure 3-24 IBM Tivoli Netcool/Webtop installation: Security Manager ports defined

8. Define the Security Manager user name and password, as shown in Figure 3-25. By default, the user account is admin and the password is netcool.

🔮 IBM Tivoli Netcool Installer		
Netcool Security Manager Administrator username and password	a la	IBM.
Please enter the username and passw Security Manager.	ord of a user with administrative access to th	ne Netcool
Administrator Username: adn	in	
Administrator Password:	****	
Confirm Password:	****	
	«Back Next »	Cancel

Figure 3-25 IBM Tivoli Netcool/Webtop installation: Security Manager login

9. Define the IBM Tivoli Netcool/Webtop ports for the NGF HTTP server, NGF Server Control, and NGF Database, as shown in Figure 3-26.

업 IBM Tivoli Netcool Installer		_ 0	×
Netcool GUI Foundation		TDW	F
Configuration			
Please enter the default web s	erver port number, or click Next to a	ccept the defaults:	
NGF HTTP Server Port:	8080		
NGF Server Control Port:	8085		
NGF Database Port:	8089		
	« Back	ext » Cancel	

Figure 3-26 IBM Tivoli Netcool/Webtop installation: NGF ports defined

10.Confirm your selected configuration and click the **Install** button, as shown in Figure 3-27.

BM Tivoli Netcool Installer	
Ready to install	TDM
Review your installation settings	1217L®
Please review your installation settings below:	
Summary	_
Installing Netcool/Webtop version 2.0.	
NetcoolWebtop	
Features	
Netcool/Webtop	
Netcool/Webtop Migrator WAAPI	
26 Packages <u>(show details)</u>	•
«Back Install	Cancel

Figure 3-27 IBM Tivoli Netcool/Webtop installation summary

11. Wait for the installer to complete. The window shown in Figure 3-28 on page 71 shows the installation progress.

IBM Tivoli Netcool Installe	er	_ _ X
Installing		TDM
Installation in progress		<u>++7</u> 1710
Installation in progress		
webtopwar		
File: struts-nested.tld, Dir	ectory: C:\Program Files\IBM)	1\Tivoli\Netcool\guifoundation\webapp
ļ		
		1

Figure 3-28 IBM Tivoli Netcool/Webtop installer progress window

12. Click the Finish button to complete the installation.

3.5 Netcool/GUI Foundation

The configuration of Netcool/GUI Foundation is as follows:

 Starting the NGF server for the first time will provision the IBM Tivoli Netcool/Webtop server and the Security Manager that it is configured to use. This process returns many provisioning status messages, which is normal. This process needs to complete fully the first time the server is started. Run ngf_server start to start the server or start the Netcool/GUI Foundation service from the Windows Services window. See Example 3-24 for an example of the UNIX startup.

Example 3-24 Provisioning the IBM Tivoli Netcool/Webtop server when starting the server for the first time

```
[root@localhost bin]# $NCHOME/bin/ngf server start
Starting Netcool GUI Foundation ...
Linking ASA libraries
ln -s /opt/netcool/guifoundation/asa/unix/lib/libdbcis9.so
/opt/netcool/guifoundation/asa/unix/lib/libdbcis9.so.1
ln -s /opt/netcool/guifoundation/asa/unix/lib/libdbencod9 r.so
/opt/netcool/guifoundation/asa/unix/lib/libdbencod9_r.so.1
00 smprovision init.xml machant webtop.xml
waiting on provisioning script to complete execution
00 smprovision init.xml machant webtop.xml
waiting on provisioning script to complete execution
00 smprovision init.xml machant webtop.xml
waiting on provisioning script to complete execution
NGF Server:
                Running
                                PID: 30724
ASA Database:
                Running
                                PID: 30715
```

Note: If Security Manager is not started, Netcool/GUI Foundation will fail to process the XML files and will keep on retrying the provisioning.

2. Log into IBM Tivoli Netcool/Webtop server with the admin account, as shown in Figure 3-29. The default port is 8080, the user name is admin, and the password is netcool. This account is used to configure access to IBM Tivoli Netcool/Webtop for the webadmin user you just created in the ObjectServer.

Pleas	e enter your Ne Username:	cool username and	password	
	Password:	,	Log In	

Figure 3-29 NGF login window

3. After the admin account is authenticated, you will see the welcome window shown in Figure 3-30.



Figure 3-30 NGF default welcome window

4. From the welcome window, select the **Administration** option in the drop down box to navigate to the NGF administration window, as shown in Figure 3-31.

NETCOOL [®] Suite [™]			logged in as	: Netcool Administr	ator Ad	Iministration	•	Logout	Μ
System Information	Layout Security	Ses	sions				Annan		
Version Server Runtime	Version Information Product Name Netcool GUI Foundation	Version 1.0.137							
Java Runtime									
	-								

Figure 3-31 NGF administration window

The System Information window also contains the server runtime information, as shown in Figure 3-32.

1	VETCOOL [®] Suite [™]		logged in as: Netcool Administrator	Administration	•	Logout	Μ
	System Information	Layout Security	Sessions		-		
-	Version	Memory:					
•	Server Runtime	Free Memory (K) -> 230190 Total Memory (K) -> 260224					
	Java Runtime	Thread Pool:					
		Available threads: -> 5 Total threads: -> 5 Runnable queue length: -> 0 Processed thread count: -> 5					
		Viewpoint Registry: Number of entries: -> 114					
		Resource Manager: Entries in Manager -> 1 Bad Entries -> 0 URLs Loading/Refreshing -> 0					•
		Global Memory Cache: Objects in Cache -> 30					

Figure 3-32 System Information: server runtime window

The System Information window also allows you to view Java Runtime information, which includes Java Virtual Machine environment variables, a user name, and other Java properties, as shown in Figure 3-33.

ľ	NETCOOL® S	Suite"	logged in as: Netcool Administrator Administration 👤 Logout 🕅
-	System Informa	ation Layout Security	Sessions
-	Version	Free Memory (in bytes) Total Memory (in bytes)	239315216 266469376
	Server Runtime	java.vendor catalina.base	Sun Microsystems Inc. /opt/netcool/guifoundation
•	Java Runtime	INVALID_NAME_CHARS sun.management.compiler license.hbInterval catalina.useNaming INVALID_NAME_START_CHARS os.name	\$! £%^&*()+=¬`~#@':;<>{}[]?/\ ," HotSpot Client Compiler 300 true /*?"<> &. Linux
	webappRoot		/opt/netcool/guifoundation/webapps/desktop/ /opt/netcool/guifoundation/common/endorsed/xmlParserAPIs.jar:/opt/netcool/ /common/endorsed/xalan-2.3.1jar:/opt/netcool/guifoundation/common/endor /opt/netcool/guifoundation/common/endorsed/xercesImpl.jar:/opt/netcool/gu /common/endorsed/xerces-2.0.2.jar:/opt/netcool/guifoundation/common/endor /opt/netcool/guifoundation/common/endorsed/xercesImpl.jar:/opt/netcool/guifoundatio
		sun.boot.dass.paur	/lb/iBn.jar:/opt/netcool/platform/linux2x86/jre_1.5.0/lb/c1ai./opt/netcool/platform/linux2x86/jre_1.5.0/lb/sunrsasign.jar:/opt/ /linux2x86/jre_1.5.0/lb/jsse.jar:/opt/netcool/platform/linux2x86/jre_1.5.0/lb /opt/netcool/platform/linux2x86/jre_1.5.0/lb/charsets.jar:/opt/netcool/platfo/ /jre_1.5.0/dasses
		sun.desktop passwd.file	gnome %%/etc/webtop/users/passwds
		java.vm.specification.vendor wave.home	sun Microsystems Inc. /opt/netcool/guifoundation/webapps/webtop

Figure 3-33 System Information: Java runtime window

5. Click **Logout** to close the session.



4

Configuration

The configuration of IBM Tivoli Netcool/Webtop is discussed in the following sections:

- ► 4.1, "Basic IBM Tivoli Netcool/Webtop configuration" on page 78
- ► 4.2, "Security settings" on page 86
- ► 4.3, "Visual components" on page 101
- 4.4, "Navigation components" on page 131
- ▶ 4.5, "HTML file" on page 138

4.1 Basic IBM Tivoli Netcool/Webtop configuration

The basic configuration is discussed in the following sections:

- 4.1.1, "WAAPI configuration" on page 78
- 4.1.2, "Data sources" on page 81
- 4.1.3, "SSL configuration" on page 84

4.1.1 WAAPI configuration

Perform the following steps to configure the Webtop Administration API (WAAPI):

 Configure the WAAPI by editing the \$NCHOME/webtop/waapi/etc/waapi.init file to include a user that is a Normal ObjectServer user and a Webtop Admin user account. In Example 4-1 webadmin was created in the ObjectServer and NGF and given the proper group and role access in each server.

Example 4-1 WAAPI configuration file

- 2. Set the environment variable WAAPI_HOME to \$NCHOME/webtop/waapi.
- 3. Test the configuration by running the **webtop_osresync** WAAPI script, as shown in Example 4-2. The user running this script must have the Webtop Administrator role.

Example 4-2 Testing the WAAPI configuration

- 4. If you are using SSL with WAAPI, you need to alter the **runwaapi** command to locate the correct client keystore:
 - For example, on UNIX platforms (all on one line):

```
${JAVA} -Djavax.net.ssl.trustStore=/etc/.keystoreWAAPI -cp
${WAAPILIB} com.micromuse.wave.client.WAAPIStart -home
$WAAPI_HOME $*
```

- For example, on Windows platforms (all on one line):

```
%OMNIJAVA% -Djavax.net.ssl.trustStore=c:\.keystoreWAAPI -cp
%WAAPILIB% com.micromuse.wave.client.WAAPIStart -home
"%WAAPI HOME%" %*
```

5. Additional configuration for WAAPI can be made from its properties file in install_dir/products/ncw/waapi/etc/waapi.init. It contains the client connection information details for accessing the IBM Tivoli Netcool/Webtop server.

WAAPI is invoked using an XML file. The skeleton of the XML file is shown in Example 4-3.

Example 4-3 Sample WAAPI XML file structure

```
<methodCall>
<method methodName = "methodName">
Element object definition and arguments
</method>
</methodCall>
```

The methodName in Example 4-3 indicates the operation that WAAPI is performing. The available method names and WAAPI object construct that are used as argument are listed in Table 4-1.

Table 4-1 WAAPI methods and elements

Method name	Element reference
cgi.registerCGI cgi.createOrReplaceCGI cgi.modifyCGI cgi.unregisterCGI	cgi
entity.addEntity entity.createOrReplaceEntity entity.deleteEntity entity.deleteEntityForced entity.modifyEntity entity.setDefaultGroup	entity

Method name	Element reference		
entity.setDefaultView	entityView		
file.addDir file.addFile file.createOrReplaceFile file.deleteFile file.recurseRemove file.removeDir	file		
map.addMapVisual map.createMap map.createOrReplaceMap map.createOrReplaceMapVisual map.deleteMap map.deleteMapVisual map.getList map.modifyMap map.modifyMapVisual	map		
menu.createMenu menu.createOrReplaceMenu menu.deleteMenu menu.modifyMenu	supermenu		
osresync.refreshOSCache	N/A		
resource.addResource resource.createOrReplaceResource resource.getList resource.removeResource	resources -> resource		
tool.createTool tool.createOrReplaceTool tool.deleteTool tool.getList tool.modifyTool	tools		
user.getList user.modifyUser	user		
view.createView	view		
view.createOrReplaceView			
view.deleteView			
view.getList			
view.modifyView			

Method name	Element reference
webtopprobe.generateReport	N/A

4.1.2 Data sources

Perform the following steps to configure the data source definition:

 Before editing the IBM Tivoli Netcool/Webtop data source file, you need to shut down the NGF server. Use the ngf_server stop command to perform the shutdown (for UNIX), as shown in Example 4-4, or stop the Netcool GUI Foundation service (for Windows).

Example 4-4 Stopping the IBM Tivoli Netcool/Webtop server in UNIX

[root@localhost	<pre>bin]# ./ngf_ser</pre>	rver stop		
Stopping Netcoo [·]	l GUI Foundatior	1		
Adaptive Server	Anywhere Stop E	Engine Utility	Version	9.0.1.1965
NGF Server:	Not Running	PID: n/a		
ASA Database.	Not Running	PID: n/a		

2. The data source file resides in

\$NCHOME/etc/webtop/datasources/ncwDataSourceDefinitions.xml. You should back that file up before making any modifications. The data source file is shown in Example 4-5. This configures the IBM Tivoli Netcool/Webtop server to use a single ObjectServer data source with a custom port, host name, user, and password.

