EUCALYPTUS

Eucalyptus 3.4.1 User Console Guide

2013-12-11 Eucalyptus Systems

Contents

User Console Overview

Welcome to the Eucalyptus User Console Guide. The Eucalyptus User Console is an easy to use web-based interface that allows you to manage your Eucalyptus cloud.

You can do many things with the Eucalyptus User Console, including:

- Get a high-level overview of your cloud with the dashboard
- Create, manage, and delete instances
- Create volumes and snapshots
- Create and import key pairs
- Create and manage security groups
- Create and manage Auto Scaling groups
- Create and manage Elastic Load Balancers
- Manage your Amazon Web Services cloud
- Allocate, associate/disassociate, and deallocate IP addresses

What's In This Guide

This guide contains information on how to install and configure the Eucalyptus User Console, as well as a section on how to navigate and use the screens and dialogs contained in the user console:

Section	Description
Installing the Eucalyptus User Console	Contains instructions on how to install the Eucalyptus User Console.
Configuring the Eucalyptus User Console	Describes how to locate and configure the console configuration file, as well as each setting in the configuration file.
Working with the Eucalyptus User Console	Discusses how to get started using the Eucalyptus User Console and how to navigate and use the screens and dialog boxes in the console.

Install the Eucalyptus User Console

This section covers how to install the Eucalyptus User Console.

Install on Centos / RHEL 6.3

Note: The Eucalyptus User Console package is installed with the Eucalyptus repositories. The following instruction assumes that you're installing the console on a server that's already running Eucalyptus. If you're installing the console on a stand-alone machine, please see the *Eucalyptus Installation Guide* to set up the Eucalyptus repositories before following the instructions below.

Note: The version of the user console you're running should be the same as the version of Eucalyptus you're running. Running a user console against a Eucalyptus installation with a different version is unsupported.

Note: The Eucalyptus User Console package will only install on 64-bit architectures.

To install the Eucalyptus Console from packages on Centos and RHEL 6.3:

Run the following command to install the Eucalyptus User Console:

```
yum install eucalyptus-console
```

Your installation is now complete.

You are now ready to *configure the Eucalyptus User Console*.

Configure the Eucalyptus User Console

This section covers how to configure the Eucalyptus Console.

Things You Need to Do to Get the Console Running

In order to get the console working for your cloud, you will need to do the following:

- Modify the configuration file, as detailed in this section. At minimum, you must specify the *front end address*, and the *UI port*. You should also be sure to specify the *administrative support URL* and the *support URL*.
- Create the user accounts using the Eucalyptus Administrative Console. For more information see the *Administration Guide*.
- Make sure that any images that you would like users to be able to launch instances from are installed in your cloud; users can't add images from the Eucalyptus Console.
- Communicate the URL for your Eucalyptus Console installation to the users, and instruct them to use their account name, user name, and password to log in.

Locate and Edit the Console Configuration File

The Eucalyptus Console configuration settings are stored in the `console.ini` file.

For Centos and RHEL installations from packages, this file is located in `/etc/eucalyptus-console/console.ini`.

> **Note:**
>
> You should always start (or restart) the console when you make changes to the console configuration.
>
> You can start the console using the following command:
>
> `service eucalyptus-console start`
>
> You can restart the console using the following command:
>
> `service eucalyptus-console restart`

Configure Account Credentials

Accounts that log in to the user console must have a password and access credentials assigned.

> **Note:** You can find instructions to do this with the administrative console in the *Eucalyptus Administration Guide*.

To create a user account using the euare command line tools:

1. Create a user account using the `euare-accountcreate` command line tool. For example:

```
euare-accountcreate -a exampleaccount
```

2. Create a password for the newly created account by adding a login profile using the `euare-useraddloginprofile` command line tool. For example:

```
euare-useraddloginprofile --as-account exampleaccount -u admin -p
examplepassword
```

Set the Cloud Front End IP Address

To set the IP address or DNS name of your cloud front end:

Modify the `clchost` entry in the `[server]` section of the configuration file. For example:

```
clchost=127.0.0.1
```

Configure the UI Port

To set the port that the console will listen on:

Modify the `uiport` entry in the `[server]` section of the configuration file. For example:

```
uiport=8888
```

Disable Automatic SSL Certificate Generation

When the user console service is run for the first time, it will generate a self-signed certificate and key which will be put into `/etc/eucalyptus-console/`. If you do not want to have a certificate and key generated and would like to use your own, you can disable automatic generation of the certificate and key.

To disable automatic generation of the console certificate and key:

Add the following line to `/etc/sysconfig/eucalyptus-console`:

```
GENERATE_CERT=NO
```

Note:

If you choose not to use the default SSL certificate and key, you must provide your own. For more information on generating self-signed SSL certificates, go to *http://www.akadia.com/services/ssh_test_certificate.html*.

For information on configuring SSL certificate and key paths for your own certificate and key, see *Configuring SSL Certificate Paths*.

Configure SSL Certificate Paths

If you've chosen not to use the self-signed certificate and key that are provided by the User Console, you will need to provide your own.

To optionally specify an SSL certificate to run your console over Secure HTTP:

Modify the `sslcert` and `sslkey` entries in the `[server]` section of the configuration file with paths to your SSL certificate and key files. For example:

```
sslcert=/example/path/server.crt
sslkey=/example/path/server.key
```

Note:

For more information on generating self-signed SSL certificates, go to *http://www.akadia.com/services/ssh_test_certificate.html*.

Configure HTTP Redirect

To help direct users to the correct protocol/port the user console is running on (especially when SSL is enabled), you can configure the console to listen on a standard HTTP port. When the user enters a a non-SSL URL (http:// instead https://), they will be automatically redirected to the proper URL.

To enable HTTP redirect:

1. Modify the `http.redirect` entry in the `[server]` section of the configuration file to `True` to enable HTTP redirect.

```
http.redirect=True
```

2. Set the `http.port` entry to 80 if running as root; otherwise set to a higher number. For example:

```
http.port=8080
```

Set the Administrator Support URL

To set administrator URL or email address displayed in the console:

Modify the `support.url` entry in the `[server]` section of the configuration file. For example:

```
support.url=mailto:help@example.com
```

...or...

```
support.url=http://you-cloud.example.com/support
```

Set the Locale

To set the locale that you want the console to use for localization:

Modify the `language` entry in the `[locale]` section of the configuration file with a Linux-compliant locale name. For example:

```
language=en_US
```

Set the Help Page URL

To configure the help page URL for the console:

Modify the `help.url` entry in the `[server]` section of the configuration file. For example:

```
help.url=https://example.com/help-me
```

This URL will open when the console user selects the **Help** menu item from the console dashboard.

