Workflow Snapin 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, -2000-A, and -4010.

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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.

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

This guide describes how to configure and manage bloxTools . It was last updated on October 21, 2011.

Documentation Conventions

The text in this guide follows the following style conventions.

Style	Usage
bold	• 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.
`input`	Signifies command line entries that you type.
variable	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 *Add Network* wizard or the *DHCP Network* editor.

Variables

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

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

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

Workflow Snapin Overview

The Workflow Snapin is a Web interface to the infoblox 'Scheduled tasks' controls. You use the Workflow Snapin to submit changes to the IPAM (IP address management) information, have the changes reviewed, and then publish the changes.

You can schedule requests to take effect immediately upon publication, or at a later time.

Feature List

The following is a list of the functional features:

- Delegate administrative tasks to users and groups
- Offer simple tasks to non users
- Assign Request, Review, or Publish roles
- Add, Modify and Delete records
- Manage DNS records, Networks and Reservations
- Schedule changes for a later date
- Email notifications to users and groups
- All transactions recorded in the audit log
- Fully customizable interface

Requirements

The Workflow Snapin requires that snapInstall be installed and functional on the bloxTools server. For information about snapInstall, see the document *bloxTools Installation and User Guide*.

User Accounts and Permissions

Workflow requires local user accounts, and they need roles assigned to them to give a user the various levels of permissions. To give a user permission, assign one or more roles to their current group:

- Workflow-Requestor: Can request changes. Requestors can see only their own requests.
- Workflow-Reviewer: Can review changes. Reviewers can see all requests.
- Workflow-Publisher: Can publish changes. Publishers can see all requests.
- Superuser: Can request, review or publish. Superusers can see all requests.

You can customize permission levels for each user on the system. For instance, you can restrict some users to only requesting changes, while others only review and publish changes. It is also possible to 'chain' requests where the users who publish the change are not the users who review or request the change.

In order to make changes, in all cases these roles, or the user group, MUST have 'Scheduling' permission AND the Group must have 'API access'.

Chapter 2 Setting Up the Workflow Snapin

This chapter describes how to set up the Workflow Snapin. This chapter includes the following sections:

SET UP THE WORKFLOW SNAPIN

Use the snapInstaller to install the Workflow Snapin.

To Install the Workflow Snapin

1. Download the Workflow Snapin. Open a browser and go to *https://www.bloxtools.com*.
2. Select the Downloads tab.
3. In the Workflow 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 2.1 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 Workflow *.snap* file. Click Browse and navigate to the directory with the *.snap* file you want to upload.
8. Select the Workflow *.snap* file and then click Open. The path to the Workflow *.snap* file appears in the Select a snap file box.

Figure 2.2 Manage Snapins Dialog Box

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

Figure 2.3 Snapin Added Screen

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

Figure 2.4 snapInstall GUI with Workflow Thumbnail

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

Configure the Workflow Snapin

This section describes how to set up a base set of credentials in the configuration file, *WebConfig.pm*, to allow the Workflow Snapin to make changes to the NIOS data.

To Access the Workflow Configuration File

There are two ways to access the Workflow configuration file:

1. Use an FTP client such as Filezilla to connect to `/snapin-workflow/cgi-bin/` Download the file *WebConfig.pm*, modify it, then upload it to the same directory.
2. Open a browser and go to

<*IP of the bloxtools server*>`:444/workflow/configure.html.`

   You can modify the file in the browser.

To Modify the Configuration File

1. Set the gridname to the name of your Grid. The default is:

   gridname => "Infoblox",
2. Set the default username and password. **`username`** must be an existing account on the NIOS system with superuser permissions, or a user with permissions to get group information about users. If it is not configured correctly, the login will fail. For more information, see *Failure Message on Login* on page 35. The default values to use are:

   username => "admin",

   password => "infoblox",
3. Optional: To turn off approvals for ALL requests, uncomment the following line:

   noapproval => 1,
4. Optional: Configure the EMAIL settings. Get the `email_relay` value from your system administrator. Protect the '@' with a backslash : '\@' or put them in single quotes (' '). The defaults are:

   email_relay => '127.0.0.1',

   email_from => 'Workflow.admin@infoblox.com',

   email_timeout => 10 ,

Note: To disable email sending, comment out these lines.

5. Configure the default view to one of the DNS views you have already created on the system. The default is:

   default_view => 'default',
6. Save and close the file.
7. If you downloaded the file using an FTP client, be sure to upload *WebConfig.pm* to `/snapin-workflow/cgi-bin/` after you modify it.

Initialize the Workflow Snapin

Initializing the Workflow Snapin means configuring NIOS with the pre-requisite roles and permissions necessary to allow bloxTools users access to the NIOS data. You initialize the Workflow Snapin when you execute a script on the bloxTools server.

You can only initialize the system after you have you have configured a username and password in *WebConfig.pm*. (See *Configure the Workflow Snapin* on page 14.)

To initialize the Workflow Snapin

Open a browser and go to this url :

https://<IP address of bloxTools server> /workflow/cgi-bin/init.pl

Sample output:

```
Adding Infoblox::Grid::Admin::Role : Workflow-Requestor : OK Adding
Infoblox::Grid::Admin::Permission : Schedule Tasks to Workflow-Requestor : OK Adding
Infoblox::Grid::Admin::Role : Workflow-Reviewer : OK Adding
Infoblox::Grid::Admin::Permission : Schedule Tasks to Workflow-Reviewer : OK Adding
Infoblox::Grid::Admin::Role : Workflow-Publisher : OK Adding
Infoblox::Grid::Admin::Permission : Schedule Tasks to Workflow-Publisher : OK Adding
Infoblox::Grid::ExtensibleAttributeDef : IB_workflow_details : OK Adding
Infoblox::Grid::ExtensibleAttributeDef : IB_workflow_lock : OK Adding
Infoblox::Grid::ExtensibleAttributeDef : IB_workflow_also_nofity : OK Adding
Infoblox::Grid::ExtensibleAttributeDef : IB_workflow_notify_all : OK
```

Note: You can safely ignore any messages in the output that say "Duplicate object in database".

