

bloxTools Installation and User Guide



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Product Information

Hardware Models: Infoblox-250, -250-A, -550, -550-A, -1050, -1050-A, -1550, -1550-A, -1552, -1552-A, -1852-A, -2000, and -2000-A.

Document Number: 400-0400-000 Rev. A

Document Updated: October 13, 2011

Warranty Information

Your purchase includes a 90-day software warranty and a one year limited warranty on the Infoblox appliance, plus an Infoblox Warranty Support Plan and Technical Support. For more information about Infoblox Warranty information, refer to the Infoblox Web site, or contact Infoblox Technical Support.

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Preface

This preface describes the document conventions of this guide, and provides information about how to find additional product information, including accessing Infoblox Technical Support. It includes the following sections:

- [Document Overview](#) on page 4
 - [Documentation Conventions](#) on page 4
- [Related Documentation](#) on page 6
- [Customer Care](#) on page 7
 - [User Accounts](#) on page 7
 - [Software Upgrades](#) on page 7
 - [Technical Support](#) on page 7

DOCUMENT OVERVIEW

This guide describes how to configure and manage bloxTools . It was last updated on October 13, 2011.

Documentation Conventions

The text in this guide follows the following style conventions.

Style	Usage
bold	<ul style="list-style-type: none">Indicates anything that you input in the user interface, by clicking, choosing, selecting, typing, or by pressing on the keyboard.Indicates the field names in the user interface.
<code>input</code>	Signifies command line entries that you type.
<i>variable</i>	Signifies variables typed into the user interface that you need to modify specifically for your configuration. These can be command line variables, file names, and keyboard characters. Indicates the names of the wizards, editors, and dialog boxes in Grid Manager, such as the <i>Add Network</i> wizard or the <i>DHCP Network</i> editor.

Variables

Infoblox uses the following variables to represent values that you type, such as file names and IP addresses.

Variable	Value
<i>a_record</i>	A record
<i>aaaa_record</i>	AAAA record
<i>admin_group</i>	Name of a group of administrators
<i>admin_name</i>	Name of the appliance administrator
<i>addr_range</i>	IP address range
<i>dhcp_template</i>	DHCP template
<i>domain_name</i>	Domain name
<i>directory</i>	Directory name
<i>failover_association</i>	Failover association
<i>filter_name</i>	Name of a DHCP filter
<i>fixed_address</i>	Fixed address
<i>fixed_address_template</i>	Fixed address template
<i>grid</i>	Grid name
<i>grid_master</i>	Grid Master
<i>grid_member</i>	Grid Member
<i>hostname</i>	Host name of an independent appliance
<i>host_record</i>	Host record

Variable	Value
<i>ifmap_client</i>	IF-MAP client
<i>ip_addr</i>	IPv4 address
<i>lease</i>	IP address of a lease
<i>mac_filter</i>	Name of a MAC filter
<i>match_rule</i>	Name of a match rule
<i>member</i>	Grid member name
<i>ms_server</i>	Microsoft server
<i>netmask</i>	Subnet mask
<i>network</i>	IP address of a network
<i>network_access_server</i>	Name of a NAS
<i>network_template</i>	Network template
<i>network_view</i>	Network view
<i>option_space</i>	DHCP option space
<i>policy</i>	Name of a policy on RADIUSone
<i>policy_group</i>	Name of a Policy Group
<i>port</i>	Number of a port; predefined for certain protocols
<i>ptr_record</i>	PTR record
<i>reservation</i>	Reservation
<i>roaming_host</i>	Roaming host
<i>scheduled_task</i>	Scheduled task
<i>server_group</i>	Name of a group of servers
<i>shared_network</i>	Shared network
<i>service</i>	One of the services available from Grid Manager
<i>template</i>	DHCP template
<i>dns_view</i>	DNS view
<i>zone</i>	DNS zone

Navigation

Infoblox technical documentation uses an arrow “->” to represent navigation through the user interface. For example, to edit a fixed address, the description is as follows:

From the Data Management tab, select the DHCP tab -> Networks tab -> Networks -> *network* -> *fixed_address* check box, and then click the Edit icon.