Configure Session Timeouts

To set the session timeouts in the User Console:

Modify the `session.idle.timeout` and `session.abs.timeout`entries in the `[server]` section of the configuration file. The `session.idle.timeout` value defines the number of seconds before an idle session is timed out. The `session.abs.timeout` is the maximum length that any session can be active before being timed out. All values are in seconds:

```
session.idle.timeout=1800
```

```
session.abs.timeout=43200
```

Configure Polling Frequency and Cache Refresh

Tip: If there are going to be a lot of console users, increasing the `pollfreq` values can help reduce the load on the Cloud Controller by limiting the number of times that updates are requested for users' resources.

To configure the polling frequency for console updates from the CLC:

1. Modify the `pollfreq` entry in the `[server]` section of the configuration file with a polling value in seconds. For example:

```
pollfreq=15
```

2. You can optionally override the main polling frequency value specified in `pollfreq` by adding an entry in the form `pollfreq.<resouce_name>`. Valid resource name values are: `images`, `allimages`, `zones`, `instances`, `keypairs`, `groups`, `addresses`, `volumes`, and `snapshots`. For example:

```
pollfreq.images=60
pollfreq.allimages=500
pollfreq.zones=500
pollfreq.snapshots=10
pollfreq.instances=5
pollfreq.groups=20
pollfreq.addresses=30
pollfreq.volumes=30
pollfreq.keypairs=60
```

3. You can control network traffic to the proxy by setting the `min.clc.polling` value. A value of **True** will cause the proxy to only refresh data caches for the user's current view, which reduce network traffic but will result in slower performance as a user moves between pages in the console. A value of **False** will cause the proxy to refresh data for all resources, which increases network traffic but results in faster page switches for the user. Example:

```
min.clc.polling=True
```

Configure Maximum Proxy Threads

You can configure the maximum number of requests that the proxy will allow at once.

To configure the maximum amount of threads that the proxy will allow:

Modify the `threads.max` entry in the `[server]` section of the configuration file an integer value. For example:

```
threads.max=50
```

Enable AWS Login

You can enable or disable Amazon Web Services (AWS) login with the Eucalyptus User Console.

To enable or disable AWS login:

Modify the `enable.aws` entry in the `[server]` section of the configuration file with `True` to enable AWS login or `False` to disable AWS login. For example:

```
enable.aws=True
```

Work with the Eucalyptus User Console

This section covers how to navigate and use the various screens and dialogs in the Eucalyptus User Console.

Get Started with the Eucalyptus User Console

This section covers how to connect to the console, login, and use the main navigation screen.

Browser Support

As of this writing, the Eucalyptus User Console has been tested to support the following browsers:

- Google Chrome 22
- Apple Safari 6
- Mozilla Firefox versions 15 through 22
- Microsoft Internet Explorer versions 9 and 10

Other browsers that are not listed here may work; the list above only represents browsers that have been tested and confirmed to work with the Eucalyptus User Console.

Console Login

This screen allows you to log in to the Eucalyptus User Console with either your Eucalyptus or your Amazon Web Services account. If you've forgotten your password, don't have login credentials, or do not know the URL for the Eucalyptus User Console for your Eucalyptus account, please contact your system administrator.

1. Navigate to the Eucalyptus User Console by typing the URL of the User Console into your browser's navigation bar. The URL of the Eucalyptus User Console depends on how the console was installed in your cloud; see your system administrator for the specific URL for your installation.
2. Follow the appropriate instructions below for logging into either your Eucalyptus or your Amazon Web Services cloud.

Log in to your Eucalyptus cloud

This area of the login dialog allows you to log in to your Eucalyptus cloud.

1. Type your account name into the **Account name** text box.
2. Type your user name into the **User name** text box.
3. Type your password into the **Password** text box.
4. Click the **Log in to Eucalyptus** button.

Log in to your Amazon Web Services cloud

This area of the login dialog allows you to log in to your Amazon Web Services cloud.

1. **Note:** To obtain your AWS security credentials, go to Amazon's *Your Security Credentials* page.

   Enter your AWS access key ID into the **Access key ID** text box.
2. Enter your AWS secret access key into the **Secret access key** text box.
3. If you want the console to save your AWS access key ID, select the **Remember my keys** check box.
4. Click the **Log in to AWS** button.

Navigate the Dashboard

The dashboard is your starting point for using the Eucalyptus console. From the Dashboard, you can access landing pages for instances, scaling groups, storage items (volumes, and snapshots), and networking and security objects (key pairs, security groups, and IP addresses).

Basic Dashboard Navigation

You can navigate to specific resource management dialogs in two ways: using the navigation icons at the top of the screen or clicking directly on a resource label or count in the Dashboard screen.

1. You can click on one of the icons at the top of the dashboard to navigate directly to a resource management screen or back to the main console screen.

2. You can also navigate to a resource management screen by clicking directly on a resource label or count in the main dashboard window.

Instances

The **Instances** section allows you to see how many instances are running and access the Manage Instances screen.

1. Click the **Running** or **Stopped** labels or counts in the **Instances** section of the dashboard to display the **Manage Instances** screen.

   > **Note:** Your initial view in the **Manage instances** screen will be filtered by running or stopped instances, depending on which label you clicked. To see all running and stopped instances, be sure to change the the value in the search bar at the top of the **Manage instances** screen.

2. You can filter the instances displayed on the dashboard by availability zone by selecting an availability zone from the drop-down list in the Instances section.

3. You can launch a new instance by clicking the **Launch instance** link to display the **Create new instance** screen.

Scaling Groups

The **In Scaling Groups** section allows you to see how many instances are running in scaling groups and access the Manage Scaling Groups screen.

1. Click the **In Scaling Groups** label or count in the **Instances** section of the dashboard to display the **Manage Scaling Groups** screen.

2. You can filter the scaling groups displayed on the dashboard by availability zone by selecting an availability zone from the drop-down list in the Instances section.

Storage

The **Storage** section allows you to see at a glance how many storage objects are running and access the various storage object management screens.

1. To access the **Manage Volumes** screen, click the **Volumes** label or count.

2. To access the **Manage Snapshots** screen, click the **Snapshots** label or count.

Network and Security

The **Network and Security** section allows you to see at a glance the number of security groups, key pairs, and IP addresses in your Eucalyptus cloud, and to navigate to management screens for each type of object.