Chapter 3 Using the Workflow Snapin

This section describes how to use the Workflow Snapin to submit changes to the IPAM (IP address management) information, review, approve, or reject the changes reviewed, and publish the changes. This chapter includes the following sections:

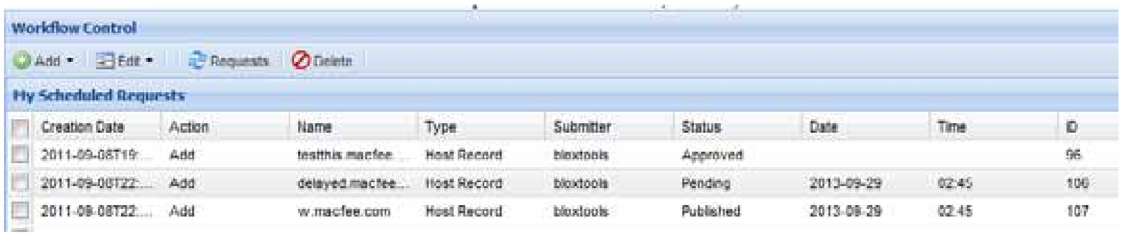
To Access the Workflow Snapin

1. In a browser, go to the Workflow GUI:

   https:<*IP address of bloxTools server*>:444/workflow/

2. Log in with an account that is configured on the NIOS system with Workflow roles. The *Workflow Control* screen appears and displays the *My Scheduled Requests* list.

Figure 3.1 My Scheduled Requests List



Create an Add Request

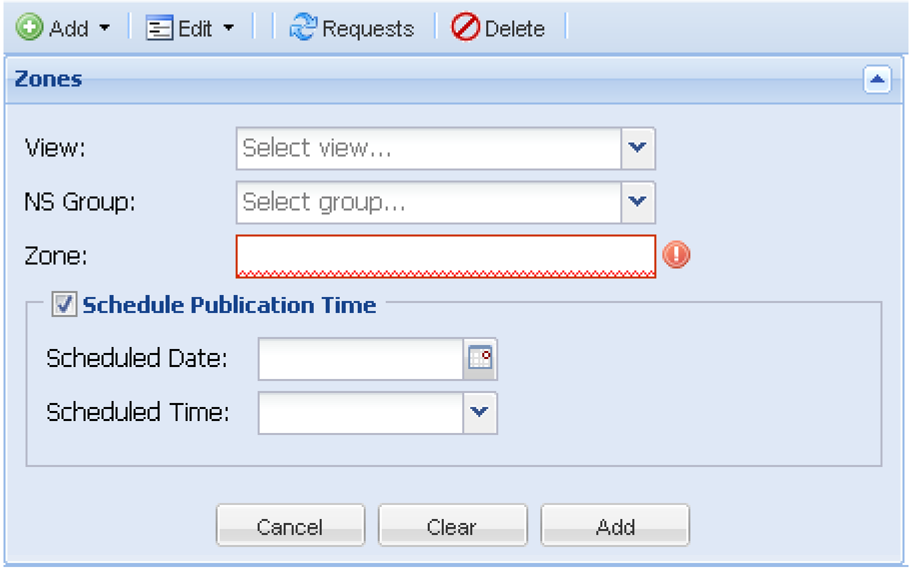
On the *Workflow Control* screen, click +Add. The *Add Menu* appears, listing the objects you can add including:

- Zone
- Host
- Host Alias
- Network
- Fixed Address
- Converted Lease

To Create a Request to Add a Zone

1. On the *Workflow Control* screen, click +Add, and select Zone from the menu. The *Add Zones* dialog box appears.

Figure 3.2 Add Zones Dialog Box

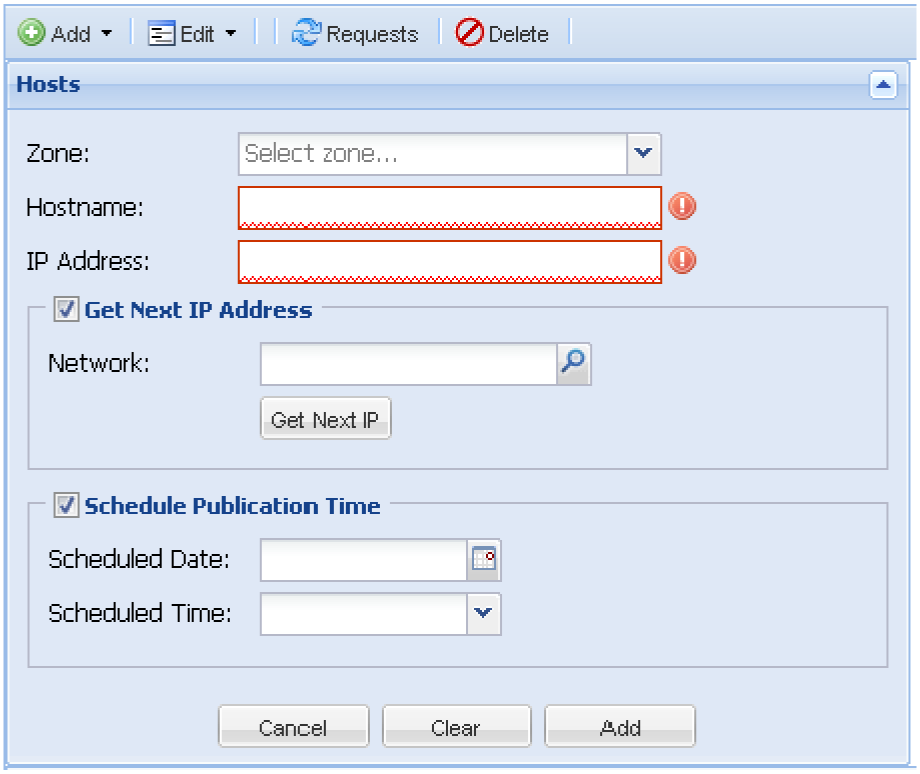


2. Fill in the details as follows:
   — View: Choose from the list.
   — NS Group: Choose from the list.
   — Zone: Enter the name of a zone.
3. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
4. Click Add to submit the request for approval.