RELATED DOCUMENTATION

Other Infoblox appliance documentation:

- *Infoblox CLI Guide*
- *Infoblox API Documentation*
- *Infoblox IBOS Administrator Guide*
- *Infoblox-500, Infoblox-1000 and Infoblox-1200 Quick Start*
- *Infoblox User Guide for the Infoblox-1050, 1550, and 1552 Appliances*
- *Infoblox User Guide for the Infoblox-500, -550 Appliance*
- *Infoblox Installation Guide for the Infoblox-550, -1050, -1550, and -1552 Appliances*
- *Infoblox Installation Guide for the Infoblox-550-A, -1050-A, -1550-A, and -1552-A Appliances*
- *Infoblox Installation Guide for the Infoblox-1852-A Appliance*
- *Infoblox Installation Guide for the Infoblox-250 Appliance*
- *Infoblox Installation Guide for the Infoblox-250-A Appliance*
- *Infoblox Installation Guide for the Infoblox-2000 Appliance*
- *Infoblox Installation Guide for the Infoblox-2000-A Appliance*
- *Quick Start Guide for Installing vNIOS Software on Riverbed Services Platforms*
- *Quick Start Guide for Installing vNIOS Software on Cisco Application eXtension Platforms*
- *Quick Start Guide for Installing vNIOS Software on VMware Platforms*
- *Quick Start Guide for Installing vIBOS Software on VMware Platforms*
- *Infoblox Safety Guide*

To provide feedback on any of the Infoblox technical documents, please e-mail techpubs@infoblox.com.

CUSTOMER CARE

This section addresses user accounts, software upgrades, licenses and warranties, and technical support.

User Accounts

The Infoblox appliance ships with a default user name and password. Change the default `admin` account password immediately after the system is installed to safeguard its use. Make sure that the NIOS appliance has at least one administrator account with superuser privileges at all times, and keep a record of your account information in a safe place. If you lose the `admin` account password, and did not already create another superuser account, the system will need to be reset to factory defaults, causing you to lose all existing data on the NIOS appliance. You can create new administrator accounts, with or without superuser privileges. For more information, see *Managing Administrators* on page 77 in the InfobloxSystem Administration Guide.

Software Upgrades

Software upgrades are available according to the Terms of Sale for your system. Infoblox notifies you when an upgrade is available. Register immediately with Infoblox Technical Support at <http://www.infoblox.com/en/support/product-registration.html> to maximize your Technical Support.

Technical Support

Infoblox Technical Support provides assistance via the Web, e-mail, and telephone. The Infoblox Support web site at <http://www.infoblox.com/en/support/support-center-login.html> provides access to product documentation and release notes, but requires the user ID and password you receive when you register your product online at: <http://www.infoblox.com/en/support/product-registration.html>.

Chapter 1 Introduction

This section describes the Infoblox system and the bloxTools environment. This chapter includes the following sections:

- [System Overview](#) on page 10
- [The bloxTools Environment](#) on page 11

BLOXTOOLS OVERVIEW

The bloxTools platform standardizes the custom application development and deployment process for the Infoblox platform. The bloxTools architecture is modular and provides for reusable code.

The bloxTools platform consists of the bloxTools environment, bloxTools custom applications, or Snapins, and the bloxTools Development Kit (BDK). The bloxTools environment is a hosting environment for custom applications. It is not a development environment.

You can start, stop, restart the bloxTools environment without affecting the core services running on an appliance because the environment is logically separate from the core appliance services. The bloxTools environment has its own log files, which are accessible by FTP or CLI.

bloxTools, Snapins and NIOS illustrates how the bloxTools environment, Snapins and NIOS fit together.

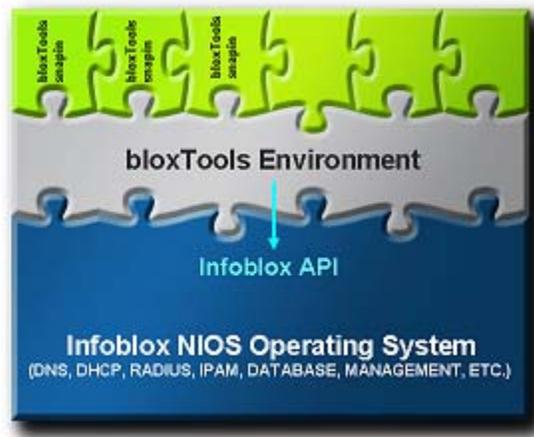


Figure 1.1 bloxTools, Snapins and NIOS

SYSTEM OVERVIEW

bloxTools is an environment for hosting and creating custom, web-based applications that add user defined functionality to the core Infoblox platform. These applications are called Snapins.

The Grid is a collection of secure member appliances.