Example 4-5 Default data source file contents

```
<?xml version="1.0" encoding="UTF-8" ?>
<ncwDataSourceDefinitions>
<ncwDefaultDataSourceList>
    <ncwDataSourceEntry name="NCOMS"/>
    </ncwDefaultDataSourceList>
    <ncwDataSourceDefinition type="singleServerOSDataSource"
        name="NCOMS" enabled="true">
        <ncwDataSourceDefinition type="singleServerOSDataSource"
        name="NCOMS" enabled="true">
        <ncwResultsCacheParameters maxAge="60" enabled="false"
        cleanerSleepTime="120"/>
        <ncwDataSourcePollingParameters>
        <ncwFailOverPollingParameters basePollingTime="10"
            backOffMultiplier="2"/>
        <ncwHeartBeatParameters basePollingTime="15"/>
        </ncwDataSourcePollingParameters>
        <ncwHeartBeatParameters>
        <ncwDataSourcePollingParameters>
        <ncwDataSourcePollingParameters>
        <ncwHeartBeatParameters basePollingTime="15"/>
        </ncwDataSourcePollingParameters>
        <ncwDataSourcePollingParameters>
        </ncwDataSourcePollingParameters>
        </ncwDataSourcePollingParameters>
```

Some of the configuration parameters shown in Example 4-5 on page 81 are defined as follows:

ncwResultsCacheParameters

Caching of the ObjectServer events

ncwDataSourcePollingParameters

Polling of data source failover configuration

ncwConnectionParameters

Configuration for how a connection is handled, such as timeout and other configuration

ncwConfigCacheParameters

Configuration for reading the data source configuration

ncwFailOverPairDefinition

Definition of the ObjectServer to connect

- 3. There are some modifications that you can make to the data source definition:
 - To add another ObjectServer definition, define a new ncwDataSourceDefinition tag.
 - To define a backup ObjectServer information, change the ncwDataSourceDefinition tag's type parameter to multipleServer0SDataSource. The backup host name and port is specified with the ncwBackupServer tag under the ncwFailOverPairDefinition tag.
 - To configure the IBM Tivoli Netcool/Webtop server to use a Dual Source Desktop ObjectServer data source, you can use a ncwReadCloudDefinition tag with one or more ncwOSConnection tags.

Example 4-6 Data source file: DSD Netcool/Webtop and multiple data sources with failover

```
<?xml version="1.0" encoding="UTF-8" ?>
<ncwDataSourceDefinitions>
  <ncwDefaultDataSourceList>
      <ncwDataSourceEntry name="AMETHYST"/>
  </ncwDefaultDataSourceList>
   <ncwDataSourceDefinition type="multipleServerOSDataSource"
name="AMETHYST" enabled="true">
     <ncwDataSourcePollingParameters>
         <ncwFailOverPollingParameters basePollingTime="10"
backOffMultiplier="2"/>
        <ncwHeartBeatParameters basePollingTime="15"/>
     </ncwDataSourcePollingParameters>
     <ncwConfigCacheParameters resyncTime="3600"/>
     <ncwDataSourceCredentials userName="root" password=""
encrypted="false"/>
     <ncwFailOverPairDefinition>
         <ncwPrimarvServer>
           <ncwOSConnection host="192.168.0.7" port="4545"/>
        </ncwPrimaryServer>
        <ncwBackUpServer>
           <ncwOSConnection host="192.168.0.8" port="4646"/>
        </ncwBackUpServer>
     </ncwFailOverPairDefinition>
      <ncwReadCloudDefinition>
         <ncwOSConnection host="192.168.0.9" port="4747"/>
        <ncwOSConnection host="192.168.0.10" port="4848"/>
         <ncw0SConnection host="192.168.0.11" port="4949"/>
      </ncwReadCloudDefinition>
  </ncwDataSourceDefinition>
</ncwDataSourceDefinitions>
```

 After you have finished the data source configuration editing, start the NGF server. In UNIX, use the ngf_server start command (for UNIX), as shown in Example 4-7), or start the Netcool GUI Foundation service (in Windows).

Example 4-7 Start the IBM Tivoli Netcool/Webtop server in UNIX

```
[root@localhost bin]# ./ngf_server start
Starting Netcool GUI Foundation ...
NGF Server: Running PID: 8004
ASA Database: Running PID: 8000
```

4.1.3 SSL configuration

This section discusses SSL activation for IBM Tivoli Netcool/Webtop and NGF for SSL connectivity. This allows WAAPI and the browser interface to connect through SSL. The procedure is described below; however, the certificate must be imported into the WAAPI client keystore for the SSL connection to work. Perform the following steps:

- 1. To start the Webtop SSL configuration, you need to stop the NGF server; use the **ngf_server stop** command.
- Create a directory to hold your SSL certificates and generate your SSL keystore, as shown in Example 4-8. Use the keytool command that resides in \$NCHOME/platform/<arch>/<jre>/bin.

Note: When generating the SSL keystore, the answer to What is your first and last name? should be the fully qualified domain name of the NGF server. This should be the same name that you use for the browser URL to access IBM Tivoli Netcool/Webtop.

Example 4-8 Create a self-signed certificate

```
[root@localhost bin]# ./keytool -genkey -alias ngf -keyalg RSA
-keystore /etc/keystore
Enter keystore password: netcool
What is your first and last name?
  [Unknown]: webtop.ral.ibm.com
What is the name of your organizational unit?
  [Unknown]: IBM
What is the name of your organization?
  [Unknown]: IBM
What is the name of your City or Locality?
  [Unknown]: RTP
What is the name of your State or Province?
  [Unknown]: NC
What is the two-letter country code for this unit?
  [Unknown]: US
Is CN=webtop.ral.ibm.com, OU=IBM, O=IBM, L=RTP, ST=NC, C=US correct?
(type "yes" or "no")
  [no]: yes
Enter key password for <ngf>
(RETURN if same as keystore password): netcool
```

3. Edit NCHOME/guifoundation/server.xml to change the HTTP (port 8080) connection to an HTTPS (port 8443) connection and use the keystore generated from Example 4-8 on page 84. The modified definition is shown in Example 4-9.

Example 4-9 Turn off HTTP for NGF

```
<!-- Connector port="8080"
  maxThreads="500"
  minSpareThreads="50"
  maxSpareThreads="100"
   enableLookups="false"
   redirectPort="8443"
   acceptCount="500"
   debug="0"
   connectionTimeout="20000"
  URIEncoding="UTF-8"
   disableUploadTimeout="true" / !-->
<Connector port="8443"
  maxThreads="500"
  minSpareThreads="50"
  maxSpareThreads="100"
   enableLookups="false"
   disableUploadTimeout="true"
   acceptCount="500"
   scheme="https"
   secure="true"
   clientAuth="false"
   keystoreFile="/etc/keystore"
   keystorePass="netcool"
  URIEncoding="UTF-8"
   sslProtocol="TLS" />
```

4. Start the NGF server so that the changes can take effect.

4.1.4 Additional IBM Tivoli Netcool/Webtop settings

There are some other settings that can be used to configure IBM Tivoli Netcool/Webtop server:

► The server.init file in \$NCHOME/etc/webtop

The server.init file provides the IBM Tivoli Netcool/Webtop server initialization values for initializing the Netcool GUI Foundation parameters. There are some customizations that can be performed, such as:

- Licensing information
- User settings
- Various objects defaults
- Event data retrieval rate
- The retrieval rate for the ObjectServer
- The userdefaults.props file in \$NCHOME/etc/webtop/system

The userdefaults.props file contains the default user properties for IBM Tivoli Netcool/Webtop, such as AEL default properties, map properties, and other attributes, such as time zone settings, home page, and restriction filter.

4.2 Security settings

The security settings discussed in this section include:

- ► 4.2.1, "User configuration" on page 86
- 4.2.2, "Group management" on page 99

4.2.1 User configuration

To define a user that is externally authenticated by the ObjectServer, perform the following steps:

- Open the ObjectServer administrative console by running the nco_config command under \$NCHOME/omnibus/bin (for UNIX) or by selecting Programs → Netcool Suite → Administrator (for Windows).
- When opening the console for the first time or after making changes with nco_xigen, you will be prompted to import the connection details, as shown in Figure 4-1 on page 87. Select Yes to continue the connection setup.



Figure 4-1 ObjectServer connection import prompt

3. Read through the information window shown in Figure 4-2 and select **Next** to continue the configuration.



Figure 4-2 ObjectServer connection import menu: welcome window

4. All the ObjectServer connections should appear in the right pane of the next configuration window, shown in Figure 4-3. If your ObjectServer, NCOMS by default, is in the left pane, move it to the right pane. Once all the ObjectServers are in the right pane, click **Next**.



Figure 4-3 ObjectServer connection import menu: OS connection

5. This window defines the PA server connection name and port, as shown in Figure 4-4. There is no PA server for Windows installations, so this window could be pointed at an external UNIX PA server or ignored, as it will not be used on Windows.

🚰 Import Connections Wizard				×
Import Connection Details - Process Agent Conne	ctions	Ste	p 2 of 3	IBM.
All Connections	_	Process Agents		
NCO_PROXY [BASEIMAGE:4400] NCO_GATE [BASEIMAGE:4300]	*	NCO_PA [BASEIMAGE:42	00]	
	•			
	*			
Back		<u>N</u> ext <u>F</u> inish	Cancel	<u>H</u> elp

Figure 4-4 ObjectServer connection import menu: PA connection

6. Confirm the connection details and click **Finish** to complete the administrative console connection settings, as shown in Figure 4-5.



Figure 4-5 ObjectServer connection import menu: summary

7. Open the OMNIbus administration console by running the **nco_config** command. Log in to the ObjectServer that you have defined as the Security Manager external authentication source. In this example, the ObjectServer is NCOMS, as shown in Figure 4-6. The default user name is root with a blank password.

STCOOL/ON	1NIbus Administrator - Proc	ess Agents			
<u>File E</u> dit ⊻iew	v <u>i</u> tem <u>T</u> ools <u>W</u> indow <u>H</u> elj	p			
Tivoli Netco	ool/OMNIbus				IBM
0 0 D	•s • • • • •	× 🕹			
Navi					
Repo	ObjectServers			<u>- 0 ×</u>	
	😺 ObjectServer F	Report		3	
	Name 🗠	Host	Port	SSL	
	NCOMS	BASEIMAGE	4100	🗶 false	
	.⊀ ■ Rows: 1				
				Process	Agents
				🤌 Proce	ess Agent Report 🛛 💡
				Name	A Host Port SSL Run Pen Dead Save R
				NCO_PA	BASEIMAGE 4200 🗙 🗶 false

Figure 4-6 ObjectServer administrative console

8. Select the user menu, as shown in Figure 4-7.

Configuration of N	COMS on BASEIMAGE:4	100			- D ×			
🔻 🖓 User	• Users	Users ?						
A.	Name 🗠	Full Name	Туре	PAM ID	Enabled			
v	👔 nobody	Nobody	Unknown	🗶 false 65534	🗙 false			
Users	🔋 root	Root User	Super User	🗙 false 0	🖌 true			
Groups B B Roles								
Restriction Filters								
🕨 🖣 Menu								
Automation								
🕨 🐯 Visual	at							
System	Bows: 2							
Session NCOMS on E	BASEIMAGE:4100 as root							

Figure 4-7 ObjectServer user account management window

9. Create a new user account by clicking the new user button and defining the user details. For this example, the user should be a Normal user with no restriction filters set and a password set in the Settings tab, as shown in Figure 4-8.

Add User (NCOMS	on BASEIMAGE:4100)		×
 User Detail 	ls		_ 3
Username: Full Name:	webadmin	User ID: 1 🛫	
Groups Restrictio	n Filters Settings	Assigned Groups:	
System Administrator Probe Gateway ISQLWrite ISQL		Normal	
		<u>)</u>	9 9
			incel

Figure 4-8 ObjectServer user account detail: Groups tab

10.Select the Security tab to open the user management window, as shown in Figure 4-9, and click the **Add User** button to create a new IBM Tivoli Netcool/Webtop user account.

NETCOOL [®] Suite [™]			logged in a	s: Netcool Administrator	Administration	📕 Logout	N
System Information	Layout	Security	Sessions	<u> </u>			
 Users 	Add U	lser				Resync All	
Roles	Filter:			Filter 🗖 use menden s			
Groups		A C D E E G H I		R S T II V W X Y Z	xpressions		
Domain Properties			SKEMMOTQ	KOTOV MATE			
Security IDs	Select: (all)	Username	First Name	Last Name	Active?	Actions	
		root	Netcool	Administrator	yes		
		guest	Netcool	Guest	yes		
		admin	Netcool	Administrator	yes		
		netcool	netcool	netcool	yes		
		anon	anon	anon	yes		
	Delete						

Figure 4-9 NGF user management window

11. Fill in the Username, First Name, and Last Name fields and check the **Authenticate Externally** box on the User Details tab, as shown in Figure 4-10 on page 95.
| NETCOOL [®] Suite [™] | | logged in a | Netcool Administrator Administration | 🗾 Logout | Μ |
|--|------------------|----------------------|--|----------|---|
| System Information | Layout Security | Sessions | | | |
| Users | Save | | | | |
| Roles | User Details Use | Pr Poles Heer Groups | | | |
| Groups | | | | | - |
| Domain Properties | | | * required field | | |
| Security IDs | | General: | | | |
| | | Username: | *webadmin | | |
| | | First Name: | Web | | |
| | | Last Name: | Administrator | | |
| | | Password: | | | |
| | | Confirm Password: | | | |
| | | Primary Group: | None 💌 | | |
| | | | Authenticate Externally | | |
| | | | Active | | |
| | | | Auto assign groups/roles | | |
| | | | | | |
| | | | | | |

Figure 4-10 NGF new user creation window: User Details tab

12. Select the **User Roles** tab and assign the new user. In our example the webadmin is the user and we assign the Webtop user, Webtop administration, and NGF User roles to it, as shown in Figure 4-11.