To Create a Request to Add a Host

1. On the *Workflow Control* screen, click +Add, and select Host from the menu. The *Hosts* dialog box appears.

Figure 3.3 Hosts Dialog Box

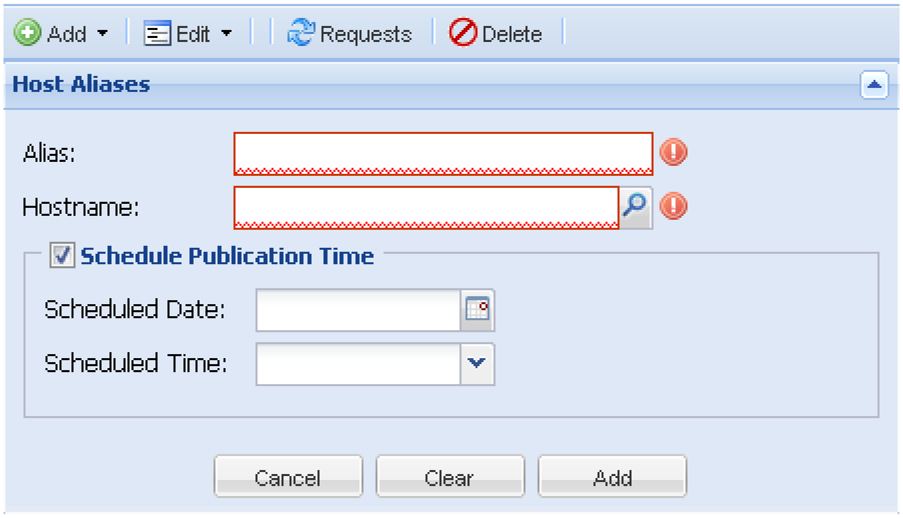


2. Fill in the details as follows:
   — Zone: Choose from the list.
   — Host: Enter the hostname.
   — IP Address: Optional — Enter the IP address associated with the hostname, or go to Step 3 to get the next available IP address.
3. Optional: Get Next IP Address:
   — In the Network field, enter the address of a network (e.g 10.0.2.0/24), or enter part of the address of a network and click the search icon.
   — Click Get Next IP. The next available IP address in that Network appears in the IP Address: field.
4. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
5. Click Add to submit the request for approval.

To Create a Request to Add a Host Alias

1. On the *Workflow Control* screen, click +Add, and select Host Alias from the menu. The *Host Aliases* dialog box appears.

Figure 3.4 Host Aliases Dialog Box

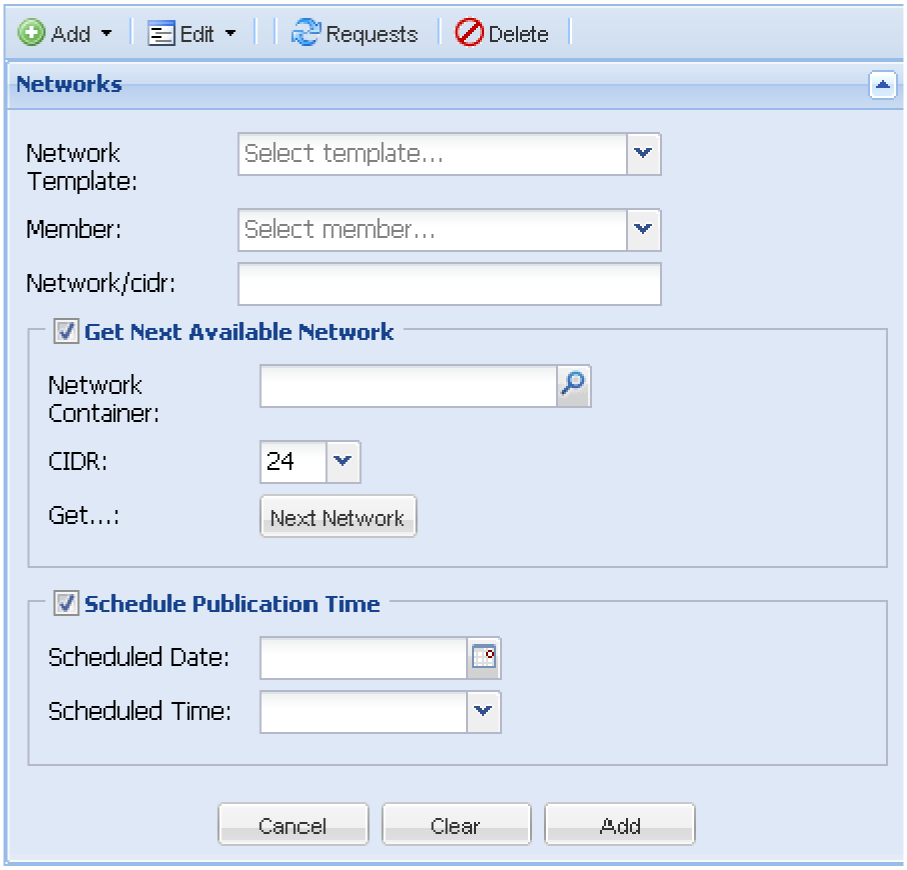


2. Fill in the details as follows:
   — Alias: Enter a host alias.
   — Hostname: Enter the hostname to be associated with the alias, or enter part of a hostname and click the search icon.
3. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
4. Click Add to submit the request for approval.