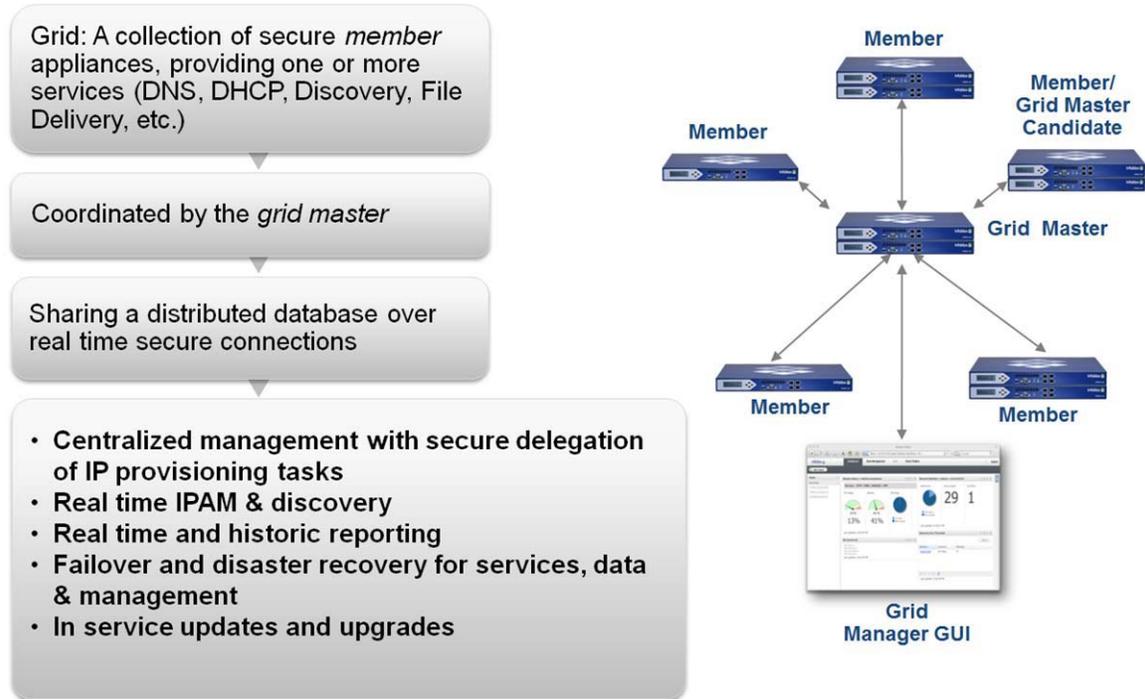


Figure 1.2 The Infoblox Grid

THE BLOXTOOLS ENVIRONMENT

The bloxTools environment is hosted on an Infoblox appliance. It uses host resources such as CPU, memory, disk space, and networking, while remaining logically separate to ensure that any failure in the bloxTools service does not affect the other services running on the appliance.

In the bloxTools environment, you can run applications using Perl, Python, PHP, CGI scripting, and Infoblox API libraries.

The bloxTools environment can only be configured to run on an independent appliance or a Grid member. You cannot run the bloxTools service on a Grid Master, a Grid Master candidate, or a virtual appliance, such as vNIOS for Riverbed, or VMware.

System Requirements

Infoblox Appliance Memory and Disk Space Requirements shows which Infoblox appliances support the bloxTools service and the memory requirement for each. The service uses host resources such as CPU, memory, and disk space.

Table 1.1 Infoblox Appliance Memory and Disk Space Requirements

Supported Infoblox Appliance	Memory Requirement	Allocated Disk Space
Infoblox-1550-A Infoblox-1552-A	128 MB to 512 MB (configurable) The default is 256 MB	Up to four gigabytes
Infoblox-1852-A Infoblox-2000-A	128 MB to 1024 MB (configurable) The default is 256 MB	Up to four gigabytes

Note: In previous NIOS releases, you could run the bloxTools service only on a Grid Master. If bloxTools has been configured to run on a Grid Master before an upgrade, the bloxTools service continues to run on the Grid Master after an upgrade. This configuration is preserved mainly for migration purposes only. Infoblox strongly recommends that you move the bloxTools service to a Grid member after the upgrade. For information, see [Moving the bloxTools Service on page 405](#).

In a Grid, you can run the bloxTools service only on one Grid member at a time, and you cannot configure this member as a Grid Master candidate. However, you can move the bloxTools service from one member to another. For information, see [“Moving the bloxTools Service” on page 13](#).

On a High Availability (HA) member, the bloxTools service runs on the active node. If there is an HA failover, the bloxTools service is automatically launched after the passive node becomes active. For information, see [About HA Pairs in the System Administration Guide](#).

Access to the bloxTools Environment

No direct external remote user (telnet and ssh, for example) or shell access is available in this environment.

After you enable the bloxTools service and configure its built-in file transfer services, you can upload content to the bloxTools portal using either an FTP (File Transfer Protocol) or SFTP (SSH File Transfer Protocol) client. The uploaded content is included in system backups and you can restore it from the backups.

For more information about the bloxTools environment and to access free applications, visit <https://www.bloxTools.com>.