1. To access the **Manage Security Groups** screen, click the **Security Groups** label or count.

2. To access the **Manage Key Pairs** screen, click the **Key Pairs** label or count.

3. To access the **Manage IP Addresses** screen, click the **IP Addresses** label or count.

Miscellaneous Console Functions

Clicking on your account ID in the upper-right corner of the console window displays a drop-down menu showing options to change your password, get help from the Eucalyptus Engage web site, get information about your cloud, and log out of the console.

1. To get help from the Eucalyptus Engage community web site, select **Help** from the drop-down menu.

2. To change your password, select **Change password** from the drop-down menu.

3. To show a dialog box with information about your cloud, click **About your cloud** from the drop-down menu.

4. To log out of the Eucalyptus console, select **Log out** from the drop-down menu.

Change Password

This dialog box allows you to change your password.

Change Your Password

1. Type your current password into the **Current password** text box.

2. Type your new password into the **New password** text box.

3. Type your new password into the **Confirm password** text box to ensure that you've typed the new password correctly.

4. Click the **Change password** button.

Work with Key Pairs

This section covers how to navigate and use the key pair screens and dialogs in the Eucalyptus User Console.

Manage Key Pairs

This screen allows you to view a list of your key pairs, create new key pairs, and delete key pairs. You can page through the list of key pairs by clicking the navigation buttons at the bottom of the screen.

Sorting the Key Pair List

Click on the **Name** column header to toggle sorting the list of key pairs in ascending or descending order.

Searching the Key Pair List

Type some search text into the **Search** text box to filter the list of key pairs.

Creating Key Pairs

Click the **Create new key pair** button. The **Create Key Pair** dialog box will appear.

Importing Key Pairs

Click the **Import key pair** button. The **Import key pair** dialog box will appear.

Deleting Key Pairs

1. Click the checkbox next to the key pair.

2. Click the **More actions** button at the top of the list and and select **Delete** from the drop-down menu . The **Delete Key Pair** dialog box will appear.

Create a Key Pair

Eucalyptus uses cryptographic key pairs to verify access to instances. Before you can run an instance, you must create a key pair. Creating a key pair generates two keys: a public key (saved within Eucalyptus) and a corresponding private key (output to the user as a character string). To enable this private key you must save it to a file and set appropriate access permissions (using the chmod command), as shown in the example below.

When you create a VM instance, the public key is then injected into the VM. Later, when attempting to login to the VM instance using SSH, the public key is checked against your private key to verify access. Note that the private key becomes obsolete when the public key is deleted.

Create Key Pairs with the Console

1. From the main dashboard screen, click the **Key Pairs** link in the **Network and Security** section, or select the Network and Security submenu from the Manage Resources navigation menu. The **Manage Keypairs** screen will appear.

2. On the **Manage Key Pairs** screen, click the **Create new key pair** link. The **Create New Key Pair** dialog will appear.

3. Type a name for the new key pair into the **Name** text box.

4. Click the **Create and Download** button. The private half of the key pair is saved to the default download location for your browser.

   > **Note:** Keep your private key file in a safe place. If you lose it, you will be unable to access instances created with the key pair.

5. Change file permissions to enable access to the private key file in the local directory. For example, on a Linux or Mac OS X system:

```
chmod 0600 <keypair_name>.private
```

Import a Key Pair

This dialog box allows you import an existing key pair.

1. Enter a name for the key pair in the **Name** text box.

2. Paste the contents of your SSH key into the **SSH key contents** text box, or click on the **Browse to file** link to read the contents of an existing SSH key file.

3. Click the **Import** button.

Delete Key Pair

This dialog box allows you to confirm or cancel a key pair delete operation.

Verify Key Pair Deletion

1. To verify that you wish to delete the selected key pair(s), click the **Yes, delete** button.

2. To cancel the delete operation, click the **Cancel** button.

Work with Security Groups

This section covers how to navigate and use the security group screens and dialogs in the Eucalyptus User Console.

Manage Security Groups

This screen allows you to view a list of your security groups and create, modify and delete security groups. You can page through the list of security groups by clicking the navigation buttons at the bottom of the screen.

Sorting the Security Group List

Click on any column header to toggle sorting the list of security groups in ascending or descending order by the selected column.

Searching the Security Group List

1. Type some search text into the **Search** text box to filter the list of security groups.

2. For some lists, you can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking.

Creating a Security Group

Click the **Create new security group** button. The **Create Security Group** dialog box will appear.

Viewing Details of a Security Group

You can expand a security group in the list to see details about the security group, including tags and rules associated with the security group.

1. Click the name of the security group in the list of security groups.

   The area beneath the security group name will expand to a tabbed interface.

2. Click the **General** tab to see a panel of detailed information about the security group, include the list of incoming traffic rules.

3. Click the **Tags** tab to see a list of tags associated with the security group.

Deleting Security Groups

1. Click the checkbox next to the security group you wish to delete.

2. Right-click in the security group list and select **Delete** from the context menu. The **Delete Security Group** dialog box will appear.

Create a Security Group

Eucalyptus enables you to control access to your cloud using security groups. A security group contains a group of rules that control inbound traffic to instances in the group for the specified protocols and ports.

Group tab

1. Enter a name for your security group in the **Name** text box.

2. Enter a description for your security group in the **Description** text box.

Rules tab

1. Enter a name for your security group in the **Name** text box.

2. Enter a description for your security group in the **Description** text box.

3. You can optionally create one or more rules for the security group. A *rule* grants a specified range of IP addresses inbound access to your instances for a protocol or custom port range. Rules for many of the most popular protocols are pre-defined and available for selection in the drop-down list box, or you can define your own rule.

   > **Important:** You should specify at least one rule for your security group.

   a) Select a protocol for the rule from the **Protocol** drop-down list box, or select a custom protocol.
   b) If you've selected a custom protocol, enter a port range for the rule in the **Port range** text box.
   c) Select the type of inbound traffic for the rule using the radio buttons:

   To grant access to an IP address or range of IP addresses, select the **IP Address** radio button and enter a CIDR range in the text box.

   > **Note:** For more information on CIDR notation, please see the *CIDR notation Wikipedia article*.

   To grant access to another security group, select the **Other security group** radio button and enter the name of the security group in the text box.