To Create a Request to Add a Network

1. On the *Workflow Control* screen, click +Add, and select Network from the menu. The *Networks* dialog box appears.

Figure 3.5 Networks Dialog Box

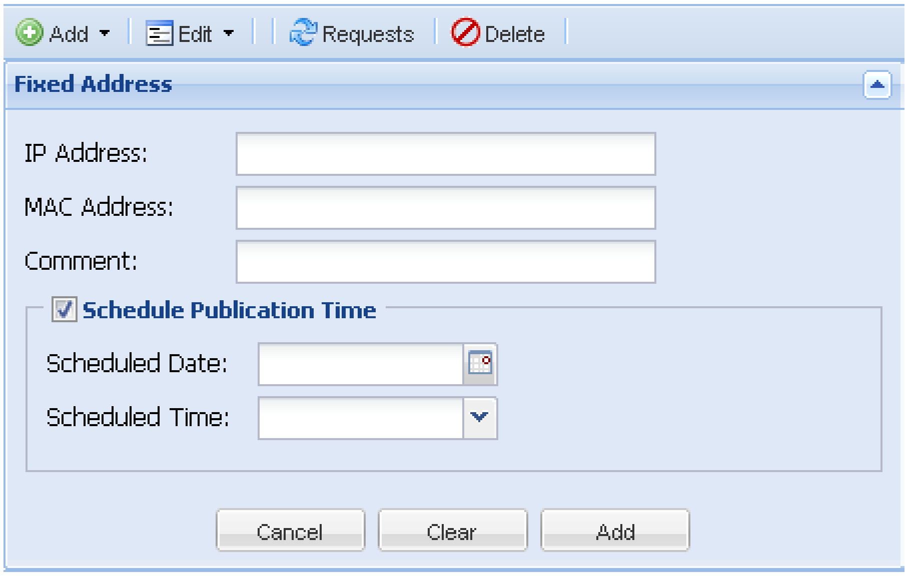


2. Fill in the details as follows:
   — Network Template: Choose from the list.
   — Member: Choose from the list.
   — Network/cidr: Optional — Enter the subnet and the CIDR,e.g 10.0.2.0/24, or go to Step 3 to get the next available network.
3. Optional: Get Next Available Network:
   — Network Container: Enter a subnet (e.g 10.0.2.0), or enter part of a subnet and click the search icon.
   — CIDR: Choose from the list.
   — Click Next Network. The next available Network appears in the Network/cidr: field.
4. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
5. Click Add to submit the request for approval.

To Create a Request to Add a Fixed Address

1. On the *Workflow Control* screen, click +Add, and select Fixed Address from the menu. The *Fixed Address* dialog box appears.

Figure 3.6 Fixed Address Dialog Box

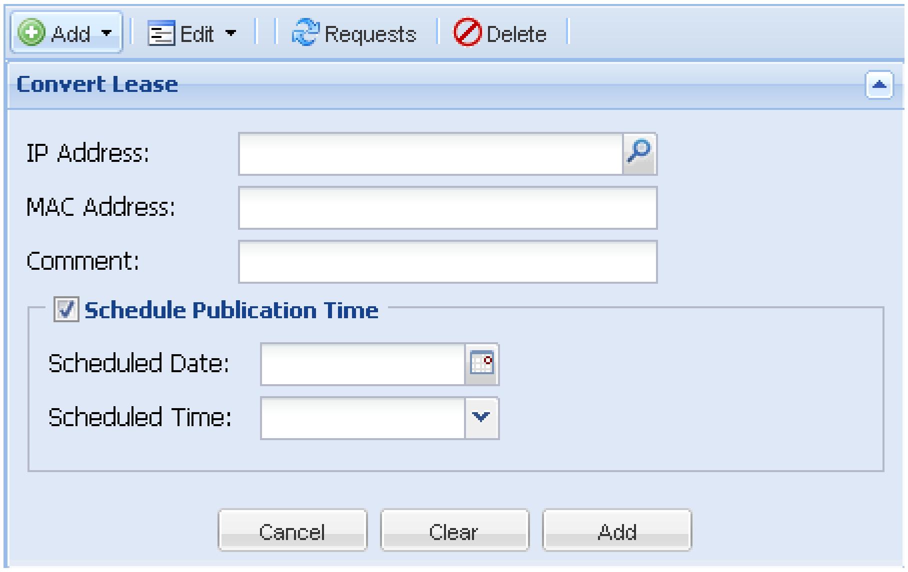


2. Fill in the details as follows:
   - IP Address: Enter the IP address you wish to add.
   - MAC Address: Enter the MAC address associated with the IP address you wish to add.
   - Comment: Optional.
3. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
4. Click Add to submit the request for approval.

To Create a Request to Add a Converted Lease

1. On the *Workflow Control* screen, click +Add, and select Converted Lease from the menu. The *Converted Lease* dialog box appears.

Figure 3.7 Converted Lease Dialog Box



2. Fill in the details as follows:
   — IP Address: Enter the IP address you wish to add, or enter part of an IP address and click the search icon.
   — MAC Address: Enter the MAC address associated with the IP address you wish to add.
   — Comment: Optional.
3. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
4. Click Add to submit the request for approval.

Create a Request to Modify an Existing Record

On the *Workflow Control* screen, click Edit. The *Edit Menu* appears, listing the objects you can edit including:

- Zone
- Host
- Host Alias
- Network
- Fixed Address
- Converted Lease

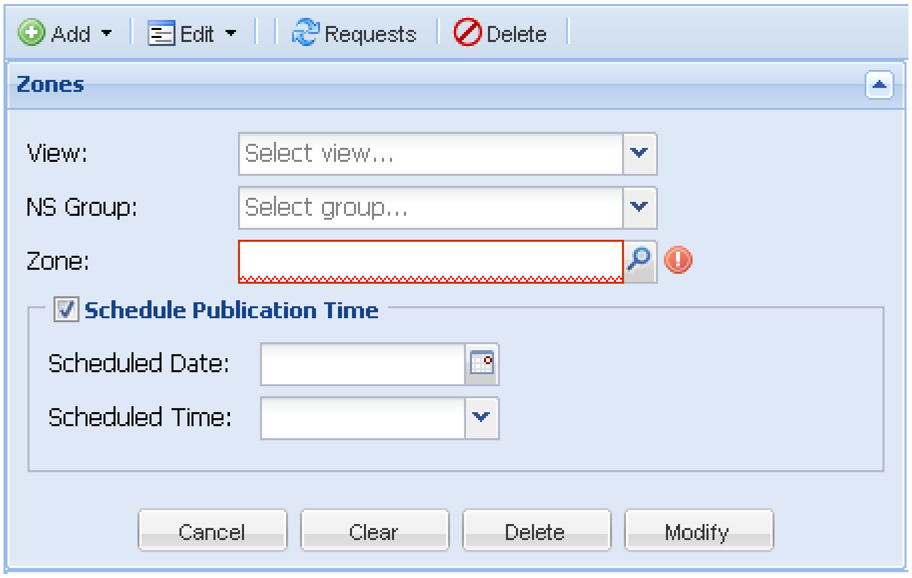
When you modify an existing record using the Edit menu, some fields have a magnifying glass as a search icon to indicate that field is searchable. To search in that field, type in the search string and click on the Search icon.