NETCOOL [®] Suite ^{**}	logged in as: Netcool Administrator Administration 🗾 Logout 🕅
System Information Layo	ut Security Sessions
Users Save Roles	User Details User Roles User Groups
Groups	
Domain Properties	Unassigned Roles: Roles Assigned to User:
Security IDs	Security Administrator Domain Administrator Group Administrator GUI Foundation user GUI Foundation read only Test role

Figure 4-11 NGF new user creation window: User Roles

13.Select the User Groups tab and assign the Desktop group to the account, as shown in Figure 4-12.

NETCOOL [®] Suite ^{**}			logged in a	s: Netcool Administrator	Administration	📕 Logout	M
System Information	Layout	Security	Sessions				
 Users 	Save						
Roles	11	Icar Dataile IIcar	Polec User Groups				
Groups							-
Domain Properties			Available Groups:	Groups Use	r Is In:		
Security IDs			System GUI Foundation Views	Add » Desktop			
			Restricted				
				« Remove			
					•		

Figure 4-12 NGF new user creation window: User Groups

14.Click **Save** to save the new user account and you will be taken back to the Security tab, where you will find your new user account listed in the users table, as shown in Figure 4-13.

NETCOOL [®] Suite ^{**}			logged in	as: Netcool Administrator	Administration	🗾 Logout	٨
System Information	Layout	Security	Sessions				
 Users 	Add Us	ser				Resync All	
Roles	Filter:			Filter Dun mode			
Groups		ODEEGH		Cose regular	expressions		
Domain Properties		o b e r o n :					
Security IDs	Select: (all)	Username	First Name	Last Name	Active?	Actions	
		root	Netcool	Administrator	yes	Ì	
		guest	Netcool	Guest	yes	Ì	
		admin	Netcool	Administrator	yes		
		netcool	netcool	netcool	yes	Ì	
		anon	anon	anon	yes		
		webadmin	Web	Administrator	yes	Ì	
	Delete						

Figure 4-13 NGF administration Security tab users table with a new account

15. After the user is created, you can further modify the user settings by clicking the pencil icon \mathscr{I} .

16. To delete the user, check the check box of the user you wanted to delete and click **Delete**. When you delete a user, confirm your user deletion request by clicking the **OK** button, as shown in Figure 4-14.

Microso	ft Internet Explorer
2	Are you sure you want to delete the following user(s): deleteme?
	OK Cancel

Figure 4-14 User deletion confirmation

17. To further customize the user, open the Webtop Admin application and select the **User preferences** pane. User selection is provided in the User Editor, as shown in Figure 4-15.

User Editor	
admin	Modify User Profile
webadmin	Help
	_ -

Figure 4-15 User Editor

18. The User Preferences Editor changes IBM Tivoli Netcool/Webtop attributes for the user. Click the **Modify User Profile** button to change the user preferences, as shown in Figure 4-16.

	User Preferences Editor User Name:john User Filter: Node like '%ondo%'	
Use	er's Home-Page: /	
	Event List Configuration	View Selection
	🗹 Allow Filter Build	ler Access
	🗹 Allow View Build	er Access
	🗹 Allow preference	e configuration
	🗖 Allow refresh rat	te configuration
Refresh	rate (seconds): 60	
Minimum refresh	rate (seconds): 30	
	🗹 Allow event sele	ection
	🔽 Show basic ever	nt information
	🔽 Show event det	ails
	🗹 Show journals	
	🔽 Edit journals (Re	ead Write License)
Modify This Profile	Cancel Profile Changes	Help

Figure 4-16 User Preferences Editor

19. The user preferences in Figure 4-16 have the following elements:

- A restriction filter defined in the ObjectServer (if the user is authenticated from an ObjectServer)
- The user's default page when they log in to IBM Tivoli Netcool/Webtop.
- Several options to allow or show certain items in the Event List:
 - Filter and view selection: Choose which filter and view to use.
 - Filter builder: Change a filter.
 - View builder access: Modify a view.
 - Preferences configuration: Change the preferences by selecting Edit \rightarrow Preferences in the Event List.
 - Event selection: Allows you to select an event for modification

The default for the refresh rate is not configurable (it determines how often event information is retrieved from the ObjectServer). It also has a close relationship with the IDUC rate, as the data on the desktop ObjectServer is updated based on the IDUC rate. This can impact the performance of IBM Tivoli Netcool/Webtop. Click **Modify This Profile** when done.

4.2.2 Group management

Groups are used to easily define a set of authorizations to be given to all members of the group. They are typically created to serve the authorization needs of a group of users. In IBM Tivoli Netcool/Webtop V2.0, the use of a group replaces the Access Control List (ACL) in the previous versions. To create a group, perform the following steps:

- 1. Log in to Netcool GUI Foundation and open the Administration window.
- 2. Select the **Security** tab and the Groups pane, as shown in Figure 4-17. Click the **Add Group** button.

NETCOOL [®] Suite ^{**}			logged in as: Netcool	Administrator Administration	🗾 Logout
System Information	Layout	Security	Sessions		
Users	Add G	roup			Resync All
Roles	Filter:		grouppame V Filter		
 Groups 					
Domain Properties		S S B E I S M I	SKENNOT QKOTO		
Security IDs	Select: (all)	Group Name	Display Name	External Source	Actions
		System	System	System	<u></u>
		Desktop	Desktop	Public	🔬 🖉
		VIEWS	GUI Foundation Views	VIEWS	Â. 🥒
		restricted	Restricted	restricted	Â. 🥒
	Delete				

Figure 4-17 IBM Tivoli Netcool/Webtop Security tab Groups window

3. Enter a group name and a display name for the group, as shown in Figure 4-18. The external authentication name should only be used for advanced configurations. It is only used for mapping the NGF group to a group with the same name that exists in the Security Manager's external authentication source.

1	NETCOOL [®] Suite ^{**}			lo	ged in as: Netcool A	dministrator	Administration	🗾 Logout	M
1	System Information	Layout	Security	Sessions			- Constant of the local division of the loca		
-	Users	Save							
	Roles		Group Properties	Group Boles					
,	Groups			Group Koles					-
	Domain Properties						* required field		
	Security IDs	_	Ge	neral:					
-		-			Group Name:* MyN	ewGroup			
					Display Name: MyN	ewGroup			
				External Auther	itication Name:				
					Z A	ctive			
			Gr	oup Members:					
				Members Not In root guest admin netcool anon	o Group: Add > Remove	Group Membe webadmin	rs:		

Figure 4-18 IBM Tivoli Netcool/Webtop Security tab: Group Properties tab

4. Assign the roles that you want associated with this group. Figure 4-19 on page 101 shows that the group contains the GUI Foundation user and GUI Foundation read only roles.

1	NETCOOL [®] Suite [™]			logged in as: N	letcool Administr	ator Administration	🗾 Logout	M
-	System Information	Layout	Security	Sessions				
-	Users	Save						
	Roles	Croup	Properties Grou	n Poles				
•	Groups	Group	Properties Groa					_
	Domain Properties		Unassig	ined Roles:		Roles Assigned to Grou	D:	
-	Security IDs		Securit	ty Administrator p Administrator	Add »	GUI Foundation read o	A	
-			Group GUI Fo GUI Fo Webtoj Webtoj Test ro	Administrator undation Administrator undation read write p User p Administrator Jle	« Remove		-	

Figure 4-19 IBM Tivoli Netcool/Webtop Security tab: Group Roles tab

5. Click Save to save the definition.

4.3 Visual components

The visual component modifications that can be performed for IBM Tivoli Netcool/Webtop are:

- 4.3.1, "View creation" on page 101
- ► 4.3.2, "Filter creation" on page 106
- ► 4.3.3, "Entity definition" on page 108
- ▶ 4.3.4, "Chart definition" on page 114
- ► 4.3.5, "Map definition" on page 122

4.3.1 View creation

After IBM Tivoli Netcool/Webtop is installed and running, sign in as the administrator and create a view by performing the following steps:

1. Log in to IBM Tivoli Netcool/Webtop and open the Webtop Admin application.

2. Select **View Builder** from the left navigation pane. The View Builder is shown in Figure 4-20.

NETCOOL [®] Suite [*]		logged in as: Netcool Administrator Webtop Admin	🗾 Logout ႔
Webtop 🖉			12
Home			w then
My Filters	Available Views		* required field
Filter Builder			
View Builder	+	_	
Maps	My Views	Neteral (Webser View Duilder	
Map Resources		Netcool/webtop view Builder	
Entities		Welcome to Netcool [®] /Webtop View Builder	
Entity Views			
Entity Generator			
Menus			
Tools			
CGI Registry			
User Preferences			
File Manager			
SQL Workbench			
SmartPage Commands			
System Information			
	?		
	Netcool [®] /Webtop View-bu	ilder now loaded	

Figure 4-20 IBM Tivoli Netcool/Webtop View Builder editor menu

3. Click the plus sign to create a new view. Enter the view name, select the ObjectServer columns to be displayed, and determine the sort order, as shown in Figure 4-21. Refer to Table 2-7 on page 39 for information about the ObjectServer fields.

isplay Columns			
Availa	able Fields	Event L	list View
Acknowledged Agent AlertKory Class Customer EventId ExpireTime ExtendedAttr FirstOccurrence Flash Grade Identifier InternalLast	Add >> Add All >> << Remove << Remove All	LastOccurrence Node Summary Field Name LastOccurrence Column Title	Justify Center V Justify
ocalNodeAlias		LastOccurrence Column W	idth 12
LocalNodeAlias		LastOccurrence Column W	Center 🔽
LocalNodeAlias	le Sort Fields	LastOccurrence Column W	Center 🔽 idth 12
iort Columns Availabl Acknowledged Agent AlertGroup AlertKey Class Customer EventId	e Sort Fields Add >> Add All >> << Remove << Remove All	LastOccurrence Column W Sort FirstOccurrence [desc Severity [desc]	Center V idth 12 ed By

Figure 4-21 Webtop View Builder view editor

4. The IBM Tivoli Netcool/Webtop view is created when you click **Save** and then **OK.** The new view is shown in the view list shown in Figure 4-22.

Available Views	View Name Display Columns	* required field Object Server
	Available Fields Acknowledged Agent AlertGroup AlertKey Class Customer Eventid ExpireTime ExtendedAttr FirstOccurrence Flash Grade Identifier InternalLast LocalNodeAlias	Event List View Serial Node Tally LastOccurrence Summary Field Name Serial Column Title Serial Column Width 12
? Views are updated		Ok Save Cancel

Figure 4-22 View definition completed

5. Go to the IBM Tivoli Netcool/Webtop desktop and select the **Event Lists** tab. You should see the Active Event List (AEL). Use the new view that you created. Now you have an AEL that only displays the ObjectServer columns that you defined in your custom view, as shown in Figure 4-23.

http://192.168.100.128:8080/webtop/AllEvents/					
<u>File Edit View Alerts Tools Help</u>					
🖓 🥴 🖺 🗛 🎐	▼	- 3			
Node	Summary	Last Occurrence			
Beijing	Diskspace alert	7/21/09 1:07:53 PM			
London	Machine has gone offline	7/21/09 1:07:44 PM			
Washington	Machine has gone offline	7/21/09 1:07:15 PM			
Moscow	Machine has gone offline	7/21/09 1:07:40 PM			
Sydney	Machine has gone offline	7/21/09 1:05:18 PM			
Beijing	Diskspace alert	7/21/09 1:07:52 PM			
Berlin	Port failure : port reset	7/21/09 1:05:37 PM			
London	Machine has gone online	7/21/09 1:05:53 PM			
Sydney	Machine has gone online	7/21/09 1:05:34 PM			
Moscow	Machine has gone online	7/21/09 1:06:09 PM			
localhost.localdomain	A WEBTOP process running on localhost.localdomain ha	7/17/09 6:47:29 PM 🛛 😑			
localhost.localdomain	A WEBTOP process running on localhost.localdomain ha	7/21/09 4:37:18 AM			
Rome	Port failure : port reset	7/21/09 1:07:23 PM			
localhost.localdomain	A e@7F000001@7F000001:0.0 process e@7F000001@	7/21/09 1:04:56 PM			
Washington	Machine has gone online	7/21/09 1:07:51 PM			
link2	Link Down on port	7/21/09 1:06:48 PM			
link2	Link Up on port	7/21/09 1:06:54 PM			
link3	Link Down on port	7/21/09 1:07:29 PM			
link3	Link Up on port	7/21/09 1:07:46 PM			
link1	Link Down on port	7/21/09 1:07:09 PM			
link5	Link Down on port	7/21/09 1:06:58 PM			
link6	Link Down on port	7/21/09 1:07:16 PM			
link6	Link Up on port	7/21/09 1:07:27 PM			
link4	link4 Link Down on port				
12	9 1 5	All Events (27)			
27 rows matched	admin	192.168.100.128:8080			

Figure 4-23 IBM Tivoli Netcool/Webtop desktop AEL with new view

4.3.2 Filter creation

After IBM Tivoli Netcool/Webtop is installed and running, sign in as the administrator and create a filter by performing the following steps:

1. Log in to IBM Tivoli Netcool/Webtop and browse to the Webtop Admin application. Select **Filter Builder**, which opens the window shown in Figure 4-24.