Note: The bloxTools environment is not supported on vNIOs appliances on Riverbed, Cisco, and VMware.

Chapter 2 Set Up bloxTools

This section describes how to enable bloxTools, how to install the snapInstaller, and generic instructions on how to install a Snapin using the snapInstaller. This chapter includes the following sections:

- [Enable bloxTools](#) on page 14
- [snapInstaller](#) on page 16
- [Install a Snapin \(generic\)](#) on page 17

ENABLE BLOXTOOLS

The bloxTools software is pre-installed on each Infoblox appliance, but cannot be used until it is enabled. You can enable bloxTools on only one member of a grid. That member cannot be the Grid Master, or a Grid Master candidate.

To Enable bloxTools

1. Log in to the Grid Master.
2. Go to Grid->Grid Manager. The Grid Manager UI appears.
3. On the menu bar, select bloxTools. The *bloxTools Services* screen displays the member on which you can enable the bloxTools environment.



Figure 2.1 *bloxTools Services* screen

4. Click the Pencil icon. The *Grid bloxTools Properties* dialog box appears.

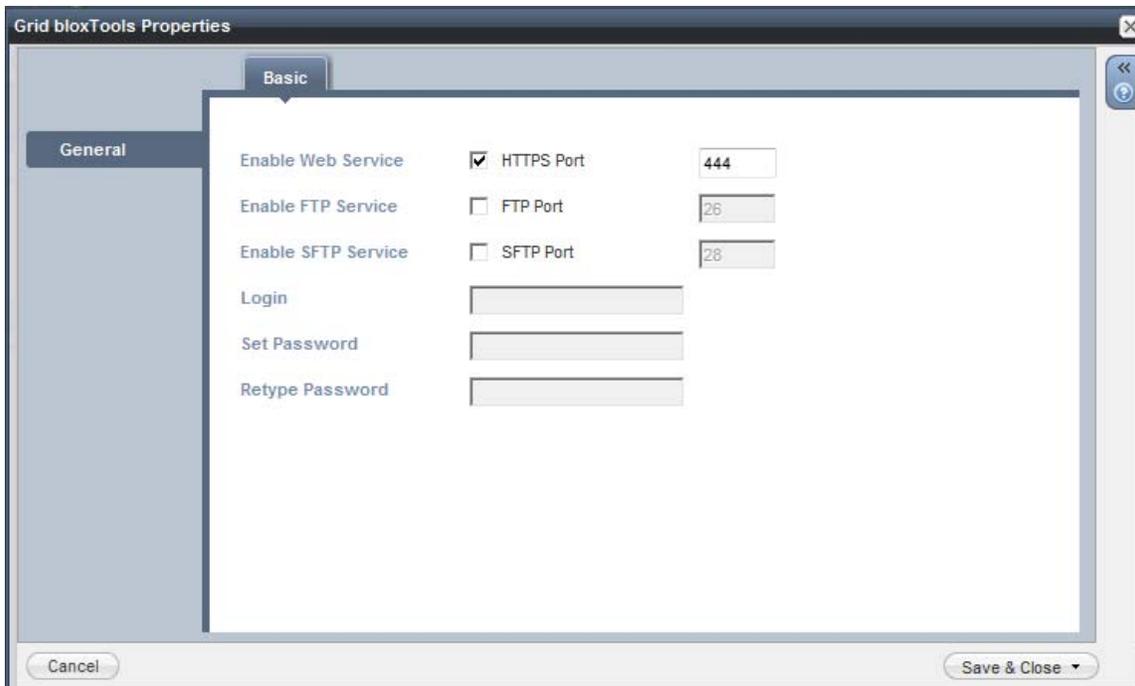


Figure 2.2 *Grid bloxTools Properties dialog box*

5. In the *Grid bloxTools Properties* dialog box, complete the following:
 - Enable Web Service: Select HTTPS Port to enable access through an HTTPS connection. The default port is 444. You can change the port number to suit your environment.
 - Enable FTP Service: Select FTP Port to enable the FTP service. The default port is 26. You can change the port number to suit your environment.
 - Enable SFTP Service (optional): Select SFTP Port to enable the SFTP service for secure file transfer. The default port is 28. You can change the port to a number between 1024 and 63999, provided that the port is not currently used for another purpose.
 - Login: Enter the username for the FTP and SFTP services. The username can contain lower case letters, numbers, underscores (_), and dollar signs (\$), and it must begin with a letter, not a number.
 - Set Password: Enter the password for the FTP and SFTP services in this field.
 - Retype Password: Enter the same password. Note: The password is sent as clear text when you use the FTP service. To maintain security on the Infoblox appliance, this password should be different from the password set for the Infoblox appliance.
6. Click Save & Close.
7. Start bloxTools. Select the check box next to your bloxTools server, and then on the tool bar click Start.
8. On the toolbar on the right, select bloxTools-> Configure. The *Member bloxTools Properties* dialog box appears.
9. Enter the Allocated Memory according to Table 1.1, “Infoblox Appliance Memory and Disk Space Requirements,” on page 12.
10. Click Save & Close.