Note: If other fields are filled out, these will also be passed to the search, so you can search for a host that starts with 'pc' and has the comment 'room 47'. You may want to clear the form before doing a search.itunes

To Create a Request to Modify a Zone

1. On the *Workflow Control* screen, click Edit, and select Zone from the menu. The *Zones* dialog box appears.

Figure 3.8 Zones Dialog Box

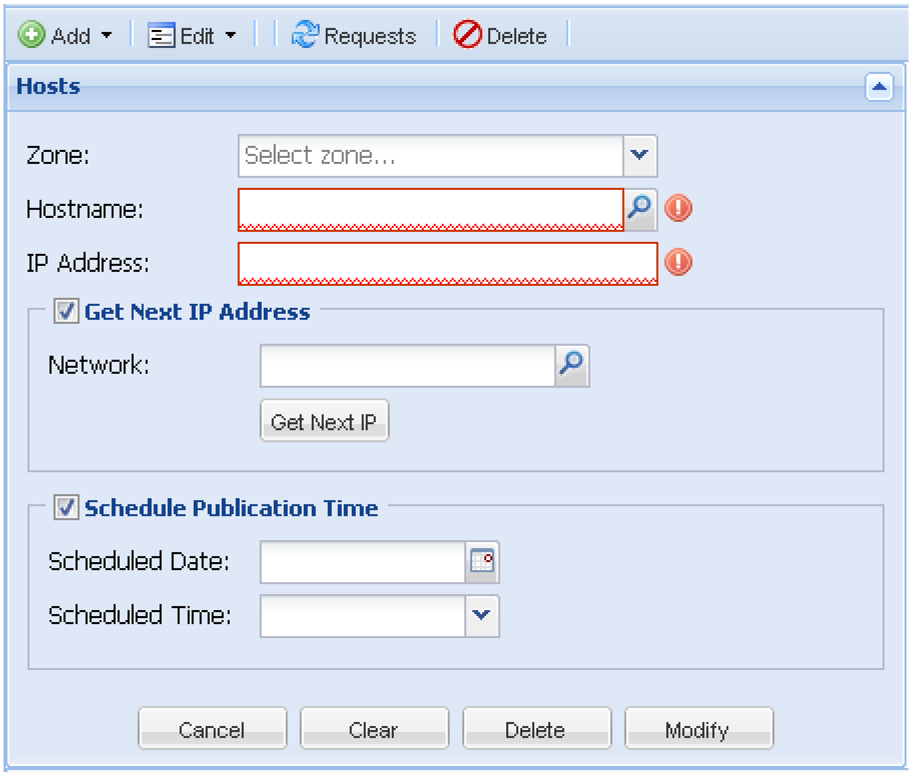


2. Fill in the details as follows:
   - View: Choose from the list.
   - NS Group: Choose from the list.
   - Zone: Enter the name of a zone, or part of a zone name and click the search icon.
3. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
4. Click Modify to submit the request for approval.

To Create a Request to Modify a Host

1. On the *Workflow Control* screen, click Edit, and select Host from the menu. The *Hosts* dialog box appears.

Figure 3.9 Hosts Dialog Box

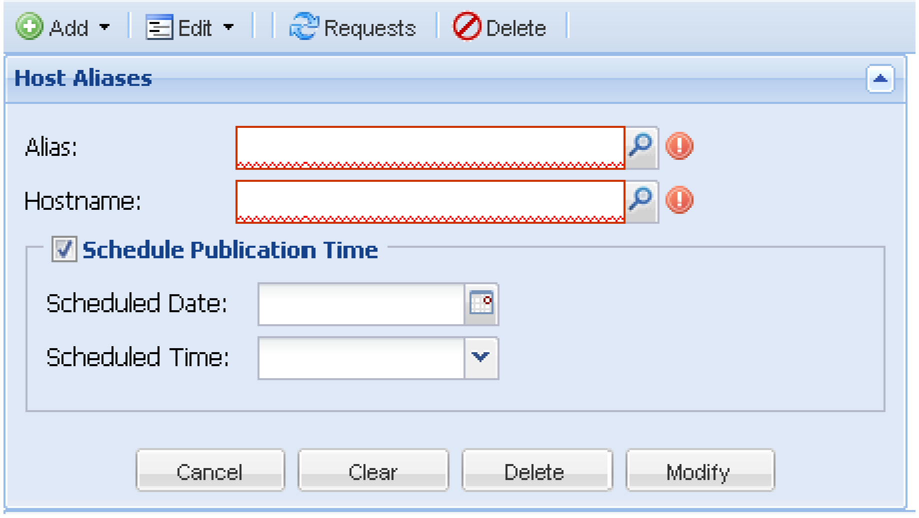


2. Fill in the details as follows:
   — Zone: Choose from the list.
   — Hostname: Enter the hostname, or enter part of a hostname and click the search icon.
   — IP Address: Optional — Enter the IP address associated with the hostname, or go to Step 3 to get the next available IP address.
3. Optional: Get Next IP Address:
   — In the Network field, enter the address of a network (e.g 10.0.2.0/24), or enter part of the address of a network and click the search icon.
   — Click Get Next IP. The next available IP address in that network appears in the IP Address: field.
4. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
5. Click Modify to submit the request for approval.

To Create a Request to Modify a Host Alias

1. On the *Workflow Control* screen, click Edit, and select Host Alias from the menu. The *Host Aliases* dialog box appears.