NETCOOL [®] Suite [®]		logged in as: Netcool Administrator Webtop Admin	💽 Logout 💧
Webtop 🖉			
Home			
My Filters	Available Filters		* required field
 Filter Builder 			
View Builder			
Maps	My Filters	Nataal /Webton Eilter Builder	
Map Resources		Netcooly webtop Filter Builder	
Entities		Welcome to Netcool®/Webtop Filter Builder	
Entity Views			
Entity Generator			
Menus			
Tools			
CGI Registry			
User Preferences			
File Manager	v		
SQL Workbench			
SmartPage Commands			
System Information			
2			
	?		
	Netcool [®] /Webtop Filter-builde	er now loaded	

Figure 4-24 IBM Tivoli Netcool/Webtop Filter Builder

Click the plus sign to create a new IBM Tivoli Netcool/Webtop filter. Give the filter a name and define the filter value, as shown in Figure 4-25 on page 107. You can use comparison operators (such as: <, >, <=, >=, <>, !=, like, not like) to check the event.

Description:			
Basic Advanced M	letric		
Match:	C All C Any	Ushus	
ServerName	like 🔽 'tiv%'	Value	X
Clear All			

Figure 4-25 Webtop filter builder new filter window

3. Save the filter by clicking OK.

4. Load the filter by selecting it from the AEL filter drop-down menu. The result is shown in Figure 4-26.

http://192.168.100.128:8080/webtop/MyNewFilter/					
File Eart View Aler	ts <u>loois H</u> eip		Al		
	S/ MyNewFilter	My	Newview	8	
LastOccurrence	Node		Summary		
7/21/09 1:09:02 PM	Moscow	Machine has gone online			
7/21/09 1:09:17 PM	Moscow	Machine has gone offline			
7/21/09 1:08:35 PM	Washington	Machine has gone online			
7/21/09 1:08:56 PM	London	Machine has gone online			
7/21/09 1:08:38 PM	Sydney	Machine has gone online			
7/21/09 1:08:37 PM	Washington	Machine has gone offline			
7/21/09 1:09:23 PM	London	Machine has gone offline			
7/21/09 1:09:09 PM	Sydney	Machine has gone offline			
			_		
	4 All Events (8)				
8 rows inserted, 8 row	s updated, and 0 rows d	leleted.	admin	192.168.100.128:8080	

Figure 4-26 IBM Tivoli Netcool/Webtop AEL filter applied

4.3.3 Entity definition

An entity is an aggregate of a filter and a view, and is typically used by active objects in maps to establish the initial display criteria of a linked component. For example, when a user clicks a monitor box in a map that opens an AEL, the entity assigned to the monitor box applies the initial filter and view to that AEL.

Entities are also used to display the alert status of a data source. The map object uses the entity associated with it to derive the highest alert severity of the assigned data source. This severity can then be identified by the color of the object. After IBM Tivoli Netcool/Webtop is installed and running, sign in as the IBM Tivoli Netcool/Webtop administrator to create an entity by performing the following steps:

N	ETCOOL [®] Suite [®]		logged in as: My_Webtop_	Custom My_Admin_Acco	ount Webto	p Admin 🖌 Log	jout M
	Webtop						Ø
-	Home	Entity Browser	r				
	My Filters	- •					
I	-ilter Builder						
1	/iew Builder		Select Entity Group:	<default></default>	~		
	Maps		Modify Default View:	basic	~		
	Map Resources		AllEvents	Add Entity			
	Entities		Critical	Modify Entity			
I	Entity Views		Last30Minutes	Delete Entity			
1	Entity Generator	_	LastDay LastMonth	Help			
	Menus	-	LastWeek LiveEvents				
1	Fools	-	NotAssigned Tallvot5				
(CGI Registry		runygeo				
(Jser Preferences	-					
	File Manager						
5	5QL Workbench						
-	SmartPage Commands						
-	System Information	-					
	2	_					

1. Open the IBM Tivoli Netcool/Webtop administration window and select the Entities pane, as shown in Figure 4-27.

Figure 4-27 Webtop Admin entities window

2. Click the **Add Entity** button to open the Entity Editor, as shown in Figure 4-28 on page 110. The add entity window allows you to also add a new Entity Group by selecting the Group drop-down menu, selecting <Add New Group>, and entering the new Entity Group name.

Entity Editor	
Enter new entity details	below
Name: MyNewEntity Type: Filtered V Group: <default> V View: basic V</default>	
Add This Entity Cancel	DT Severity

Figure 4-28 Webtop Admin Entity Editor

 After entering a entity name, click the Add This Entity button to load the next window of the Entity Editor, which is shown in Figure 4-29.

Entity Editor				
		Modify Entity Deta	nils	
	Name:MyNewEntit Group: <default> View:basic • Type:filtered Filter:Severity</default>	=y > 3		
	Metric: Metric:	(label) Average 💌	of Severity	•
	Modify This Entity	Cancel	He	elp

Figure 4-29 Webtop Admin Entity Editor details window

4. Click the **Modify This Entity** button to save the entity details and you will see your new entity in the Entity Browser window.

After IBM Tivoli Netcool/Webtop is installed and running, sign in as a IBM Tivoli Netcool/Webtop administrator to create an entity view by performing the following steps:

1. Open the Webtop Admin window and select the Entity Views pane, as shown in Figure 4-30 on page 111. This pane allows you to create, modify, and delete an entity view. An entity view can only be deleted when there are no views that depend on it.

NETCOOL [®] Suite [®]		logged in as: Netcool Administrator	Webtop Admin 🔄 Logout M
Webtop 🖉			
Home	Entity View Editor		
My Filters	havia	Create Entity Vie	
Filter Builder	extended	Entity View Edito	ov If
View Builder		Delete Entity Vie	N
Maps		Help	
Map Resources			
Entities		v	
 Entity Views 			
Entity Generator			
Menus			
Tools			
CGI Registry			
User Preferences			
File Manager			
SQL Workbench			
SmartPage Commands			
System Information			
2			

Figure 4-30 IBM Tivoli Netcool/Webtop Entity View Editor

2. Click the **Create Entity View** button to bring up the Create Entity View menu shown in Figure 4-31. The DEFAULT OS entry refers to the ObjectServer specified as the default in the configuration file.

Create Entity View			
Ent	er new View detai ew Name: MuNewEnti	i ls below tvView	
ObjectSer	ver Name DEFAUL	T OS 💌	
Gro	up Name: * Desktop restricted System VIEWS	Î	
ОК	Cancel	Help	

Figure 4-31 Entity view creation menu

3. Enter a View Name for the new view and select the group that will have access to this view and click **OK**.

4. Define the ObjectServer columns that should be included in the view and customize the fields' details, as shown in Figure 4-32, and click **Apply**.



Figure 4-32 Entity view details menu

The Entity Generator is another way to create entities. The Entity Generator takes a snapshot of the contents of an ObjectServer and generates different entities for each unique value for a field and associates its metric with the aggregate value of another field. It allows automatic generation of a map that is populated with the entities. To use the Entity Generator, perform the following steps:

1. From the Netcool GUI Foundation window, select **Webtop Admin** and go to the Entity Generator window, as shown in Figure 4-33 on page 113.



Figure 4-33 Entity Generator window

2. Click the **Generate Entities** button to generate the entities (and map). The window shown in Figure 4-34 should appear.

Entity Generator			
Ca Th th	Failed " nnot create entity with na Complete e map EntityGeneratorMa e entities below. Generated Entities (ad Tokyo Beijing Washington link3 link2 localhost.localdomain Berlin Moscow Sydney localhost	Tasks ame " d Tasks p has been created with ded to default group)	
Back	Entity Editor	Map Editor	Help

Figure 4-34 Unique entities for the node fields

3. The resulting map is shown in Figure 4-35.

Figure 4-35 Generated map with entities

4.3.4 Chart definition

After IBM Tivoli Netcool/Webtop is installed and running, you can create a chart configuration by performing the following steps:

1. Browse to \$NCHOME/etc/webtop/charts/definitions to find the installed charts, as shown in Example 4-10.

Example 4-10 Chart definitions

[root@localhost definitions];	¥ pwd
/opt/netcool/etc/webtop/chart	ts/definitions
[root@localhost definitions];	# ls
BAR_3Deventsbylocation.xml	PIE_Severity.xml
BAR_eventsbylocation.xml	<pre>SBAR_3Deventsbylocationseverity.xml</pre>
LINE_3Deventsbylocation.xml	<pre>SBAR_eventsbylocationseverity.xml</pre>
LINE_eventsbylocation.xml	<pre>SBAR_SeverityByLocation.xml</pre>
PIE_3Deventsbyseverity.xml	SBAR_SeverityByType.xml
<pre>PIE_eventsbyseverity.xml</pre>	SBAR_UnAckdByLocation.xml

2. The chart definitions are XML files. You can copy a chart that you want to modify and give it another name.

3. Open the copied chart and edit the chart so that the ncchart name tag has the same value as the actual file name of the chart, as shown in Example 4-11.

Example 4-11 Chart definition file

```
<?xml version="1.0" standalone="yes" ?>
<chartdata>
   <ncchart name="BAR 1 eventsbylocation" >
      <header>
         <text value="Events by Location - New"/>
         <foreground value="#fffffff"/>
         <background value="#000033"/>
         <font fontStyle="Bold" fontName="Helvetica" fontSize="12"/>
      </header>
      <footer>
         <text value="ITSO"/>
         <foreground value="#fffffff"/>
         <background value="#000033"/>
         <font fontStyle="Plain" fontName="Helvetica" fontSize="12"/>
      </footer>
      •
        .
```

4. Charts can be accessed statically as images from HTML pages. An example of an HTML page that access the chart definition that we created is shown in Example 4-12.

Example 4-12 Sample HTML page for chart

```
<HTML><HEAD><TITLE>Sample chart page</TITLE></HEAD>
<BODY>
<H1>Sample chart page</H1>
<IMG
SRC="ChartView?template=BAR_1_eventsbylocation&format=PNG&request=im
age&chart=quote&width=800&height=400">
</BODY></HTML>
```

In Example 4-12, the template refers to the chart definition file that we created.

5. Open the IBM Tivoli Netcool/Webtop desktop and select the **Charts** tab, as shown in Figure 4-36.



Figure 4-36 IBM Tivoli Netcool/Webtop desktop chart tab

6. Edit the chart tab by clicking the *icon*. The initial chart tab definition is shown in Figure 4-37.

Acle Category: ncw_user Media Type: html .anguage: Path: role/ncw_user/media-type/html/pa	age/webtop.psml		
Customize pane			
Media Type : html	Add Pane Edit Properties		
Rang (Charte			
Pane : Charts			
Layout : Menupane 💽 Se	curity ID : User only 🗾		
Name Bar Charts	Action		
Name Bar Charts	Action		
Name Bar Charts Pie Charts	Action X (D) X (D)		
Name Bar Charts Pie Charts	Action X 0 X 0		
Name Bar Charts Pie Charts Line Graphs	Action X0 X0 X0 X0		
Name Bar Charts Pie Charts Line Graphs	Action X 0 X 0 A X 0 A		
Name Bar Charts Pie Charts Line Graphs 3D Charts	Action XV AV A V A A A A A A A A A A A A A A A		
Name Bar Charts Pie Charts Line Graphs 3D Charts	Action XD XD C XD C XD C		
Name Bar Charts Pie Charts Line Graphs 3D Charts Save and Applu	Action X © X © A X © A X Cancel		