Note: It takes about 1 minute for the service to start.

SNAPINSTALLER

The snapInstaller is the first Snapin you install in the bloxTools environment. You use snapInstaller to install other Snapins.

To Install the snapInstaller

1. On the Grid Master, go to Grid->Grid Manager->Members.
2. Download the snapInstaller version 0.3.1 or higher to your local machine. You can download the snapInstaller from <https://www.bloxtools.com>.
3. Unpack the snapInstaller to the local directory of your choice. The package contains the following folders:
 - conf
 - snapInstall
4. Use an FTP client to connect to the bloxTools server. Transfer files in ASCII and not binary mode.

Note: We recommend the tool 'Filezilla'.

5. Upload the contents of the `conf` and `snapinstall` folders to the root directory on the bloxTools server.
6. Verify the following file is on the bloxTools server:
`/conf/snapins/snapinstall.conf`
7. Restart the bloxTools service. Go to Grid->Grid Manager->Members.
8. Select the check box next to your bloxTools server, and then on the tool bar click bloxTools->Restart.

Note: It takes about 1 minute for the server to restart.

9. After snapinstall restarts, you can disable SFTP and FTP and use snapInstaller from now on. You would do this for security reasons.
10. Verify that the snapInstaller is running. In a browser, go to `<bloxTools server IP>:444/snapinstall/`.
The snapInstall GUI appears.

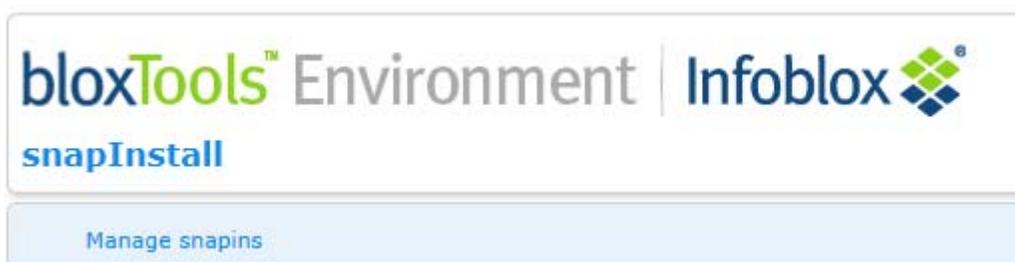


Figure 2.3 snapInstall GUI

INSTALL A SNAPIN (GENERIC)

You must have the snapInstaller running on the bloxTools server before you can install other Snapins. In this example we use the snapInstaller to install the bloxScheduler Snapin.

To Install a Snapin

1. Download the bloxScheduler Snapin. Open a browser and go to <https://www.bloxtools.com>.
2. Select the Downloads tab.
3. In the bloxScheduler section, click Download, and then click Download on the next page.
4. Accept the agreement, and then save the file to your local machine.
5. In a browser, go to:

<bloxTools server IP>:444/snapinstall/

The snapInstall GUI appears.

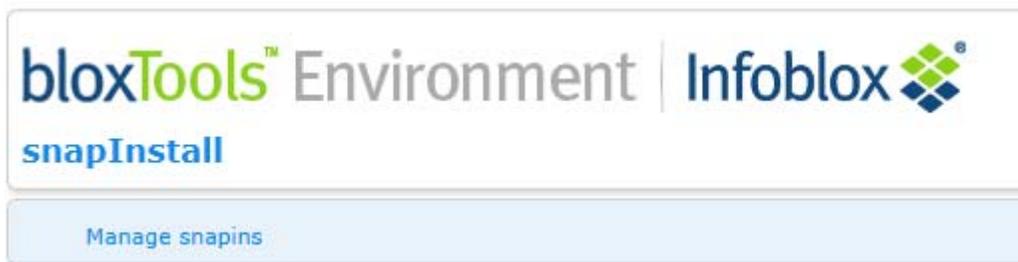


Figure 2.4 snapInstall GUI

6. Click Manage snapins. Enter the username and password for an account on the NIOS grid. This account MUST be a local account and either be a 'superuser', a member of the group 'admin-group', or a member of the group 'snapinstall'.

Note: This login is NOT the same as the FTP credentials!