Figure 3.10 Host Aliases Dialog Box

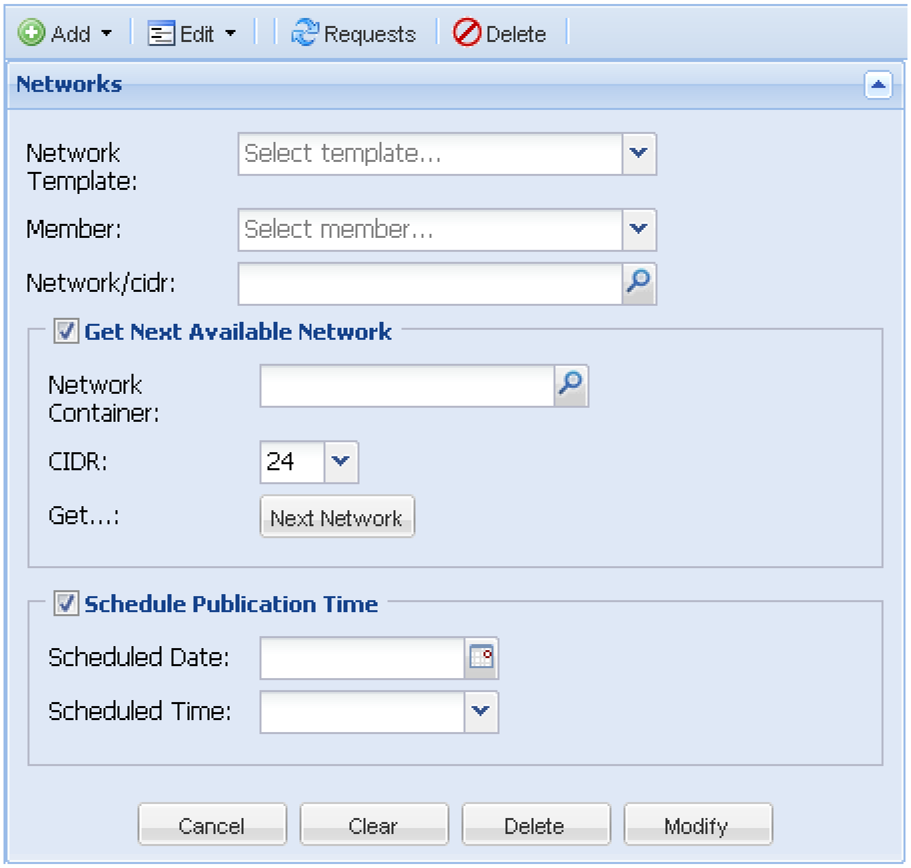


2. Fill in the details as follows:
   - Alias: Enter a host alias, or enter part of a host alias and click the search icon.
   - Hostname: Enter the hostname associated with the alias, or enter part of a hostname and click the search icon.
3. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
4. Click Modify to submit the request for approval.

To Create a Request to Modify a Network

1. On the *Workflow Control* screen, click Edit, and select Network from the menu. The *Networks* dialog box appears.

Figure 3.11 Networks Dialog Box

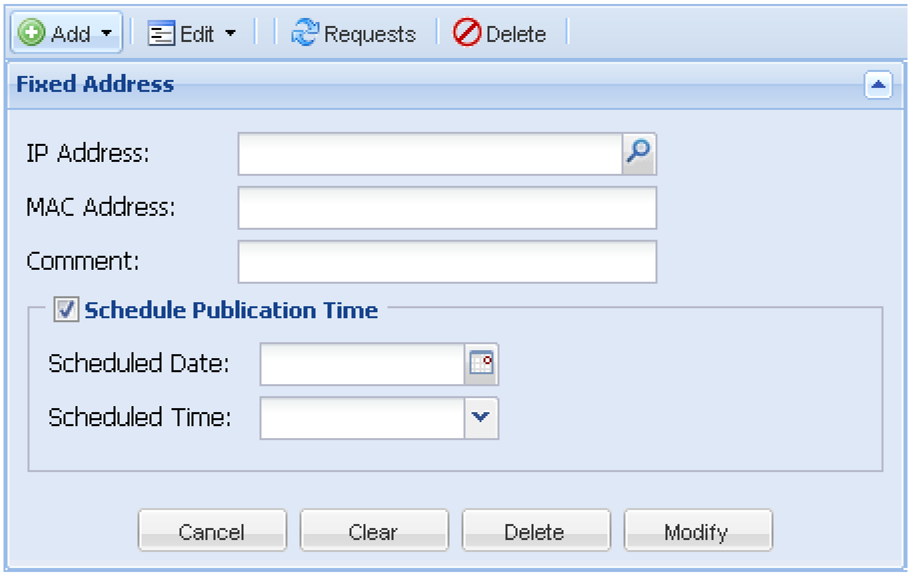


2. Fill in the details as follows:
   — Network Template: Choose from the list.
   — Member: Choose from the list.
   — Network/cidr: Enter the subnet and the CIDR,e.g 10.0.2.0/24, or enter part of a subnet and click the search icon. Optional — Go to Step 3 to get the next available network.
3. Optional: Get Next Available Network:
   — Network Container: Enter a subnet (e.g 10.0.2.0), or enter part of a subnet and click the search icon.
   — CIDR: Choose from the list.
   — Click Next Network. The next available network appears in the Network/cidr: field.
4. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
5. Click Modify to submit the request for approval.

To Create a Request to Modify a Fixed Address

1. On the *Workflow Control* screen, click Edit, and select Fixed Address from the menu. The *Fixed Address* dialog box appears.