   > **Note:** To specify a security group in another account, use the format "userid/groupname".

   d) You can click the **Add another rule** button if you want to add more rules.

Tags tab

You can optionally tag this resource by performing the following steps:

To add new tags:

1. Type the key name for your tag into the **Key** text box.
2. Type the value for your tag into the **Value** text box.
3. If you wish to add additional tags, click the + button to the right of the **Value** text box.

To edit one or more tags:

Move your mouse over the tag you wish to edit and click the pencil button to the right of the **Value** text box.

To delete one or more tags:

Move your mouse over the tag you wish to delete and click the minus button to the right of the **Value** text box.

To undelete one or more tags:

Move your mouse over the tag you wish to undelete and click the X button to the right of the **Value** text box.

Save Your Work

Click the **Create** button to save your work, or click the **Cancel** button to cancel the operation.

Manage Security Group Rules

This dialog allows you to edit the rules for a security group.

Add Security Group Rules

You can optionally create one or more rules for the security group. A rule grants a specified range of IP addresses inbound access to your instances for a protocol or custom port range. Rules for many of the most popular protocols are pre-defined and available for selection in the drop-down list box, or you can define your own rule.

1. Select a protocol for the rule from the **Protocol** drop-down list box.
2. Enter a port range for the rule in the **Port range** text box.
3. Select the type of inbound traffic for the rule using the radio buttons:

   To grant access to an IP address or range of IP addresses, select the **IP Address** radio button and enter a CIDR range in the text box.

   Note: For more information on CIDR notation, please see the *CIDR notation Wikipedia article*.

   To grant access to another security group, select the **Other security group** radio button and enter the name of the security group in the text box.

   Note: To specify a security group in another account, use the format "userid/groupname".

4. Click the **Save Changes** button.

Delete Security Group Rules

Click the **Delete** link next to the existing rule you want to delete.

Delete Security Group

This dialog box allows you to confirm or cancel a security group delete operation.

Verify Security Group Deletion

1. To verify that you wish to delete the selected security group(s), click the **Yes, delete** button.
2. To cancel the delete operation, click the **Cancel** button.

Work with Volumes

This section covers how to navigate and use the volume screens and dialogs in the Eucalyptus User Console.

Manage Volumes

Eucalyptus offers persistent storage that you can attach to a running instance. These Eucalyptus block storage (EBS) volumes persist autonomously from the running life of an instance. After you attach a block volume to an instance, you can use it like any other physical hard drive. This screen allows you to view a list of your volumes, create new volumes, attach and detach volumes to a running instance, and delete volumes. You can page through the list of volumes by clicking the navigation buttons at the bottom of the screen.

Sorting the Volume List

Click on any column header to toggle sorting the list of volumes in ascending or descending order by the selected column.

Searching the Volume List

1. Type some search text into the **Search** text box to filter the list of volumes.
2. For some lists, you can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking.

Creating a Volume

Click the **Create new volume** button. The Create Volume dialog box will appear.

Viewing Details of a Volume

You can expand a volume entry in the list to see details about the volume, including associated tags and instances.

1. Click the name of the volume in the list of volumes.

   The area beneath the volume name will expand to a tabbed interface.

2. Click the **General** tab to see a panel of detailed information about the volume, include the list of instances attached to the volume.
3. Click the **Tags** tab to see a list of tags associated with the volume.

Attach a Volume to a Running Instance

1. Right-click on the unattached volume you wish to attach to a running instance.
2. Select **Attach to instance** from the context menu. The **Attach volume to instance** dialog box will appear.

   Note: You can also click on a volume and click the **More actions** link at the top of the list.

Detach a Volume from a Running Instance

1. Right-click on the attached volume you wish to detach from a running instance.
2. Select **Detach from instance** from the context menu. The **Detach volumes** dialog box will appear.

   Note: You can also click on a volume and click the **More actions** link at the top of the list.

Create a Snapshot from a Volume

1. Right-click on the volume that you wish to use as the source of a new snapshot.
2. Select **Create snapshot from volume** from the context menu. The **Create snapshot from volume** dialog box will appear.

Deleting Volumes

1. Click the checkbox next to the volume.

    Note: You can't delete a volume that is attached to an instance.

2. Right-click in the volume list and select **Delete** from the context menu. The **Delete Volume** dialog box will appear.

Create a Volume

Eucalyptus offers persistent storage that you can attach to a running instance. These Eucalyptus block storage (EBS) volumes persist autonomously from the running life of an instance. After you attach a block volume to an instance, you can use it like any other physical hard drive.

General tab

Add the details of your new volume:

1. Type the name of your volume in the **Name** text box.
2. If you would like to create a volume from an existing snapshot, select the snapshot from the **Create from snapshot?** drop-down listbox.
3. Enter the size of the volume in gigabytes in the **Volume Size (GB)** text box.

    Note: If you're creating a volume from a snapshot, you can't enter a volume size that's smaller than the original snapshot you've selected.

4. Select an availability zone from the **Availability Zone** drop-down list box.

    Note: You can only attach a volume to an instance in the same availability zone.

Tags tab

You can optionally tag this resource by performing the following steps:

To add new tags:

1. Type the key name for your tag into the **Key** text box.
2. Type the value for your tag into the **Value** text box.
3. If you wish to add additional tags, click the + button to the right of the **Value** text box.

To edit one or more tags:

Move your mouse over the tag you wish to edit and click the pencil button to the right of the **Value** text box.

To delete one or more tags:

Move your mouse over the tag you wish to delete and click the minus button to the right of the **Value** text box.

To undelete one or more tags:

Move your mouse over the tag you wish to undelete and click the X button to the right of the **Value** text box.

Save Your Work

Click the **Create volume** button to save your work, or click the **Cancel** button to cancel the operation.

Delete Volume

This dialog box allows you to confirm or cancel a volume delete operation.

Verify Volume Deletion

1. To verify that you wish to delete the selected volume(s), click the **Yes, delete** button.
2. To cancel the delete operation, click the **Cancel** button.

Attach a Volume

This dialog box lets you attach an EBS volume to an instance running in the same availability zone.

1. Start typing the identifier of the volume to attach into the **Volume** text box (the volume is already in the text box if you navigated to this dialog from the **Manage Volumes** screen). A list of matching volumes will appear; select the volume from the list.

2. Start typing the instance identifier into the **Instance** text box (this instance is pre-selected for you if you navigated to this dialog from the **Manage Instances** screen). A list of matching instances will appear; select the instance from the list.