7. Upload the bloxScheduler *.snap* file. Click Browse and navigate to the directory with the *.snap* file you want to upload.

- Select the bloxScheduler .snap file and then click Open. The path to the bloxScheduler .snap file appears in the Select a snap file box.

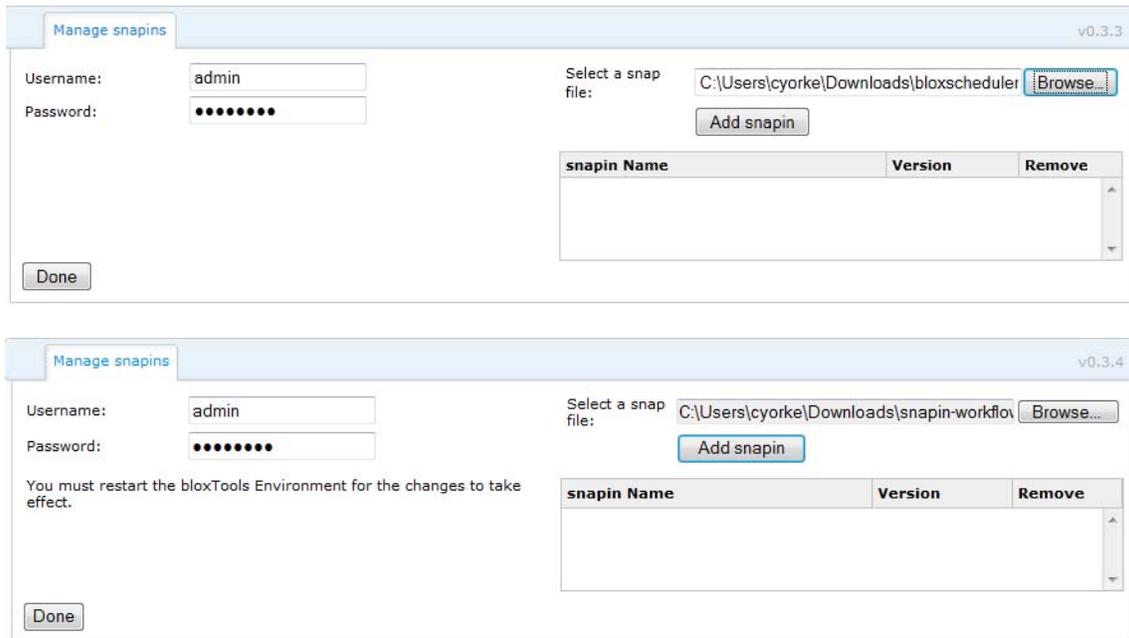


Figure 2.5 Manage snapins dialog box

- Click Add Snapin. The progress bar for the install appears.
- When the install is finished, the bloxScheduler Snapin appears in the list of installed Snapins. snapInstall restarts the service. .