Figure 3.12 Fixed Address Dialog Box

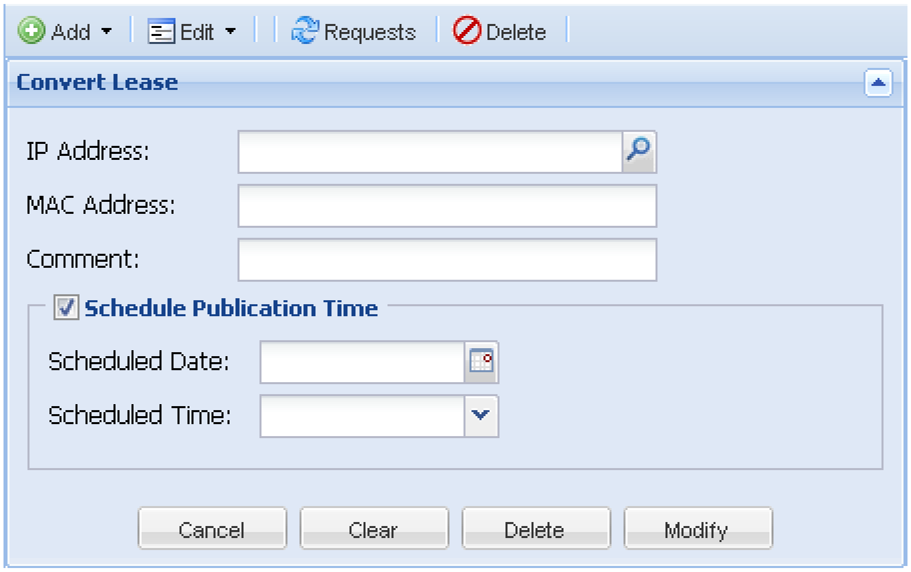


2. Fill in the details as follows:
   — IP Address: Enter the IP address you wish to modify, or enter part of an IP address and click the search icon.
   — MAC Address: Enter the MAC address associated with the IP address you wish to modify.
   — Comment: Optional.
3. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
4. Click Modify to submit the request for approval.

To Create a Request to Modify a Converted Lease

1. On the *Workflow Control* screen, click Edit, and select Converted Lease from the menu. The *Converted Lease* dialog box appears.

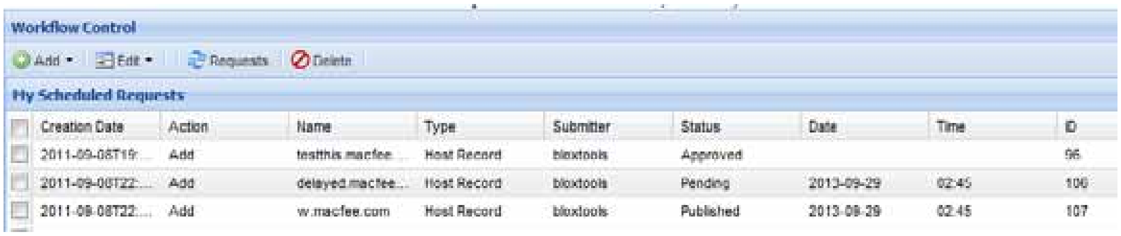
Figure 3.13 Converted Lease Dialog Box



2. Fill in the details as follows:
   — IP Address: Enter the IP address you wish to modify, or enter part of an IP address and click the search icon.
   — MAC Address: Enter the MAC address associated with the IP address you wish to modify.
   — Comment: Optional.
3. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details.
4. Click Modify to submit the request for approval.

Approve and Reject Requests

Click the down arrow on the far right of the *My Scheduled Requests* bar. The *My Scheduled Requests* list appears.



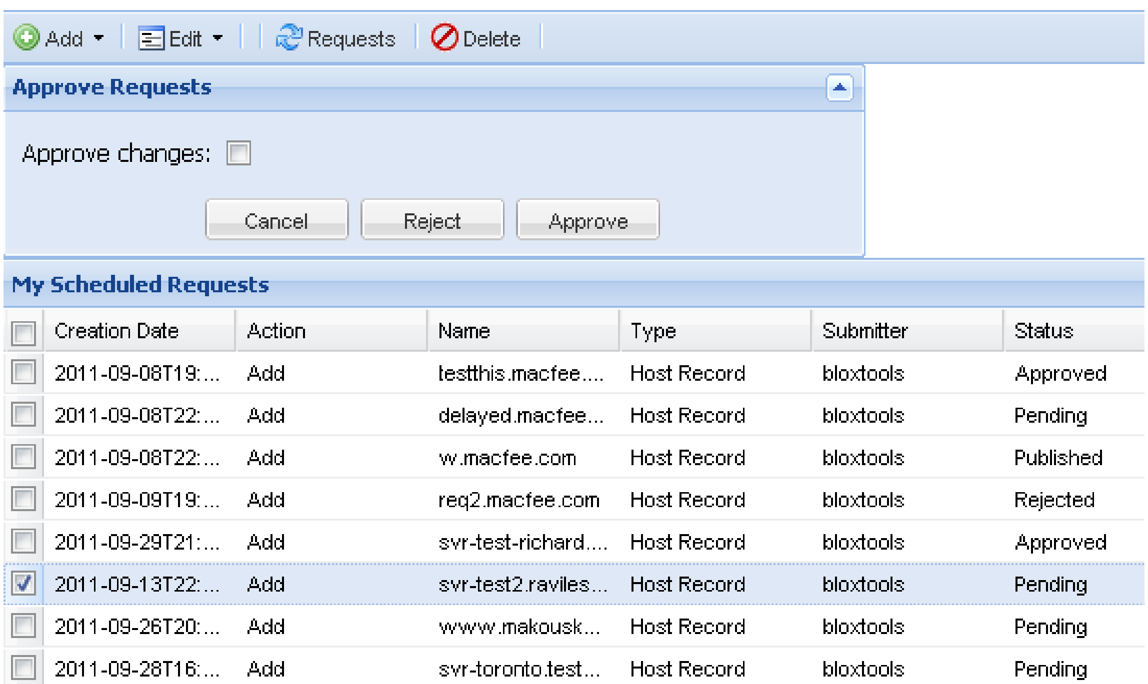
This is a list of requests you can manage. The requests you see depend on the permissions assigned to your username.

- Workflow-Requestors will only see their own requests
- Workflow-Reviewers and Workflow-Publishers can see all requests
- Superusers see all requests

To Approve or Reject Requests

1. Open the *My Scheduled Requests* list.
2. Select the check box next to pending requests you wish to approve or reject. The *Approve Requests dialog box* appears.