3. To optionally specify a device name to use for the attached volume, type the device name into the **Attach as device** text box.

4. Click the **Attach** button.

Detach Volumes

This dialog box lets you verify that you wish to detach one or more volumes from running instance(s).

1. Verify that you want to detach the listed volume(s).

2. Click the **Yes, detach** button.

Work with Instances

This section covers how to work with the instance dialogs and screens in the Eucalyptus User Console.

Manage Instances

This screen allows you to view a list of your instances, create new instances, and connect to, reboot, stop, terminate, and delete instances. You can page through the list of instances by clicking the navigation buttons at the bottom of the screen.

Sorting the Instances List

Click on any column header to toggle sorting the list of instances in ascending or descending order by the selected column.

Searching and Filtering the Instance List

1. Type some search text into the **Search** text box to filter the list of instances.

2. For some lists, you can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking.

Viewing Details of an Instance

You can expand an instance entry in the list to see details about the instance, including associated volumes and tags.

1. Click the name of the instance in the list of instances.

   The area beneath the instance name will expand to a tabbed interface.

2. Click the **General** tab to see a panel of detailed information about the instance, include the volume associated with the instance.

3. Click the **Volumes** tab to see a list of volumes attached to the instance.

4. Click the **Tags** tab to see a list of tags associated with the instance.

Launch an Instance

Click the **Launch new instance** button. The Launch Instance dialog box will appear.

Connect to an Instance

Select the instance and then select **Connect** from the **More actions** menu at the top of the list. The **Connect to instance** dialog box will appear with further instructions.

Reboot an Instance

Select the instance and then select **Reboot** from the **More actions** menu at the top of the list. The **Reboot instance** dialog box will appear.

Stop an Instance

Select the instance and then select **Stop** from the **More actions** menu at the top of the list. The **Stop instance** dialog box will appear.

Terminate an Instance

Select the instance and then select **Terminate** from the **More actions** menu at the top of the list. The **Terminate instance** dialog box will appear.

More Actions

The **More actions** button at the top of the **Manage instances** window contains additional actions you can perform on one or more instances.

1. Select **Launch more like this** displays a dialog that allows you to create and customize an instance like the selected instance.
2. Select **Get console output** to display the console output from the selected instance.
3. Select **Attach volume** to attach a volume to the selected instance.
4. Select **Detach volume** to detach a volume from the selected instance.
5. Select **Associate IP address** to associate an IP address with the selected volume.
6. Select **Disassociate IP address** to disassociate an IP address from the selected volume.

Create Instances

This screen allows you create a new instance.

Select an Image

This panel allows you to select a base image to use for creating your instance.

1. You can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking.
2. Select an image by clicking on the image in the **Select image** list.
3. Click the **Next: Select type** button to proceed to the **Type** panel.

Select a Type

This panel allows you to specify the instance size, number of instances, and the availability zone of your new instance(s).

1. Enter the number of new instances to create in the **Number of instances** text box.
2. Enter one or more names for your new instance(s) in the **Instance name(s)** text box. If you're specifying more than one name, separate the names with commas.
3. Select an instance size by clicking the appropriate icon.

    Note: Information about the instance size is displayed when you click the instance size link.

4. If you want to specify an availability zone other than the default, select an availability zone using the **Availability zone** drop-down list box.
5. Click the **Next: Select security** button to proceed to the **Security** panel.

6. You can optionally create tags for your instance. To help you manage your cloud's instances, images, and other Eucalyptus resources, you can optionally assign your own metadata to each resource in the form of tags. You can use tags to create user-friendly names, make resource searching easier, and improve coordination between multiple users. To add tags to your new instance(s):

   a) Type the key name for your tag into the **Key** text box.
   b) Type the value for your tag into the **Value** text box.
   c) If you wish to add additional tags, click the + button to the right of the **Value** text box.
   d) If you want to edit a tag you've already entered, click the pencil icon to the right of the **Value** text box.
   e) If you wish to delete a tag that you've already entered, click the **-** button to the right of the **Value** text box.

7. Click the **Next: Select security** button to proceed to the **Security** panel.

Specify Security

This panel allows you to specify the key pair and security group that will be used by your new instance(s). NOTE: if you create a key pair or security group in this section, they will automatically be selected for use in your new instance.

1. Select a key pair using the **Key pair** drop-down list box.

   > **Note:** You can also create a new key pair by clicking the **Create new key pair** link to display the **Create new key pair** dialog box.

2. Select a security group using the **Security group** drop-down list box.

   > **Note:** You can also create a new security group by clicking the **Create new security group** link to display the **Create new security group** dialog box.

   > **Note:** If you select the default security group, make sure that you've added rules to the default security group so that you can access your instances.

3. You can optionally specify advanced options by clicking the **Select advanced options** link.
4. Click the **Launch instance(s)** button.

Specify Advanced Options

This panel allows you to specify advanced options for your new instance(s). You can add user data, override the kernel and RAM disk IDs, specify private networking, and add additional storage.

1. Specify custom user data by typing it into the **User data** text box or by attaching a file by clicking the **Choose file** button.
2. You can override the kernel ID in the selected image with the **Kernel ID** drop-down list box.
3. You can override the RAM disk ID in the selected image with the **RAM disk ID** drop-down list box.
4. Click the **Monitoring** check box to specify that detailed CloudWatch metric gathering should be enabled for your new instance(s).
5. Click the **Network** check box to specify that your new instance should use private addressing only. Private addresses cannot connect directly to the Internet and must go through a NAT (Network Address Translation) device or an elastic IP address mapped to the instance.
6. Click the **Launch instance(s)** button to launch your new instance(s).

Stop Instance

This dialog box allows you to confirm or cancel a stop instance operation.

Verify Stop Instance

1. To verify that you wish to stop the selected instance(s), click the **Yes, stop** button.
2. To cancel the delete operation, click the **Cancel** button.

Reboot Instance

This dialog box allows you to confirm or cancel a reboot instance operation.

Verify Reboot Instance

1. To verify that you wish to reboot the selected instance(s), click the **Yes, reboot** button.
2. To cancel the delete operation, click the **Cancel** button.

Get Console Output

This dialog box displays the console output of the selected instance.

Click the **Close** button to dismiss the console output dialog box.

Launch More Instances Like This

This dialog box allows you create one or more new instances that have the same characteristics as an instance you've already created.

Specify the Number of Instances

This panel allows you to specify the number of new instances to launch.