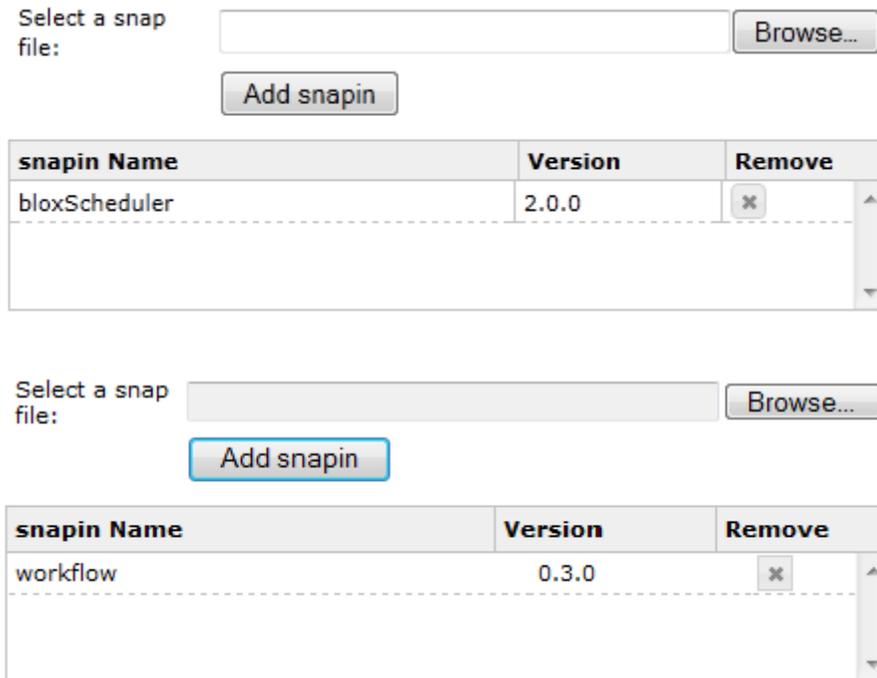


Figure 2.6 Snapin Added screen

11. On the snapInstaller GUI, click Done. The bloxScheduler Snapin is listed.

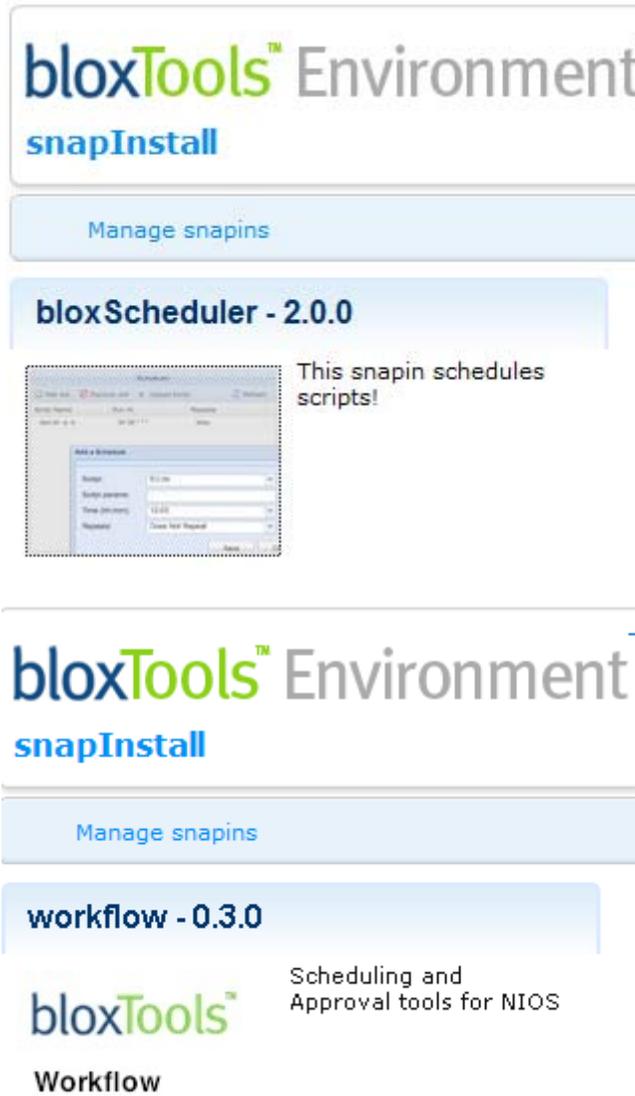


Figure 2.7 snapInstall GUI with bloxScheduler thumbnail

12. Click on the bloxScheduler Snapin image to go to bloxScheduler.

Chapter 3 bloxTools Administration

This chapter describes various administrative tasks in bloxTools, . This chapter includes the following sections:

- “Allocate Memory” on page 22
- “Upload Files” on page 22
- “Moving the bloxTools Service” on page 23

ALLOCATE MEMORY

Allocate memory for the bloxTools service at the member level. If you run the bloxTools service on an independent appliance, you can configure the allocated memory in the System bloxTools Properties editor.

To Allocate Memory

1. Log in as a superuser.
2. From the Grid tab, select the Grid Manager tab, and then click bloxTools.
3. In the Services tab, click Edit -> Member bloxTools Properties from the Toolbar.
4. In the Member bloxTools Properties editor, complete the following:
 - Allocated Memory (MB): The service “borrows” host resources such as CPU, memory, and disk space from the host Infoblox appliance. The default amount of memory the appliance allocates for the bloxTools environment is 256 MB. You can change this allocation, depending on the appliance platform. See System Requirements on page 403 for the requirements and allowed values of each appliance.

UPLOAD FILES

Use an FTP or a SFTP client to upload content, such as Perl modules, JavaScript files, PHP files, CGI files, and image files, to the bloxTools environment. You can upload a maximum of 4 GB of data. After you have uploaded content to your bloxTools environment, you should disable the FTP and SFTP services to prevent unauthorized or accidental changes.

To Upload Files Using The FTP Service

1. Open an Internet browser window and log in to the FTP service by entering:
`ftp://Grid_member_ip_addr:ftp_port`
For example, if the IP address of the Grid member is 10.1.1.1 and the FTP port number is 26, enter:
`ftp://10.1.1.1:26`
2. In the *Authentication Required* dialog box, enter the username and password. This is the username and password you entered for the FTP service in the *bloxTools Environment* editor on the appliance.
3. Follow the instructions provided by your FTP client to upload the files.