Figure 4-37 Initial chart definition with its viewpoints

7. Click **Add Viewpoint** and select a chart viewpoint for the layout, as shown in Figure 4-38.

Role Category: ncw_user Media Type: html Language: Path: role/ncw_user/media-type/html/page/webtop.psml Customize pane	Role Category: ncw_user Media Type: html Language: Path: role/ncw_user/media-type/html/page/webtop.psml Customize pane (Media Type : html Add View Add Pane Edit Properties Pane : Charts Filter Viewpoints by Category: All Viewpoint I AddTitle Description AddView Event List Display an Active Event List ChartView Display an Active Event List If Frame Example Example IFrame Viewpoint Lightweight Event Displays as Webtop Map TableView Displays an Eventlist as a TableView Version Version information for the Information Netcool GUI Save and Apply Cancel	EICOOL Suite"		logged in as: Netcool Administrator	Webtop Desktop	Logout	N
Customize pane Media Type : html Add Viewpoint Add Pane Edit Properties Pane : Charts Filter Viewpoints by Category: All Viewpoints AddTitle Description Active Event List Display an Active Event List ChartView Displays a Webtop Chart IFrame Example Example IFrame Viewpoint Lightweight Event Displays the Lightweight List Event List Wersion Version Version Version formation for the Information Netcool GUI	Customize pane « Media Type : html Add Viewpoint Add View Add Pane Edit Properties Pane : Charts Filter Viewpoints by Category: All Viewpoints • • • • AddTitle Description • <	Role Category: ncw_user Media Type: html Language: Path: role/ncw_user/media-typ	pe/html/page/webtop.psml				_
Media Type : html Add Viewpoint Add View Add Pane Edit Properties Pane : Charts Filter Viewpoints by Category: All Viewpoints AddTitle Description Active Event List Display an Active Event List ChartView Displays a Webtop Chart ChartView Displays the Lightweight Lightweight Event Displays an EventIst as a TableView D	Media Type : html Add Viewpoint Add View Add Pane Edit Properties Pane : Charts Filter Viewpoints by Category: All Viewpoint AddTite Description Active Event List Display an Active Event List ChartView Displays a Webtop Chart ChartView Displays the Lightweight List Event List ChartView Displays an Eventist as a TableView Displays an Eventist as a TableView Version Version information for the Information Version Information for the Information Cancel Save and Apply Cancel	Customize pane					~
Pane : Charts Filter Viewpoints by Category: All Viewpoints AddTitle ChartView Displays an Active Event List ChartView Displays a Webtop Chart ChartView Displays a Webtop Chart ChartView Displays an Eughtweight List Event List MapView Displays an Eventlist as a TableView Version Version Version Netcool GUI Save and Apply Cancel	Pane : Charts Filter Viewpoints by Category: All Viewpoints AddTitle AddTitle ChartView Displays an Active Event List ChartView Displays a Webtop Chart IFrame Example Example IFrame Viewpoint Lightweight Event Displays an Event List MapView Displays an EventList as a TableView Version Version information for the Information Save and Apply Cancel	Media Type : html Add Viewpoi	nt Add View Add Pane Edit Pro	perties			
Filter Viewpoints by Category: All Viewpoints AddTitle Description Active Event List Display an Active Event List ChartView Displays a Webtop Chart IFrame Example Example Iframe Viewpoint Lightweight Event Displays the Lightweight Event List MapView Displays a Webtop Map TableView Displays an Eventlist as a TableView Version Version information for the Information Save and Apply Cancel	Filter Viewpoints by Category: All Viewpoints AddTitle Description Active Event List Display an Active Event List ChartView Displays a Webtop Chart IFrame Example Example IFrame Viewpoint Lightweight Event Displays the Lightweight Event List MapView Displays a Webtop Map TableView Displays an Eventlist as a TableView Version Version information for the Information Save and Apply Cancel	Pane : Charts					
AddTitle Description Active Event List Displays an Active Event List ChartView Displays a Webtop Chart IFrame Example Example IFrame Viewpoint Lightweight Event Displays the Lightweight List Event List MapView Displays an Eventlist as a TableView Version Version information for the Information Save and Apply Cancel	AddTitle Description Active Event List Displays an Active Event List Image: ChartView Displays a Webtop Chart Image: I	Filter Viewpoints by	Category: All Viewpoints 💽				
 ChartView Displays a Webtop Chart IFrame Example Example IFrame Viewpoint Lightweight Event Displays the Lightweight List Event List MapView Displays a Webtop Map TableView Displays an Eventlist as a TableView Version Version information for the Information Version GUI Save and Apply Cancel 	♥ ChartView Displays a Webtop Chart □ IFrame Example Example IFrame Viewpoint □ Lightweight Event Displays the Lightweight List Event List ■ MapView Displays a Webtop Map □ TableView Displays an Eventlist as a TableView □ Version Version information for the Netcool GUI Save and Apply Cancel	AddTitle	Description Display an Active Event List				
□ IFrame Example Example IFrame Viewpoint □ Lightweight Event Displays the Lightweight □ List Event List □ MapView Displays a Webtop Map □ TableView Displays an Eventlist as a TableView □ Version Version information for the Netcool GUI Save and Apply Cancel	□ IFrame Example Example IFrame Viewpoint □ Lightweight Event Displays the Lightweight □ List Event List □ MapView Displays a Webtop Map □ TableView Displays an Eventlist as a TableView □ Version Version information for the Information Information Netcool GUI	ChartView	Displays a Webtop Chart				
Lightweight Event Displays the Lightweight List Event List MapView Displays a Webtop Map TableView Displays an Eventlist as a TableView Version Version information for the Information Save and Apply Cancel	Lightweight Event Displays the Lightweight List Event List MapView Displays a Webtop Map TableView Displays an Eventlist as a TableView Version Version information for the Information Netcool GUI Save and Apply Cancel	🗖 IFrame Example	Example IFrame Viewpoint				
MapView Displays a Webtop Map TableView Displays an Eventlist as a TableView Version Version information for the Information Save and Apply Cancel	MapView Displays a Webtop Map TableView Displays an Eventlist as a TableView Version Version information for the Information Netcool GUI Save and Apply	Lightweight Event	t Displays the Lightweight Event List				
TableView Displays an Eventlist as a TableView Version Version information for the Information Netcool GUI Save and Apply Cancel Cancel	TableView Displays an Eventlist as a TableView Version Version information for the Information Information Netcool GUI Save and Apply Cancel	🗖 MapView	Displays a Webtop Map				
Version Version information for the Information Netcool GUI Save and Apply Cancel	Version Version information for the Information Save and Apply Cancel	🗖 TableView	Displays an Eventlist as a 🔍 TableView				
Save and Apply Cancel	Save and Apply Cancel	Version Information	Version information for the Netcool GUI				
		Save an	d Apply Cancel				

Figure 4-38 IBM Tivoli Netcool/Webtop desktop chart tab: chart viewpoint selection

8. After clicking the **Save and Apply** button, you will be returned to the layout page, which is shown in Figure 4-39. Click the **Save and Apply** button again to be returned to the IBM Tivoli Netcool/Webtop desktop Charts tab.

ETCOOL®	Suite™	$\langle \rangle$	lc	ogged in as: My_W	ebtop_Custom My_A	dmin_Account	Webtop Desktop	✓ Logout
Role Category: Media Type: ht Language: Path: role/ncw	ncw_user tml _user/media-typ	e/html/page/webtop	.psml					
Customize pane								
Media Type : h	tml	Add Viewpoint	Add View	Add Pane	Edit Properties			
ane : Charts	3							
		Layout : Men	u pane	✓ Secu	ity ID : User only	~		
	Name						Action	
	🛅 🛛 Bar Charts	5					X	
	🧾 Pie Charts	;					X 🛛 🗅	
	🧾 Line Grap	hs					XØ	
	🔟 3D Charts						XVA	
	ChartView	ı					×	
			Save and	d Apply	Cancel			

Figure 4-39 IBM Tivoli Netcool/Webtop desktop Charts tab view layout detail window

- NETCOOL[®] Suite[™] logged in as: Netcool Administrator | Webtop Desktop 🗾 Logout M Samples Event Lists Maps Charts 🖉 Support ChartView 000 ChartView All Events Customize Bar Charts Pie Charts Minor Major Line Graphs 3D Charts Ø
- 9. In the Charts tab, select the new ChartView. In the chart area, expand the menu and select the Customize (☑) icon, as shown in Figure 4-40.

Figure 4-40 IBM Tivoli Netcool/Webtop desktop Chart tab: new ChartView edit detail

10.Select the new chart you created from the Charts drop-down list, as shown in in Figure 4-41, and click **Done**.

NETCOOL [®] Suite ^{**}	logged in as: Netcool Administrator Webtop Desktop 🗾 Logout 🕅
Role Category: ncw_user Media Type: html Language: Path: role/ncw_user/media-type/html/page/webtop.psml	
ChartView	"
Security ID The security for this Viewpoint is currently defined a	as system default User only
Height	400
Width	400
Chart Done Cancel	BAR_1_eventsbylocation BAR_3Deventsbylocation BAR_sdeventsbylocation LINE_3Deventsbylocation LINE_sdeventsbylocation PIE_3Deventsbylocation PIE_3Deventsbylocation PIE_3Deventsbylocation PIE_Sdeventsbylocation PIE_Sdeventsbylocation
	FIL_Seventy SBAR_3Deventsbylocationseverity SBAR_seventybyLocations SBAR_SeverityByLocation SBAR_SeventyByType SBAR_UnAckdByLocation

Figure 4-41 IBM Tivoli Netcool/Webtop desktop Charts tab: new ChartView editor menu

11. The resulting chart is shown in Figure 4-42.

NETCOOL [®] Suite [™]			logged in as: Netcool Adn	ninistrator Webtop Desktop	🗾 Logout 💧
Samples Event Lis	ts Maps	Charts 🖉 🔪	Support		
ChartView	ChartView Ev	ents by Location -	- NEW		
Bar Charts	35				
Pie Charts	30 -				
Line Graphs					
3D Charts	25 -				
	20				
	Ē				
	15-				
	 10 -				
	E				
	5-				
	``````````````````````````````````````	O, Unso	0, 0, 0, 0, 0,		
		Ciffe of			
		1130			

Figure 4-42 The new chart definition

### 4.3.5 Map definition

After IBM Tivoli Netcool/Webtop is installed and running, sign in as a IBM Tivoli Netcool/Webtop administrator and create a new map by performing the following steps:

1. Open the Webtop Admin Maps tab to get to the Map Browser and wait for the Java applet to load under the menu buttons, as shown in Figure 4-43 on page 123.

Map Browser	Chicago Dallas línk_dallas_chicago línk_ny_chicago línk_ny_dallas línk schicago		Create Map Modify Map Delete Map	
	link_sf_dallas NGD_apps-database NGD_apps-dns NGD_apps-email	•	Editor Initialized	

Figure 4-43 Webtop Admin Map Browser

2. Click the **Create Map** button to open the Java Map Editor and enter the name for your new map file, as shown in Figure 4-44.

🕅 Java Map Editor		- <b>-</b> ×
File Edit View Server Help		
Map Name		
Access Control		
Map Size	×	
Width 0 🗧 Height 👩	Please enter a name for your new map	
Background	MyNewMap	
	OK Cancel	
<none></none>	Caller	
Items		
Delete		
	, _ , , _ 1   1	. /
A		

Figure 4-44 IBM Tivoli Netcool/Webtop Java Map Editor new map prompt

- M Java Map Editor MyNewMap <u>- 0 ×</u> File Edit View Server Help -12 🖴 🗐 Map Name MyNewMap Access Control Ŧ Map Size Width 1000 🕂 Height 600 * Background #ccffcc world_3d.gif Ŧ Items Delete 1 4 . 1 i ß A 1 ക
- 3. Look over Java Map Editor and customize the colors and image background if desires, as shown in Figure 4-45.

Figure 4-45 IBM Tivoli Netcool/Webtop Java Map Editor

The objects that can be added to a map are:

- Inactive objects that are shown in a map or a direct link to a URL
- Active objects that are linked to an URL, AEL, LEL, or table view
- Lines and texts that enhance the display.

4. Add monitor lavalamp (III) and button (III) objects to the map area by clicking the object and then clicking the map area. The two objects are created in the map area. You can right-click the object and select **Properties** to customize them, as shown in Figure 4-46.



Figure 4-46 IBM Tivoli Netcool/Webtop Java Map Editor: two objects added

5. The monitor or lavalamp would open an Active Event List (AEL). The properties of the Lavalamp are shown in Figure 4-47. Click **Apply** and then **OK** when done. The monitor must be associated to an entity to define the status of entity it is monitoring.

Properties for v	visual_1			_ 🗆 🗙	I	Properties fo	r visual_1			_ 🗆 🗙
Properties A	ssociations	Size & Position	Colors & Font	1	1	Properties	Associations	Size & Position	Colors & Font	
Name	LavaLamp					A eti				
Labe	MyLavaLamp					ACU	ION ACTIVE EVEN	LIST (AEL)		·
Type						U	IRL			r
V	Show Label					Tar	get _self			•
	Show Total					Ent	tity MyNewEntity	y		•
	Show Highes	t				Data Sour	Ce NCOMS			-
	Show Lowest					[	Flash Enable	ed		
	Show Metric									
	Show Severit	y Border								
ок		Apply		<u>C</u> lose		ОК		AbblA		<u>C</u> lose

Figure 4-47 Webtop Java Map Editor lavalamp properties tab

6. The properties of the button are shown in Figure 4-48. Clicking this button would launch the IBM Web site in a new window.

♣ Properties for visual_1	
Properties Associations Size & Position Colors & Font	Properties Associations Size & Position Colors & Font
Name IBM_Button Label IBM Web Site Type O	Action Open URL URL http://www.ibm.com Target _blank Entity Data Source Flash Enabled
OK Apply <u>Close</u>	OK <u>Apply</u> <u>Close</u>

Figure 4-48 IBM Tivoli Netcool/Webtop Java Map Editor button properties

- Save the map by selecting File → Save and close the Java Map Editor to return to the Webtop Admin map browser menu. Your new map will be shown in the browser menu shown in Figure 4-43 on page 123.
- 8. Highlight the newly created map and click **Preview Map** to test the new map. Ours is shown in Figure 4-49.



Figure 4-49 IBM Tivoli Netcool/Webtop new map preview

9. Test the Lavalamp button to make sure it is launching the appropriate actions.

Map resources allow definitions of images and icons for a map. Resources can be assigned to an individual map, or put into a common directory so that all maps have access to them. If you want all maps to be able to access the resource, put them in the NCHOME/etc/webtop/resources/__common directory. The following procedure assigns a resource to a single map:

1. Select the Map Resources pane from the Webtop Admin window, as shown in Figure 4-50.

NETCOOL [®] Suite [™]	logged in as: Netcool Administrator   Webtop Admin	🗾 Logout 🕅
Webtop 🖉		2
Home	Resource Manager	
My Filters	Chicago Add Map Bassing	
Filter Builder	Dallas Remove Map Resource	
View Builder	link_ny_chicago	
Maps	link, sf_chicago link sf_dalas	
Map Resources	MyNewMap NGD_apps-database	
Entities	NGD_apps-dns	
Entity Views		
Entity Generator		
Menus		
Tools		
CGI Registry		
User Preferences		
File Manager		
SQL Workbench		
SmartPage Commands		
System Information		
2		

Figure 4-50 Webtop Admin Resource Manager

2. Highlight the map that you want to add resources to and click the **Add Map Resource** button to open the add map resource menu, as shown in Figure 4-51 on page 129.

dd Map Resource		
Mi Re:	odify resource details belo source Map Name: MyNewM Current Resources Filename File Size	<b>w</b> lap
	Browse	
Add Besource	Besource Manager	Help

Figure 4-51 Webtop Admin Resource Manager: add resource page

 Click the Browse button to open the file selection window, select a resource file and click OK. Click the Add Resource button to get back to the Map list. You can see the available resources by clicking the Preview Resources button. The preview is shown in Figure 4-52.

Preview Map Resources		
	View resource details below Resource Map Name: MyNewMap Current Resources Filename File Size View webtop-arch.gif[30088]	
	Resource Manager Help	

Figure 4-52 Webtop Admin preview of map resources



You can now use the new image for your map. We modify the map to use the new image as a background. The Java Map Editor is shown in Figure 4-53.

Figure 4-53 Modified map
#### 4.4 Navigation components

The programming components that can be configured in IBM Tivoli Netcool/Webtop are:

- ► 4.4.1, "Tool definition" on page 131
- ► 4.4.2, "CGI program definition" on page 134
- ► 4.4.3, "Menu items definition" on page 137

#### 4.4.1 Tool definition

After IBM Tivoli Netcool/Webtop is installed and running, create a new tool so that the tool is available to be added to a menu, by performing the following steps:

1. Open the tool browser from the Tools tab in the Webtop Admin page, as shown in Figure 4-54.

Tools Browser		
	acknowledge	Create Tool
	deacknowledge	Modify Tool
	groupassign	Dalete Tool
	LocalPing	Help
	prioritise takeownership	
	Telnet Tracepath	Ç.



2. Click the **Create Tool** button. In a new window, specify the tool name and select the type of tool that you want to create. In Figure 4-55, we create a new CGI/URL tool.

Tool Name MyNewTo	ol		
Execute CGI/URL	$\odot$		
Execute SQL	0		
Run Command Line	0		
		Ok	Cancel

Figure 4-55 Webtop Admin CGI tool menu

3. After creating the tool, the tool editor will prompt you to enter the tool details. Click the **Groups** button and set the permissions for the tool, as shown in Figure 4-56.

Tools Editor - Please se this tool	elect groups for
▼ * □ Desktop □ restricted □ System □ VIEWS	
	Ok Cancel

Figure 4-56 Webtop Admin CGI tool groups

4. We set the tools to launch a plain URL, as shown in Figure 4-57. We discuss CGI in 4.4.2, "CGI program definition" on page 134.

URL	Execute for each selected row
http://www.ibm.com	Fields
Browser	Window for each selected row
	Ok Cancel

Figure 4-57 Tool specification

5. You can also include the alerts fields to be passed to the CGI tools. Click the **Fields** button and select the fields, as shown in Figure 4-58 on page 133.

Tools Editor - Please sele this tool	ct fields for
Acknowledged Agent AlertGroup AlertKey Class Customer EventId ExpireTime ExtendedAttr	
☐ FirstOccurrence ☐ Flash ☐ Grade ☐ Identifier	V Ok Cancel

Figure 4-58 Field definitions

6. Set the group authorization by clicking the **Groups...** button. We assign this authorization to all groups, as shown in Figure 4-59.

Tools Editor this tool	- Please	select	groups	for
▼*				
Desktop     restricted     System				
			Ok Can	cel

Figure 4-59 Webtop Admin tool group selection

The tool creation process is the same for all three types of tools. The major difference is in the tool details and syntax. An SQL tools definition is shown in Figure 4-60.

Tool Name MyNewSQLTool Groups for this tool Groups	
SQL	Execute for each selected row
select * from alerts.status;	
Journal	Execute for each selected row
My SQL tool run by %username	
	Ok Cancel

Figure 4-60 Webtop Admin SQL tool detail

The details of the command tools are shown in Figure 4-61.

Tool Name MyNewCLIT	ool
Groups for this tool Groups	
🗹 Windows	start cmd /k dir
🗹 Solaris	xterm -e /bin/sh -c ls -l
Linux	xterm -e /bin/sh -c ls -l
HPUX	xterm -e /bin/sh -c ls -l
<b>⊠</b> AIX	xterm -e /bin/sh -c ls -l
Field Parameters Fields	Execute for each selected row
	Ok Cancel

Figure 4-61 Webtop Admin command-line tools

#### 4.4.2 CGI program definition

After IBM Tivoli Netcool/Webtop is installed and running, create and register a new CGI program so that it is available for use in Webtop tools. by performing the following steps:

1. Create a CGI script in \$NCHOME/etc/webtop/cgi-bin. We create an example called example-cgi.cgi for discovering all the listening server ports. The content is shown in Example 4-13 on page 135.

Example 4-13 Example CGI