1. Enter the number of instances you'd like to launch into the **Instances** text box.
2. You can optionally specify advanced options by clicking the **Select advanced options** link.
3. Click the **Launch Instance(s)** button to launch your new instances.

Add Tags

To help you manage your cloud's instances, images, and other Eucalyptus resources, you can optionally assign your own metadata to each resource in the form of tags. You can use tags to create user-friendly names, make resource searching easier, and improve coordination between multiple users. This panel allows you to specify tags for your new instance(s).

1. **Note:** If you don't want to add tags to your new instances, you can skip this section.

   Type the key name for your tag into the **Key** text box.
2. Type the value for your tag into the **Value** text box.
3. If you wish to add additional tags, click the + button to the right of the Value text box.
4. When you are finished adding tags, you can click the **Next: Select security** button to proceed to the **Advanced Options** panel, or click the **Launch instance(s)** button to launch your new instance.

Specify Advanced Options

This panel allows you to specify advanced options for your new instance(s). You can add user data, override the kernal and RAM disk IDs, specify private networking, and add additional storage.

1. Specify custom user data by typing it into the **User data** text box or by attaching a file using the **Attach file** link.
2. You can override the kernel ID in the selected image with the **Kernel ID** drop-down list box.
3. You can override the RAM disk ID in the selected image with the **RAM disk ID** drop-down list box.
4. Click the **Network** check box to specify that your new instance should use private addressing only. Private addresses cannot connect directly to the Internet and must go through a NAT (Network Address Translation) device or an elastic IP address mapped to the instance.
5. For EBS-backed instances, you can configure the root volume of your instance:
   a) Type the size of the attached storage in gigabytes into the **Size (GB)** text box.
   b) Select the **Delete on termination** check box if you would like the attached storage to be deleted when the instance is terminated.
6. Click the **Launch instance(s)** button to launch your new instance(s).

Terminate Instance

This dialog box allows you to confirm or cancel a terminate instance operation.

Verify Instance Termination

1. To verify that you wish to terminate the selected instance(s), click the **Yes, terminate** button.
2. To cancel the delete operation, click the **Cancel** button.

Work with Auto Scaling Groups

This section covers how to work with the auto scaling groups in the Eucalyptus User Console.

Manage Scaling Groups

This screen allows you to view a list of your scaling groups, create new scaling groups, and edit existing scaling groups. You can page through the list of scaling groups by clicking the navigation buttons at the bottom of the screen.

Sorting the Scaling Groups List

Click on any column header to toggle sorting the list of scaling groups in ascending or descending order by the selected column.

Searching and Filtering the Scaling Groups List

1. Type some search text into the **Search** text box to filter the list of scaling groups.
2. For some lists, you can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking the value.

Viewing Details of a Scaling Group

You can expand a scaling group entry in the list to see details about the scaling group, including associated instances, launch configurations, scaling policies, and tags.

1. Click the name of the scaling group in the list of scaling groups.

   The area beneath the scaling group name will expand to a tabbed interface.

2. Click the **General** tab to see a panel of detailed information about the selected scaling group.
3. Click the **Instances** tab to see the list of instances for the auto scaling group, as well as the instance's health status and state.
4. Click the **Policies** tab to see a list of scaling policies associated with the scaling group.
5. Click the **Tags** tab to see a list of all tags associated with the scaling group.

Create a New Scaling Group

Click the **Create New Scaling Group** button. The **Create New Scaling Group** dialog box will appear.

Quick Scale

This action allows you to quickly change the desired number of instances in your scaling group.

Select the scaling group from the list of scaling groups, and then select **Quick scale** from the **More Actions** drop-down menu. The **Quick Scale** dialog will appear.

Edit Scaling Group

This action allows you to change the properties of a scaling group.

Select the scaling group from the list of scaling groups, and then select **Edit Properties** from the **More Actions** drop-down menu. The **Edit Scaling Group** dialog will appear.

Delete

This action allows you to delete one or more scaling groups.

Select one or more scaling groups from the list of scaling groups, and then select **Delete** from the **More Actions** drop-down menu. The **Delete scaling group** dialog will appear.

Manage instances

This action allows you to set the health status on the instances in your scaling group.

Select the scaling group from the list of scaling groups, and then select **Manage instances** from the **More Actions** drop-down menu. The **Manage instances** dialog will appear.

Create a Scaling Group

This dialog allows you to create a scaling group. An Auto Scaling group defines the parameters for the Eucalyptus instances that are used for scaling, as well as the minimum, maximum, and (optionally) the desired number of instances to use for Auto Scaling your application. For more information on Auto Scaling, please see *Using Auto Scaling* in the *Eucalyptus User Guide*.

General

This section is where you specify the basic configuration of your new auto scaling group.

1. Type the name of your new auto scaling group in the **Name** textbox.
2. Select a launch configuration from the **Launch Configuration** drop-down list box. A launch configuration defines the properties of the instances that are launched as part of your auto scaling group.
3. Select the maximum number of instances you want running in your autoscaling group using the **Maximum** control.
4. Specify the minimum number of instances you want running using the **Minimum** control.
5. Specify the desired number of instance you want running using the **Desired** control.

Tags

A tag is a key/value pair containing data that you can attach to resources in your cloud. This section of the **Create Scaling Group** wizard allows you to define tags for for your scaling group and for instances that run in your scaling group.

1. If you want to apply the new tag to instances running in the scaling group, select the **Propagate** check box.
2. Type the key name for your tag into the **Key** text box.
3. Type the value for your tag into the **Value** text box.
4. If you wish to add additional tags, click the + button to the right of the **Value** text box.
5. If you want to edit a tag you've already entered, click the pencil icon to the right of the **Value** text box.
6. If you wish to delete a tag that you've already entered, click the **-** button to the right of the **Value** text box.
7. When you are finished adding tags, click the **Next: Select membership** button.

Membership

In this section, you can specify load balancers, availability zones, and health checks for the instances that run in your auto scaling group.

1. Select the type of health check for your auto scaling group from the **Type** drop-down list box. The auto scaling health check uses EC2 instance status checks to determine the health state of each instance in your auto scaling group. If your auto scaling group is using a load balancer, auto scaling will use both EC2 instance status checks and load balancing instance health checks.
2. Type the amount of grace period, in seconds, into the **Grace period** text box. This is the amount of time after a new instance is launched in your auto scaling group before health checks start for the instance.
3. Select the availability zone for your new scaling group from the **Availability zones** drop-down list box.