To Upload Files Using The SFTP Service

The bloxTools environment stores the uploaded data in the /portal directory.

1. Open a terminal window and log in to the SFTP service.
2. Enter the password. This is the password you entered for the SFTP service in the *bloxTools Environment* editor on the appliance.
3. Follow the instructions provided by your SFTP client to upload the files.

Note: On a computer running Microsoft Windows, you can use WinSCP as the FTP or SFTP client for uploading files.

The bloxTools environment stores the uploaded data in the /portal directory.

MOVING THE BLOXTOOLS SERVICE

In a Grid, you can move the bloxTools service from one Grid member to another. When you move the bloxTools service, the source member synchronizes data with the Grid Master, and the Grid Master synchronizes data with the destination member. The time to resynchronize the bloxTools data on to the destination member depends on the amount of data to synchronize and the Grid configuration. If the migration takes longer than two minutes, it becomes a long running task. This allows the move of the bloxTools service to run in the background while you perform other tasks.

Note: On an independent appliance, you cannot move the bloxTools service to another member.

After an upgrade from previous NIOS releases, Grid Manager displays a warning message in the system message panel if you have previously configured to run the bloxTools service on the Grid Master. You can click Move in this panel to launch the Move bloxTools dialog box to move the bloxTools service to a Grid member.

The appliance synchronizes data with the Grid Master, and the Grid Master synchronizes data with the destination member. This may take a while to complete depending on your Grid configuration and the amount of data.

To Move the bloxTools Service

1. Select Grid -> Grid Manager -> Members.
2. On the Toolbar, click bloxTools -> Move.
3. In the Move bloxTools dialog box, complete the following:
 - Source Member: Displays the name of the Grid member that is currently running the bloxTools service. You cannot modify this field.
 - Destination Member: Click Select. In the *Member Selector* dialog box, select the member to which you want to move the bloxTools service. Grid Manager displays the name of the selected member here.
4. Click Move.

Chapter 4 bloxTools Troubleshooting

This chapter describes various troubleshooting tasks in bloxTools, . This chapter includes the following sections:

- “Monitoring the Service” on page 26

MONITORING THE SERVICE

Infoblox provides several tools for monitoring the bloxTools Environment. The bloxTools Environment has its own syslog service which you can access to view logs generated by the bloxTools service and its processes. The Detailed Status panel also displays the status of the bloxTools Environment.

Verify the snapInstaller is Running

If you don't see the snapInstall GUI, check the following:

- Check that the IP address is for the bloxTools server, not the GM.
- Restart the bloxTools service. On the toolbar, click bloxTools->Restart

View the Logs

The bloxTools Environment generates the following logs:

- `access.log`: The Apache access log
- `error.log`: The Apache error log
- `syslog.log`: The bloxTools Environment system log

These log files are included in the support bundle. You can download the log files using FTP. You can also connect to the CLI of the member running the bloxTools environment and use the following commands to view the logs:

- Use the `show file` command to view the list of log files.
- Use the `show bloxtools` command to view the status of the bloxTools Environment.
- Use the `show file bloxtools portal_access` command to view the web portal access log.
- Use the `show file bloxtools portal_error` command to view the web portal error log.
- Use the `show file bloxtools portal_log` command to view the web portal system log.

View Detailed Status

You can view the status of the bloxTools Environment from the Services tab of the Grid Manager tab.

To display the bloxTools service status:

Go to Grid ->Grid Manager->Services, and then click bloxTools.

Grid Manager displays all Grid members that can host the bloxTools service. The name of the Grid Master is displayed only if you have completed an upgrade and previously configured the bloxTools service to run on the Grid Master.

Though you can continue to run the bloxTools service on the Grid Master, Infoblox strongly recommends that you move the bloxTools service to a Grid member. For information, see "Moving the bloxTools Service" on page 23.

Grid Manager displays the following information about all Grid members:

- **Name**: The Grid member name.
- **Service Status**: Indicates the current operational status of the bloxTools service running on the member. This can include the migration status if you are moving the bloxTools service to another member.
- **IP Address**: The IP address of the member.
- **Comment**: Information about the bloxTools Environment.
- **Site**: The location to which the member belongs. This is one of the predefined extensible attributes.

The service status icon indicates the operational status of the bloxTools Environment and the usage percentages for the CPU, memory and disk resources. The status icon can be one of the following:

Gray: The bloxTools Environment is disabled or offline.

Green: The CPU, memory, and disk usage is below 80%

Yellow: Usage of at least one of the following resources is greater than or equal to 80%: CPU, memory or disk. The description indicates the percentage of each resource.

Red: The bloxTools Environment is down, or an essential service within the bloxTools Environment has failed.