```
#!/usr/local/bin/perl
print "Content-type: text/html\n\n";
print << _HTML_;</pre>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
<html><HEAD><TITLE>My sample WebTop CGI</TITLE></HEAD>
<BODY>
<h1>WebTop CGI tools</h1>
<CENTER><HR HEIGHT="15" ></CENTER>
<PRE>
HTML
system("/bin/netstat -an | grep LISTEN | grep -v STREAM");
print << _HTML_;</pre>
</PRE>
<CENTER><HR HEIGHT=\"15\" ></CENTER>
<form action="">
<div align="center"><input type="button" value="Close Window"</pre>
onClick="javascript:window.close();"></div>
</form></BODY></HTML>
HTML
```

2. Open the Webtop Admin window and select the CGI registry window, as shown in Figure 4-62.



Figure 4-62 CGI registration

3. In the Register CGI window, click **Register**. Enter the CGI Name, File Name, and select the groups that have access to the CGI, as shown in Figure 4-63.

Register CGI		
CGI name:	example_cgi	
Use Smart Commands:		
File Name:	example_cgi.cgi	
Groups for this CGI:	Groups	
Register	Cancel	Help

Figure 4-63 Webtop Admin CGI registry

- 4. Click the **Register** button to save the CGI in the registry.
- 5. You can invoke the CGI by using the URL

http://<webtop>:8080/webtop/cgi-bin/<cgi-name>; in our case, the URL is http://webtop:8080/webtop/cgi-bin/example_cgi. The resulting window is shown in Figure 4-64.

tcp	0	0 127.0.0.1:4100	0.0.0:*	LISTEN
tcp	0	0 0.0.0.0:32841	0.0.0:*	LISTEN
tcp	ō	0 0.0.0.0:111	0.0.0:*	LISTEN
tcp	0	0 127.0.0.1:631	0.0.0:*	LISTEN
tcp	0	0 0.0.0:27000	0.0.0.0:*	LISTEN
tcp	0	0 0.0.0:8089	0.0.0.0:*	LISTEN
tcp	o	0 127.0.0.1:25	0.0.0.0:*	LISTEN
tcp	0	0 0.0.0.0:891	0.0.0:*	LISTEN
tcp	0	0 ::ffff:127.0.0.1:5600	:::*	LISTEN
tcp	0	0 :::32803	:::*	LISTEN
tep	0	0 :::8009	:::*	LISTEN
tcp	0	0 :::8077	:::*	LISTEN
tcp	0	0 :::8080	:::*	LISTEN
tcp	0	0 ::ffff:127.0.0.1:8085	:::*	LISTEN
tcp	0	0 :::22	:::*	LISTEN
tcp	0	0 ::::1275	:::*	LISTEN

Figure 4-64 Result from the CGI tool

#### 4.4.3 Menu items definition

Menu items are use to actually invoke a tool (which can be a CGI program, SQL script, or command tool). To define the menu, the tool definition must be defined first. After IBM Tivoli Netcool/Webtop is installed and running, create a new menu item and make it available for use by performing the following steps:

1. Select the Menus pane to open the Menus Editor from the Webtop Admin window, as shown in Figure 4-65.

Menus Editor			
alerts		Create Menu	
CGI_Tools			
tools		Delete Menu	
		Help	
	-		

Figure 4-65 Webtop Admin menu window

- 2. We create a tool called Listentool (refer to 4.4.1, "Tool definition" on page 131 for more information) that defines the CGI example shown in 4.4.2, "CGI program definition" on page 134.
- 3. Next, we modify CGI_Tools (or we can create a new menu item), highlight the CGI_Tools menu, and click the **Modify Menu** button. The window is shown in Figure 4-66. You can add a tool or submenu to the selected menu by highlighting the object and clicking the <-Add button.

Name CGI Tools				
Label CGI Tools		Mnemonic C	-	
Current Items		Add Item	_	
Ping Listenport	Type 2 Rename Edit Remove	(-Add) tool <new tool="">       acknowledge       deacknowledge       delete</new>	ge edge	
	Top Up Down Bottom	groupassign Listenport LocalPing MyNewCIU MyNewSQU MyNewToo Ping prioritise takeowners	n Tool Tool J	
		Telnet	• Ok	Cancel

Figure 4-66 Webtop Admin alerts menu editor

 Open the IBM Tivoli Netcool/Webtop desktop Event Lists tab and open the Active Event List (if you have an open AEL, you must close it first before the new menu is available). From the menu bar, select Tools → CGI Tools → Listenport to see that the new tool has been added to the menu, as shown in Figure 4-67.

http://192.168.100.128:8080/webtop/AllEvents/								
<u>File Edit View Alerts T</u>	ools <u>H</u> elp							
N 🕄 🖓 🛞 🖓	CGI Tools → Ping	- 3						
Node	Local Tools  Listenport Gummary	Last Occurrence						
London	Machine has gone offline	7/21/09 4:17:25 PM						
Beijing	Diskspace alert	7/21/09 3:15:21 PM						
link3	Link Down on port	7/21/09 4:17:15 PM						
link2	Link Down on port	7/21/09 4:17:20 PM						
Washington	Machine has gone offline	7/21/09 4:16:34 PM						
Moscow	Machine has gone offline	7/21/09 4:17:21 PM						
Tokyo	Diskspace alert	7/21/09 4:00:45 PM						
localhost.localdomain	A e@7F000001@7F000001:0.0 process e@7F000001@	7/21/09 1:04:56 PM						
London	Machine has gone online	7/21/09 4:17:14 PM						
link5	Link Up on port	7/21/09 4:17:27 PM						
link4	Link Up on port	7/21/09 4:17:26 PM						
link6	Link Down on port	7/21/09 4:16:28 PM 🚽						
•								
6	1 8 2 1	1 All Events (28)						
0 rows selected	admin	192.168.100.128:8080						

Figure 4-67 Webtop AEL alerts menu with new tool

#### 4.5 HTML file

IBM Tivoli Netcool/Webtop is a collection of Web pages that allows you to manage and view your management information. It comprises a set of dynamic Web pages. These Web pages are created as specialized HTML files. The modification of these HTML files are covered in the following sections:

- 4.5.1, "Maintaining HTML and other files" on page 138
- ► 4.5.2, "Working with IBM Tivoli Netcool/Webtop pages" on page 141

#### 4.5.1 Maintaining HTML and other files

Files under IBM Tivoli Netcool/Webtop are typically HTML files or image files that enhance the look of the pages. Dynamic pages are created from the CGI pages defined in 4.4.2, "CGI program definition" on page 134. The files are managed using the File Manager window under Webtop Admin application. The File Manager window is shown in Figure 4-68 on page 139.

		logged in as: Netcool Administrator   Webtop Admin 🗾 Logout 🕅
Home	File Manager	
My Filters	_	Current Directory - /
Filter Builder	•	Parent Directory
View Builder	View Dir admin [C	Files
Maps	Remove Dir aelitm [D charts [D	ir] InaccessibleMap.html [File] Delete File
Map Resources	classes   css [Dir]	Dirj logo.git [File] logo_bar_plain.html [File]
Entities	· demo (D demo2 (i desktop	r] [ogout.html [File] Dir] MapNotSpecified.html [File]
Entity Views	docs [Di filtertaulo	() spacer.html [File]
Entity Generator		Browse
Menus	Create Sub Director	Add File to Dir
Tools	•	Help
CGI Registry		
User Preferences		
<ul> <li>File Manager</li> </ul>		
SQL Workbench		
SmartPage Commands		
System Information		
Ø		

Figure 4-68 Webtop Admin File Manager

The File Manager allows you to manage directories and files. Files and directories can be deleted or created. File creation means that you upload a file from your current machine to the IBM Tivoli Netcool/Webtop server machine. The HTML files can be accessed directly from the following URL:

```
http://<server>:<port>/webtop/<path_to_file>
```

For example, the logo.gif file in the parent directory shown in Figure 4-68 would be accessed at http://webtop:8080/webtop/logo.gif.

The files that are managed by the File Manager can be accessed directly from \$NCHOME/guifoundation/webapps/webtop. In Netcool GUI Foundation, the root directory is mapped to \$NCHOME/guifoundation/webapps/desktop, and any directory and files created there can be accessed from the root URL. For example, the file \$NCHOME/guifoundation/webapps/desktop/test.html would be accessed at http://webtop:8080/test.html. IBM Tivoli Netcool/Webtop has a special type of HTML file called SmartPage. SmartPage commands are special extensions to the HTML language that control user validation, and allow the placement of generated components in IBM Tivoli Netcool/Webtop pages. SmartPage commands are expressed in HTML as comment tags, that is, you must enter the line <!-- enable:smartpage --> in the first line to enable SmartPage.

One typical usage of SmartPage is the inclusion of a map applet. You can include this applet by inserting a SmartPage tag in the BODY section of the HTML page (<!-- insert:MAPLET[mapname] -->), where *mapname* is the name of the map definition. Other usages of SmartPages are:

- Enable a Web page for SmartPage tag processing.
- Validate user access to a Web page against a group.
- Insert an AEL applet.
- Insert a map applet.
- Insert a hyperlinked list of accessible maps associated with a user.
- Insert a tableview.
- Insert the user name of the logged in user.
- Insert the home URL associated with a user.
- Insert user statistics.
- Insert a time zone preference drop-down menu in a page.

Another useful HTML file source is a template. Templates reside in NCHOME/etc/webtop/templates. The templates are typically SmartPage HTML files. A special construct is the pair of NCO_V tags that can be used inside the SmartPage tags. The text between the opening and closing <NCO_V> tags establishes the variable name that the URL uses to establish a name-value pair. When you specify a variable name, the text must be alphanumeric and multiple words must be separated by an underscore. A sample NCO_V tag is shown in Example 4-14.

Example 4-14 NCO_V tag