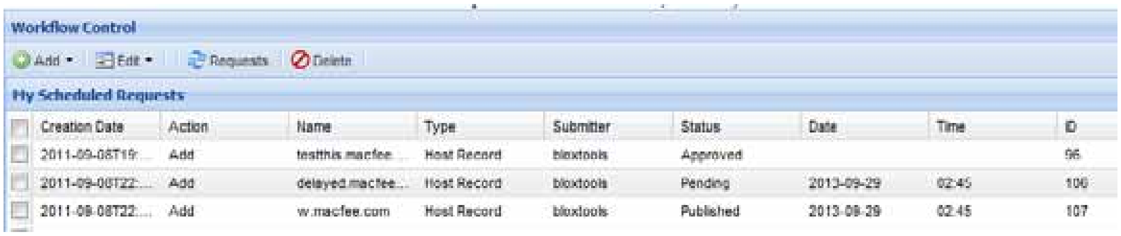
Figure 3.14 Approve Requests Dialog Box



3. Click Approve Changes
   - To approve the request, click Approve.
   - To reject the request, click Reject.

Publish Requests

Click the down arrow on the far right of the *My Scheduled Requests* bar. The *My Scheduled Requests* list appears.



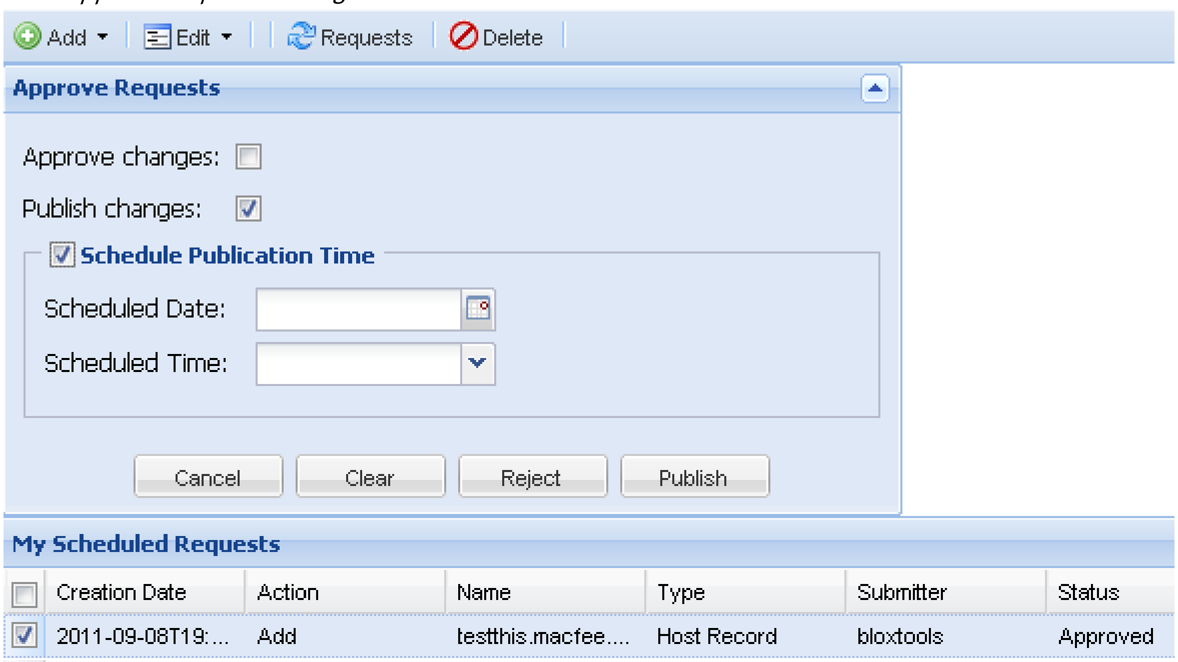
This is a list of requests you can manage. The requests you see depend on the permissions assigned to your username.

- Workflow-Requestors will only see their own requests
- Workflow-Reviewers and Workflow-Publishers can see all requests
- Superusers see all requests

To Publish or Reject Requests

1. Open the *My Scheduled Requests* list.
2. Select the check box next to approved requests you wish to publish or reject. The *Approve Requests dialog box* appears with an added Publish feature.

Figure 3.15 Approve Requests Dialog Box with Publish



3. To schedule the date and time the request is published, select the Schedule Publication Time check box, and enter the details. If the original request specified the change for a particular time this will appear on the form. You can use these dates or change them a more suitable date and time.

Note: To publish a change immediately ('now') just clear out the published date and time fields

4. Select Publish Changes
   - To publish the changes, click Publish.
   - To reject the changes, click Reject.

Chapter 4 Workflow Troubleshooting

This chapter describes troubleshooting tasks in the Workflow Snapin.

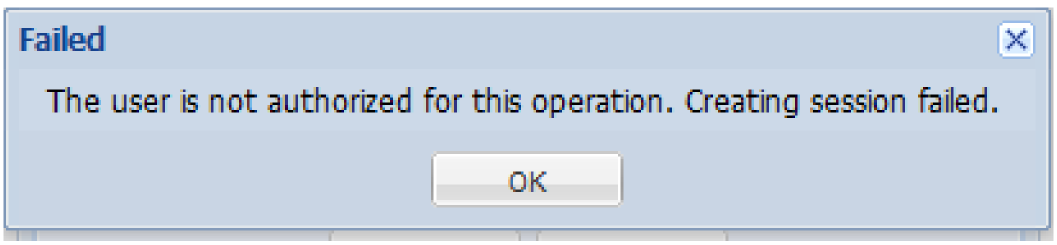
Failure Message on Login

If you get a failure message when you login to the Workflow Snapin, you may have one or more of the following problems:

1. The username and password configured as the defaults in *Webconfig.pm* are incorrect.
2. The username and password configured as the defaults in *Webconfig.pm* do not have the right permissions.
3. The username and password you are logging in with do not have the right permissions.

Incorrect Username and Password in *Webconfig.pm*

If the username and password set as the defaults in the Workflow configuration file, *Webconfig.pm,* are incorrect, logins will fail with the following error:



Username in *Webconfig.pm* Has Wrong Permissions

The username set as the default in *WebConfig.pm* must be a SUPERUSER, or must have permissions to get group information about users.

If the username set as the default in the Workflow configuration file, *WebConfig.pm* does not have the right permissions, you will get an error.

When a user logs in, the Workflow Snapin checks the group membership of that username. If that username does not have permission to get group information, the login system checks the groups and roles for default username and password configured in *WebConfig.pm*. If the username set as the default in *WebConfig.pm* is not a SUPERUSER, or does not have permissions to get group information about users, you will get an error.