   You can add another availability zone to the new auto scaling group by clicking the + button next to the drop-down list box.

4. Select one or more load balancers for this auto scaling group from the **Load balancers** drop-down list box.

You can add another load balancer to the new auto scaling group by clicking the + button next to the drop-down list box.

Policies

In this section, you can define the scaling policies for your auto scaling group. An Auto Scaling policy defines how to perform scaling actions in response to CloudWatch alarms. Auto scaling policies can either scale-in, which terminates instances in your Auto Scaling group, or scale-out, which will launch new instances in your Auto Scaling group.

1. Type a name for the scaling policy in the **Name** text box.
2. Select an action type using the **Action** control. The action specifies what to do when a scaling condition is met.
3. Type the numerical unit for the scaling action in the **Amount** text box. This value is used in conjunction with the value entered in the **Measure** control to determine how many instances to scale for this policy.
4. Select the measure for the scaling action using the **Measure** control. This can be either a number of instances (for example: 'scale up by 2 instances') or a percentage value (for example: 'scale down by 10 percent').
5. **Note:** A CloudWatch alarm cannot be associated with more than 5 scaling policies.

   Select a CloudWatch alarm from the **Alarm** control. You can click the **Create Alarm** link to display the **Create Alarm** dialog. Auto Scaling uses CloudWatch alarms to determine when to take scaling actions.

Saving the Scaling Group

Once you're satisfied with the properties you've defined for your scaling group, click the **Create scaling group** button to create your scaling group.

For more information on Auto Scaling, see the *Eucalyptus User Guide*.

Edit a Scaling Group

This dialog allows you to edit a scaling group. A scaling group is used to set up auto scaling for your cloud.

General

This section is where you can change some of the basic configuration of your auto scaling group.

1. You can change the name of your auto scaling group by typing it into the **Name** textbox.
2. Select a launch configuration from the **Launch Configuration** drop-down list box. A launch configuration defines the properties of the instances that are launched as part of your auto scaling group.
3. Select the maximum number of instances you want running in your autoscaling group using the **Maximum** control.
4. Specify the minimum number of instances you want running using the **Minimum** control.
5. Specify the desired number of instance you want running using the **Desired** control.

Membership

In this section, you can edit the load balancers, availability zones, and health checks for the instances that run in your auto scaling group.

1. Select the type of health check for your auto scaling group from the **Type** drop-down list box. The auto scaling health check uses EC2 instance status checks to determine the health state of each instance in your auto scaling group. If your auto scaling group is using a load balancer, auto scaling will use both EC2 instance status checks and load balancing instance health checks.
2. Type the amount of grace period, in seconds, into the **Grace period** text box. This is the amount of time after a new instance is launched in your auto scaling group before health checks start for the instance.
3. Select the availability zone for your new scaling group from the **Availability zones** drop-down list box.

   You can add another availability zone to the new auto scaling group by clicking the plus button next to the drop-down list box.
4. Select one or more load balancers for this auto scaling group from the **Load balancers** drop-down list box.

   You can add another load balancer to the new auto scaling group by clicking the plus button next to the drop-down list box.

Policies

In this section, you can change the scaling policies for your auto scaling group. An Auto Scaling policy defines how to perform scaling actions in response to CloudWatch alarms. Auto scaling policies can either scale-in, which terminates instances in your Auto Scaling group, or scale-out, which will launch new instances in your Auto Scaling group.

1. Type a name for the scaling policy in the **Name** text box.

2. Select an action type using the **Action** control. The action specifies what to do when a scaling condition is met.

3. Type the numerical unit for the scaling action in the **Amount** text box. This value is used in conjunction with the value entered in the **Measure** control to determine how many instances to scale for this policy.

4. Select the measure for the scaling action using the **Measure** control. This can be either a number of instances (for example: 'scale up by 2 instances') or a percentage value (for example: 'scale down by 10 percent').

5. **Note:** A CloudWatch alarm cannot be associated with more than 5 scaling policies.

    Select a CloudWatch alarm from the **Alarm** control. You can click the **Create Alarm** link to display the **Create Alarm** dialog. Auto Scaling uses CloudWatch alarms to determine when to take scaling actions.

Saving the Scaling Group

Once you're satisfied with the updates you've made to your scaling group, click the **Save changes** button to create your scaling group.

For more information on Auto Scaling, see the *Eucalyptus User Guide*.

Delete Scaling Group

This dialog box allows you to confirm or cancel a scaling group delete operation.

Verify Scaling Group Deletion

1. To verify that you wish to delete the selected scaling group, click the **Yes, delete** button.

2. To cancel the delete operation, click the **Cancel** button.

Quick Scale

This dialog box allows you to quickly adjust the number of desired instances in a scaling group.

Quickly Scale a Scaling Group

1. Type the desired number of instances for the scaling group in the **Desired** text box.

2. Click the **Scale Group** button.

Work with Launch Configurations

This section covers how to work with Auto Scaling launch configurations in the Eucalyptus User Console.

Manage Launch Configurations

This screen allows you to view a list of your launch configurations, create new launch configurations, create new scaling groups based on a launch configuration, and delete existing launch configurations. You can page through the list of launch configurations by clicking the navigation buttons at the bottom of the screen.

Sorting the Launch Configurations List

Click on any column header to toggle sorting the list of launch configurations in ascending or descending order by the selected column.

Searching and Filtering the Launch Configurations List

1. Type some search text into the **Search** text box to filter the list of launch configurations.

2. For some lists, you can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking the value.

Viewing Details of a Launch Configuration

You can expand a launch configuration entry in the list to see details about the launch configuration, including block device mappings.

1. Click the plus sign next to the name of the launch configuration in the list of launch configurations.

   The area beneath the launch configuration name will expand to a tabbed interface.

2. Click the **Instance** tab to see a panel of detailed information about the selected launch configuration.

3. Click the **Block Device Mappings** tab to see the list of block device mappings for the launch configuration.

Create a New Launch Configuration

Click the **Create New Launch Configuration** button. The **Create New Launch Configuration** dialog box will appear.

Create a Scaling Group from a Launch Configuration

Select a launch configuration from the list and then select the **Use to create scaling group** item from the **More actions** drop-down menu. The **Create scaling group** dialog box will appear with the launch configuration selection pre-populated with the launch configuration you selected.

Delete a Launch Configuration

Select one or more launch configurations to delete and then select the **Delete** item from the **More actions** drop-down menu. The **Delete launch configuration** dialog box will appear. Note that you cannot delete launch configurations that are in use by scaling groups.