```
<!-- insert:TABLEVIEW[
map=<NC0_V type="str" default="">map_name</NC0_V>,
entity=<NC0_V type="str" default="">entity_name</NC0_V>]
-->
```

The type defines the argument type, which can be str (string), BOOLEAN (true or false), and number (integer). It can also provide a default value.

#### 4.5.2 Working with IBM Tivoli Netcool/Webtop pages

After IBM Tivoli Netcool/Webtop is installed and running, create a new HTML page so that the new page is available, by performing the following steps:

1. Select the **My Pages** option from the drop-down menu, as shown in Figure 4-69.

NETCOOL [®] Suite ^{**}	logged in as: Netcool Administrator   My Pages	🗾 Logout	Μ
			Ø
Media Type     Language     Country     Page       Add     Export All     Import     Import All       Cancel			

Figure 4-69 IBM Tivoli Netcool/Webtop MyPages menu

2. Name the PSML file and give the page a title, as shown in Figure 4-70, and click the **Add** button to continue.

<b>IETCOOL</b> ®S	uite™	logged in as: Netcool Administrator   My Pages	🗾 Logout
PSML Name	mypage001.psml		
Page Title	My Test Page 001		
Media Type	html 💌		
Language			
Country			
Category Name:	User		
Category Value	admin		
Conv From	/media-type/html/page/default.psml		

Figure 4-70 IBM Tivoli Netcool/Webtop page creation menu

3. After you save the new page, it will be listed in the My Pages page. Click the pencil, as shown in Figure 4-71, to customize the new page.

NETCOO	<b>L</b> [®] Suite [™]		lo	gged in as: Netcool	Administrator   My Pages	🗾 Logout	Μ
							Ø
Media Type I	Language (	Country	Page				
html			My Test Page 001 (mypage001.psm)	) 🥒 🗱 🛅 🖏			
Add Expo	ort All Imp	ort Imp	oort All				
Cancel							
Carton							

Figure 4-71 IBM Tivoli Netcool/Webtop MyPages menu with a new page

4. The empty customization page is shown in Figure 4-72. You can add view points. The view point is part of a page that shows certain information, which is similar to a portlet.

sities	
ei	ties ▼

Figure 4-72 IBM Tivoli Netcool/Webtop new blank page displayed

5. Click **Add Viewpoint** and add an Active Event List view to the layout, as shown in Figure 4-73.

User Category: admir Media Type: html Language:	ſ		
Path: user/admin/me	dia-type/html/page/mypage001.	osml	
Customize pane			
Media Type : html	dd Viewpoint Add View Add Pane	E dit Properties	
Pane : My Test Page	001		
Filter Viewp	oints by Category: All Viewpoints		
altiTbb0	Description		
Active Ev	ent List Display an Active Ever	t List	
🗖 ChartVie	w Displays a Webtop Ch	art	
🗖 IFrame B	xample Example IFrame View;	oint	
Lightwei	ght Event Displays the Lightweig Event List	ht	
🗖 MapView	Displays a Webtop Ma	p	
🗖 TableVie	w Displays an Eventlist a TableView	sa	
	Version information fo	' the	
☐ Version Informat	ION NECCOULOOI		
☐ Version Informat			
☐ Version Informat	Save and Apply Cancel		

Figure 4-73 IBM Tivoli Netcool/Webtop new page layout with AEL viewpoint

6. You can also add another view point for the page. We decided to add the MapView from the map created in 4.3.5, "Map definition" on page 122 in the same page. The resulting definition is shown in Figure 4-74.

ETCOOL [®] Suite [®]	logged in as: Netcool Administrator   My Test Page 001 🗾 Logout
Jser Category: admin 1edia Type: html .anguage: 'ath: user/admin/media-type/html/pa	ige/mypage001.psml
Customize pane	
Media Type : html Add Viewpoint Add	d View Add Pane Edit Properties
Pane: My Test Page 001	
Layout : One column	Security ID : Admins only
	X
Ac	tive Event List
Skin : Default	Security ID : The security for this Viewnoint is currently
	defined as system default.
Decoration Default 💌	
	×
	MapView
Skin : Default	Security ID :
	defined as system default.
Decoration - Default	
Sav	e and Apply Lancel

Figure 4-74 Page definition

7. After you click the **Save and Apply** button, you can see the page you created, as shown in Figure 4-75 on page 145.

NETCOOL [®] Suite [™]		logged in as: Netcool Administrator	My Test Page 001 👤	Logout M
Active Event List				
http://192.168.100.128:8080/we	btop/AllEvents/			
<u>File Edit View Alerts Too</u>	ols <u>H</u> elp			
🔁 🏶 🖪 🖪 🍣 🔄	-		- ?	
Node	Summary	Last Occurrence	Count	
London	Machine has gone offline	7/21/09 4:49:30 PM	264 🔺	
Beijing	Diskspace alert	7/21/09 4:42:43 PM	205	
link3	Link Down on port	7/21/09 4:49:40 PM	445	
Mashington	Link Down on port	7/21/09 4:49:04 PM	238	
Moscow	Machine has gone offline	7/21/09 4:45:251 M	250	
Tokyo	Diskspace alert	7/21/09 4:49:08 PM	789	
Sydney	Machine has gone offline	7/21/09 4:49:47 PM	239	
link1	Link Down on port	7/21/09 4:49:43 PM	424	
link4	Link Down on port	7/21/09 4:50:00 PM	1940	
Tokyo	Diskspace alert	7/21/09 4:49:59 PM	1619	
7	1 8	2 10	All Events (28)	
28 rows inserted, 28 rows upd	lated, and 0 rows deleted.	admin 192.168.1	00.128:8080	
ManWiew				
MyNewMap				``
ObjectServe MyLavaLar	The Neto Foundat	Cool GUI ion Net Clie Vebtop	tcool GUI	
Netcool Licensing	Netcool/P	Product 1	tcool GUI ent	,

Figure 4-75 IBM Tivoli Netcool/Webtop AEL viewpoint in your new page



## 5

# Performance tuning and problem determination

Performance tuning and problem determination for IBM Tivoli Netcool/Webtop is discussed in the following sections:

- ▶ 5.1, "Startup problem" on page 148
- ▶ 5.2, "Checking user sessions" on page 148
- ► 5.3, "Login failures" on page 150
- ► 5.4, "Performance issues" on page 152
- ► 5.5, "Connection to ObjectServer" on page 154
- 5.6, "Backup configuration" on page 154
- ► 5.7, "Security Manager performance issues" on page 155

#### 5.1 Startup problem

There are several reasons why there can be a IBM Tivoli Netcool/Webtop startup problem. Here is a checklist that you can use to identify problems with starting the IBM Tivoli Netcool/Webtop server:

- Check the environment variables: NCHOME, NCLICENSE, and LD_LIBRARY_PATH. They have to be present for all components of IBM Tivoli Netcool/Webtop server.
- ► The prerequisite components for a IBM Tivoli Netcool/Webtop server are:
  - Netcool License Server: You can check this component by running the nc_print_license command under \$NCHOME/license/bin. If it cannot connect, start the license by running the nc_start_license command.
  - Netcool Security Manager: You can check this component by running the ncsm_status command under \$NCHOME/security/bin. If it is not started, start the security manager by running the ncsm_server command.
  - Netcool GUI Foundation's Tomcat server process may be checked by running the **ngf_server status** command under \$NCHOME/bin.
- Look in the \$NCHOME/log/webtop.log and \$NCHOME/log/guifoundation/ logs for indications about the cause of the problem.
- Some useful checks are:
  - Checking a process by running the ps -ef command or using Windows Task Manager.
  - Checking a port by running the netstat -an command.

#### 5.2 Checking user sessions

Information from the GUI Foundation Web pages can be used to check who is logged in to IBM Tivoli Netcool/Webtop and to revoke user sessions. Perform the following steps:

1. Using the admin user, sign on to Netcool GUI Foundation Web interface. Navigate to the Administration window. Select the **Sessions** tab, which shows the connected users, as shown in Figure 5-1 on page 149.

NETCO	<b>CL</b> [®] Suite [®]		logged in as: Netcool Admi	nistrator   Adminis	tration	📕 Logout	M
System I	nformation	Layout 💦 Secu	rity Sessions				
			• •				
My Current	Logged in Users	:					
User Name	<b>Client IP Address</b>	Created	Single Signon SessionID	Seconds Inactive			
webedmin	102 169 100 1	22/07/2000 15:22	D109EBE22B0A6ED5E504090A2E90D9B6	11	Revoke		
webaumin	192.100.100.1	22/07/2009 13.22	D1002023309A01 D32304909A21 000000	11			
admin	192.168.100.1	22/07/2009 15:20	79EA5C5DEC2B6E0E93D90D5206E54436	0	Revoke		
					Detail		

Figure 5-1 NGF administration page

2. You can get details about each session by clicking the **Detail** button, as shown in Figure 5-2.

NETCO	<b>CL</b> [®] Suite [®]				logged in as: Netco	ool Adminis	strator   Administration	•	Logout
System 1	nformation	Layout	Security	Sessions					
My Current	Logged in Users	5:							
User Name	Client IP Address	Created	Single S	ignon SessionI	D	Seconds	Inactive		
webadmin	192.168.100.1	22/07/2009	15:22 D108EBE	3389A6FD5E50	4989A2F80D8B6	11	Revoke		
admin	192.168.100.1	22/07/2009	15:20 79EA5C5	DEC2B6E0E930	090D5206E54436	0	Revoke		
							[Detail]		
Current Se	ssions:								
User Name	<b>Client IP Address</b>	Created	Context	SessionID			Single Signon SessionID	)	Seconds Ina
webadmin	192.168.100.1	22/07/2009 15:24	webtop	D6DD48D8484	2B446B193D5C35	01FD263	D108EBE33B9A6FD5E504	4989A2F80D8B6	11
webadmin	192.168.100.1	22/07/2009 15:22	Netcool GUI Foundation	06FDBABA6340	C226A52F63379F5	5BEFC6	D108EBE33B9A6FD5E504	4989A2F80D8B6	11
admin	192.168.100.1	22/07/2009 15:21	Netcool Administration	030397380A59	908EBA607A08D0B	E6347E4	79EA5C5DEC2B6E0E93D	90D5206E54436	0
admin	192.168.100.1	22/07/2009 15:20	Netcool GUI Foundation	E0C92D3DDFB	EE6E67226ADB40	08038DA	79EA5C5DEC2B6E0E93D	90D5206E54436	0
admin	192.168.100.1	22/07/2009 15:23	NCSM Admin GUI	F2D1604BFE59	954A67607E4C7B9	96D1925	79EA5C5DEC2B6E0E93D	90D5206E54436	0

Figure 5-2 NGF administration session tab before revoking the webadmin account

3. If you want to revoke a given user's session, click the **Revoke** button next to the user, and the user will be logged out of IBM Tivoli Netcool/Webtop.

#### 5.3 Login failures

Determine the reason for user login failure, or failure to access IBM Tivoli Netcool/Webtop, by performing the following steps:

1. Determine if Security Manager is running. Open a browser and type in the Security Manager host name and 8077 for the port. You should get a confirmation window that the Security Manager is running, as shown in Figure 5-3.



Figure 5-3 Security Manager confirmation page

2. Determine if the user has an NGF account. Log in using the admin account and look for the user that cannot login. The account should be listed in the Administration page under the security tab's Users pane, as shown in Figure 5-4 on page 151.

<b>NETCOOL</b> [®] Suite [®]		/	logged in	as: Netcool Administrator	Administration	Logout 🖊
System Information	Layout	Security	Sessions			
<ul> <li>Users</li> </ul>	Add U	ser			[	Resync All
Roles	Filter:			Filter Dute menter		
Groups	all a r				expressions	
Domain Properties		o C D E F G H I	JKEMNOPQ	28310000712		
Security IDs	Select: (all)	Username	First Name	Last Name	Active?	Actions
		root	Netcool	Administrator	yes	<i></i>
		guest	Netcool	Guest	yes	Ì
		admin	Netcool	Administrator	yes	
		netcool	netcool	netcool	yes	
		anon	anon	anon	yes	
		webadmin	Web	Administrator	yes	
	Delete					
					5	

Figure 5-4 NGF administration page user pane in the Security tab

- 3. Determine if the user has an active NGF account. If the account exists, then you should look at the user details and make sure the roles and groups are configured correctly.
- 4. Determine if the user is using the correct password. If the account is not authenticated externally, try resetting the password. If it is external, try logging into the external source with the password you think is correct.
- 5. Determine if the user has an accessible home page. The user home page is set by NGF to /portal; however, the home page set in the IBM Tivoli Netcool/Webtop user preferences pane will be used if you log in without a specific URL.
- 6. Determine if the ObjectServer is running and if IBM Tivoli Netcool/Webtop can connect to it. Log in to the server using the nco_sql utility and try running a select statement. If that works, try telneting to the port the ObjectServer is running on from the IBM Tivoli Netcool/Webtop server. If the telnet connection is successful, you will get a connection; if not, there is probably a firewall issue.

#### 5.4 Performance issues

There are some possible ways to analyze performance issues for the IBM Tivoli Netcool/Webtop server. You can check the following items to determine the cause of IBM Tivoli Netcool/Webtop performance issues:

- From the Webtop Admin page, click the Sessions tab to determine how many users are logged in (see Figure 5-2 on page 149). If the number of users is very high, you may need to revoke user sessions.
- Select System Information → Server Runtime to determine how much memory is being used (see Figure 5-5). This number should not be higher than the amount of memory assigned to the -Xmx value in the ngf_server start script.

1	NETCOOL [®] Suite [™]	logged in as: Netcool Administrator   Adm	inistration 🔄 Logout ႔
-	System Information	Layout Security Sessions	
_	Version	Memory:	
	Server Runtime	Free Memory (K) -> 233389 Total Memory (K) -> 260224	
_	Java Runtime	_ Thread Pool:	
		Available threads: -> 5 Total threads: -> 5 Runnable queue length: -> 0 Processed thread count: -> 5	
		Viewpoint Registry: Number of entries: -> 114	
		Resource Manager: Entries in Manager -> 1 Bad Entries -> 0 URLs Loading/Refreshing -> 0	
		Global Memory Cache: Objects in Cache -> 165	

Figure 5-5 Webtop Admin system information window

- Check the number of events in the ObjectServer by running the nco_sql command and issuing the SQL command select count(*) from alerts.status. This especially important for slow performance when using the Event List.
- Compare the Event List response time with the OMNIbus Native Desktop. It can be run by using the nco_event command. If the native client has a slow response time, the problem is probably not with IBM Tivoli Netcool/Webtop. Check your ObjectServer, gateways, and probes for the root issue.
- Determine if there is a performance problem for all IBM Tivoli Netcool/Webtop components. The IBM Tivoli Netcool/Webtop server itself is a single component within the NGF server, but slow navigation between pages can indicate a Security Manager issue or be related to the external authentication

source. Slow login responses can also be related to the Security Manager and external authentication sources; refer to 5.7, "Security Manager performance issues" on page 155 for more information.

- Check for any misconfigured Netcool GUI Foundation PSML pages that contain a circular reference. This problem can reduce IBM Tivoli Netcool/Webtop performance as well.
- Determine if all users are experiencing slow responses by using a different client machine. If the performance problem is only happening in a limited set of machines, clear the Java cache on the troubled machine, and if that does not work, try increasing the client side Java memory to 128 MB. If this does not solve the issue, try a different user account, because misconfigured user roles or groups might cause performance issues as well, as shown in Figure 5-6.



Figure 5-6 Client side Java memory settings

- Determine if other applications are running on the IBM Tivoli Netcool/Webtop server host. Make sure other applications are not conflicting with IBM Tivoli Netcool/Webtop ports or using the available system resources.
- ► Check the IBM Tivoli Netcool/Webtop log files under NCHOME/log/webtop.log.

#### 5.5 Connection to ObjectServer

Verify the cause of IBM Tivoli Netcool/Webtop's inability to connect to the ObjectServer by performing the following steps:

- 1. Verify that the ObjectServer is running by logging into the ObjectServer through a native client or by running nco_sql.
- Verify that the correct ObjectServer is configured for IBM Tivoli Netcool/Webtop by reviewing the data source file \$NCHOME/etc/webtop/datasources/ncwDataSourceDefinitions.xml. The user name and password should be tested as well as the host name.
- 3. Verify that IBM Tivoli Netcool/Webtop is reading the data from the data source file correctly by running **\$NCHOME/webtop/bin/webtop_report**. This report lists the defined data sources that IBM Tivoli Netcool/Webtop can read from the data source file and the properties defined for them. If this report is not returning the correct information, there is probably an typo in the data source file.
- 4. Confirm that the IBM Tivoli Netcool/Webtop server can connect to the ObjectServer host and port by telneting to the ObjectServer host name and ObjectServer port from the IBM Tivoli Netcool/Webtop server.

#### 5.6 Backup configuration

Create a backup copy of the IBM Tivoli Netcool/Webtop configuration by performing the following steps:

- 1. Stop IBM Tivoli Netcool/Webtop.
- 2. Make copies of the following files and directories: \$NCHOME/etc/webtop/, \$NCHOME/webtop/waapi/etc/, \$NCHOME/guifoundation/webapps/, and \$NCHOME/guifoundation/conf.
- 3. Start IBM Tivoli Netcool/Webtop.

#### 5.7 Security Manager performance issues

Determine the cause of Security Manager Performance issues by performing the following steps:

- 1. Determine if Security Manager is running:
  - a. From command line, with appropriate permissions, run the script **\$NCHOME/security/bin/ncsm_status**.
  - b. From a browser window, attempt to connect to the Security Manager HTTP port (the default is 8077).
- 2. Determine if the authentication source is available. The specified authentication source can be accessed by going to the NGF Security tab and clicking the **Domain** menu. From this menu, you can see the authentication sources of which IBM Tivoli Netcool/Webtop is aware. These sources are listed in the Security Manager database. You should use this list to open a console session or other tools to check availability and check access credentials.
- If there are no sources listed, check the NCHOME/etc/sm/server.props file, which defines the Security Manager host name for IBM Tivoli Netcool/Webtop.
- Check the Security Manager log files under \$NCHOME/security/log/SM_server.log.



## Α

## Sample test

This appendix contains a sample test and its answer key.

#### Questions

This sample test is designed to give the candidate an idea of the content and format of the questions that will be on the certification exam. Performance on the sample test is *not* an indicator of performance on the certification exam and this should not be considered an assessment tool.

Answer the following questions:

- 1. Which command is used to start the IBM Tivoli Netcool/Webtop V2.0 server on UNIX?
  - a. ngf_server start.
  - b. webtop_server.
  - c. webtop_startup.
  - d. server_startup.
- 2. How do you set the connection between IBM Tivoli Netcool/Webtop V2.0 and the ObjectServer(s)?
  - a. Use nco_(x) igen.
  - b. Use \$NCHOME/config/server.init.
  - c. Use \$NCHOME/www/conf/server.xml.
  - d. Use \$NCHOME/config/datasources/ncwDataSourceDefinitions.xml.
- 3. The IBM Tivoli Netcool/Webtop V2.0 (Webtop) administrator of Telco Inc. wants to authenticate users from the ObjectServer. Which ObjectServer users can be used in IBM Tivoli Netcool/Webtop?
  - a. All users.
  - b. Only Normal users.
  - c. All users with the exception of Superusers.
  - d. Only Normal users and Administrative users that do not have restriction filters.

- 4. A Normal user of Telco Inc logs into IBM Tivoli Netcool/Webtop V2.0 (Webtop). The user opens an Active Event List. The user wants the time stamps of events to permanently be MM/DD/YYYY HH-MM-SS. What should this user do to modify the time stamp configuration?
  - a. Modify the time and date format in the preferences (select Miscellaneous → Edit/Preferences) of the Active Event List.
  - b. The user automatically gets the same time and date format equal to that of the system on which he is running the browser.
  - c. Ask the Webtop administrator to modify the time stamps setting through the Webtop Administration GUI for that user.
  - d. Ask the IBM Tivoli Netcool/OMNIbus V7.1 administrator to modify the time and date format as it is set in the ObjectServer to which Webtop is connected.
- 5. The customer requires a view that includes the following information based on the default ObjectServer:
  - Description of the event.
  - Name of the probe that collected the alarm.
  - Name of the ObjectServer that originally received the event.
  - Name of the type of failure.

The view should be sorted by descending severity and then by the most recent occurrence.

Which fields and sort criteria will meet the customer's needs?

- a. Fields: Summary, ServerName, ServerSerial, Type. Sort: Severity(asc), LastOccurrence(asc).
- b. Fields: AlertGroup, Manager, ServerName, AlertKey. Sort: Severity(desc), LastOcurrence(asc).
- c. Fields: Summary, Manager, ServerName, AlertGroup. Sort: Severity(desc), LastOccurrence(desc).
- d. Fields: Identifier, Manager, ServerSerial, AlertGroup. Sort: Severity(desc), LastOccurrence(desc).
- 6. Which file format is used for a chart page?
  - a. TXT.
  - b. XML.
  - c. HTML.
  - d. SGML.

- You, as administrator, have been tasked with creating a tool to be available to the appropriate IBM Tivoli Netcool/Webtop V2.0 users. Using IBM Tivoli Netcool/Webtop Administration API, which three elements are needed to define a tool that will update an event owner? (Choose three.)
  - a. group.
  - b. sql.
  - c. cgi.
  - d. tool.
  - e. prompt.
  - f. Restriction filter.
- 8. Which type of program executions can be performed with CGI tools, where the tool script or Web page contains SMARTPage commands?
  - a. CGI scripts only.
  - b. CGI scripts and local URLs.
  - c. CGI and Webtop Administration API.
  - d. CGI scripts, local URLs, and remote URLs.
- 9. When creating a new HTML page in IBM Tivoli Netcool/Webtop V2.0, it is possible to use SMARTPage commands. If using the SMARTPage Validate command, where must this command be placed in the HTML file?
  - a. Anywhere in the file.
  - b. As the first line of the file.
  - c. As the last line of the file.
  - d. As the second line of the file.
- 10. When logged into IBM Tivoli Netcool/Webtop V2.0 (Webtop) as an administrator, it is possible to view system information. In which location can the administrator access the Webtop Data Report?
  - a. Webtop Administration Page  $\rightarrow$  Tools  $\rightarrow$  System Information.
  - b. Webtop Administration Page  $\rightarrow$  Tools & Utilities  $\rightarrow$  System Information.
  - c. Webtop Administration Page  $\rightarrow$  Help & Information  $\rightarrow$  System Information.
  - d. Webtop Administration Page  $\rightarrow$  System Information.

#### Answer key

The following is the answers to the sample tests:

- 1. A
- 2. D
- 3. A
- 4. A
- 5. C
- 6. C
- 7. A, B, and E
- 8. B
- 9. D
- 10.D



### **Abbreviations and acronyms**

ACL	Access Control List	SGML	Standard Generalized Markup
AEL	Active Event List		Language
AEN	Accelerated Event Notification	SME	Subject Matter Expert
ΑΡΙ	Application Programming Interface	SNMP	Simple Network Management Protocol
ASA	Adaptive Server Anywhere	SOA	Service-oriented Architecture
CGI	Common Gateway Interface	SOW	Statement of Work
CPU	Central Processing Unit	SQL	Structured Query Language
DB2	Database 2	SSL	Secured Socket Layer
DBA	Database Administrator	SVI	Software Value Incentive
ENMS	Enterprise Network Management System	TCP/IP	Transmission Control Protocol/Internet Protocol
EULA	End User License Agreement	URL	Universal Resource Locator
GUI	Graphical User Interface	VAP	Value Advantage Plus
HTML	Hyper Text Markup Language	VUE	Virtual University Enterprises
нттр	Hyper Text Transfer Protocol	WAAPI	Web Administration Application Programming Interface
HTTPS	HTTP Secure		
IBM	International Business Machines Corporation	XML	eXtensible Markup Language
IDUC	Insert Delete Update Control		
ITIL	IT Infrastructure Library®		
ITSO	International Technical Support Organization		
LDAP	Lightweight Directory Access Protocol		
LEL	Lightweight Event List		
NGF	Netcool GUI Foundation		
NIS	Network Information Service		
NOC	Network Operation Center		
PDF	Portable Document Format		
PID	Process Identifier		
ROI	Return on Investment		



### **Related publications**

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this book.

#### **IBM Redbooks**

For information about ordering these publications, see "How to get Redbooks" on page 166. Note that some of the documents referenced here may be available in softcopy only.

- Best Practices for IBM Tivoli Enterprise Console to Netcool/OMNIbus Upgrade, SG24-7557
- Migrating to Netcool/Precision for IP Networks --Best Practices for Migrating from IBM Tivoli NetView, SG24-7375

#### Other publications

These publications are also relevant as further information sources:

- IBM Tivoli Netcool/OMNIbus Administration Guide, SC23-6371
- ► IBM Tivoli Netcool/OMNIbus Installation and Deployment Guide, SC23-6370
- ► IBM Tivoli Netcool/OMNIbus Probe and Gateway Guide, SC23-6373
- IBM Tivoli Netcool/OMNIbus User's Guide, SC23-6372
- Netcool/Webtop Administration Guide, SC23-6527

#### **Online resources**

These Web sites are also relevant as further information sources:

- IBM Certification page: http://www.ibm.com/certify/index.shtml
- IBM Test Objectives for Test 922: http://www-03.ibm.com/certify/tests/obj922.shtml

Passport Advantage:

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ISBN 0738433314