Create Launch Configuration

This screen allows you create a new launch configuration. The launch configuration is used to define the parameters for new instances that are launched as part of your auto scaling group. For more information on Auto Scaling, please see *Using Auto Scaling* in the *Eucalyptus User Guide*.

Select an Image

This panel allows you to select a base image to use for creating instances in your auto scaling group.

1. Refine and filter your results by typing search criteria into the **Search** text box.

2. Select an image by clicking on the image in the **Select image** list.

3. Click the **Next: Select type** button to proceed to the **Type** panel.

Select a Type

This panel allows you to specify the instance size for new instance in your auto scaling group.

1. Type the name of your launch configuration into the **Name** text box.

2. Select an instance size from the **Instance size** drop-down list..

   > **Note:** Information about the instance size is displayed when you click the instance size link.

3. Click the **Next: Select security** button to proceed to the **Security** panel.

Specify Security

This panel allows you to specify the key pair and security group that will be used by the new instances in your auto scaling group NOTE: if you create a key pair or security group in this section, they will automatically be selected for use in your new instances.

1. Select a key pair using the **Key pair** drop-down list box.

> **Note:** You can also create a new key pair by clicking the **Create new key pair** link to display the **Create new key pair** dialog box.

2. Select a security group using the **Security group** drop-down list box.

> **Note:** You can also create a new security group by clicking the **Create new security group** link to display the **Create new security group** dialog box.

> **Note:** If you select the default security group, make sure that you've added rules to the default security group so that you can access your instances.

3. You can optionally specify advanced options by clicking the **Select advanced options** link.
4. Click the **Advanced** button.

Specify Advanced Options

This panel allows you to specify advanced options for the new instance in your auto scaling group. You can add user data, override the kernel and RAM disk IDs, specify private networking, and add additional storage.

1. Specify custom user data by typing it into the **User data** text box or by attaching a file by clicking the **Choose file** button.
2. You can override the kernel ID in the selected image with the **Kernel ID** drop-down list box.
3. You can override the RAM disk ID in the selected image with the **RAM disk ID** drop-down list box.
4. You can optionally choose to create a new auto scaling group based on this launch configuration by selecting the **Create scaling group using this launch configuration** check box. When this is selected, the **New Scaling Group** dialog will display after you've clicked the **Create launch configuration** button, with the Launch configuration field pre-populated with the name of your new launch configuration.
5. Click the **Create launch configuration** button.

For more information on Auto Scaling, see the *Eucalyptus User Guide*.

Create Launch Configuration from Instance

This screen allows you create a new launch configuration based on a selected instance. The launch configuration is used to define the parameters for the new instances that are launched as part of your auto scaling group.

Name Your Launch Configuration

This panel allows you to enter a name for your new launch configuration. It also displays the platform, type, and keypair/security group for your launch instance; these values are derived from the instance you had selected in the **Manage instances** landing page and cannot be changed.

1. Type the name of your new launch configuration into the **Launch configuration name** text box.
2. Click the **Advanced** tab to proceed to the specify advanced options, or click the **Create launch configuration** button to create your new launch configuration.

Specify Advanced Options

OPTIONAL: This panel allows you to specify advanced options for the new instance in your auto scaling group. You can add user data, override the kernel and RAM disk IDs, specify private networking, and add additional storage.

1. Specify custom user data by typing it into the **User data** text box or by attaching a file by clicking the **Choose file** button.
2. You can override the kernel ID in the selected image with the **Kernel ID** drop-down list box.
3. You can override the RAM disk ID in the selected image with the **RAM disk ID** drop-down list box.
4. You can create a new scaling group based on this new launch configuration by selecting the **Create scaling group using this launch configuration** check box. This will cause the **Create scaling group dialog** to appear once you've finished creating your new launch configuration.
5. Click the **Create launch configuration** button.

Edit Launch Configuration

TBD

1. Placeholder
2. Placeholder

Delete Launch Configuration

This dialog box allows you to confirm or cancel a launch configuration delete operation.

Verify Launch Configuration Deletion

1. To verify that you wish to delete the selected launch configuration, click the **Yes, delete** button.
2. To cancel the delete operation, click the **Cancel** button.

Work with Load Balancers

This section covers how to work with load balancers in the Eucalyptus User Console.

Manage Load Balancers

This screen allows you to view a list of your load balancers, create new scaling groups, and edit existing load balancers. You can page through the list of load balancers by clicking the navigation buttons at the bottom of the screen.

Sorting the Load Balancers List

Click on any column header to toggle sorting the list of load balancers in ascending or descending order by the selected column.

Searching and Filtering the Load Balancers List

1. Type some search text into the **Search** text box to filter the list of load balancers.
2. For some lists, you can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking the value.

Viewing Details of a Load Balancer

You can expand a load balancer entry in the list to see details about the load balancer, including associated instancess, health checks, CloudWatch metrics, and tags.

1. Click the name of the load balancer in the list of load balancers.

   The area beneath the load balancer name will expand to a tabbed interface.

2. Click the **General** tab to see a panel of detailed information about the selected load balancer.
3. Click the **Instances** tab to see the list of instances for the selected load balancer, as well as the health status and state of the instances.
4. Click the **Health Checks** tab to see a list of health checks associated with the load balancer.
5. Click the **Monitoring** tab to see a CloudWatch metrics for the selected load balancer..

Create a New Load Balancer

Click the **Create New Load Balancer** button. The **Create New Load Balancer** dialog box will appear.

Edit Load Balancer

This action allows you to change the properties of a load balancer.

Select the load balancer from the list of load balancers, and then select **Edit Properties** from the **More Actions** drop-down menu. The **Edit Load Balancer** dialog will appear.

Delete

This action allows you to delete one or more load balancers.

Select one or more load balancers from the list of load balancers, and then select **Delete** from the **More Actions** drop-down menu. The **Delete Load Balancer** dialog will appear.

Add instances

This action allows you to add instances to your load balancer.

Select the load balancer from the list of load balancers, and then select **Add instances** from the **More Actions** drop-down menu. The **Add instances** dialog will appear.

Remove instances

This action allows you to remove instances from your load balancer.

Select the load balancer from the list of load balancers, and then select **Remove instances** from the **More Actions** drop-down menu. The **Remove instances** dialog will appear.

Create Load Balancer

This wizard allows you to create a new load balancer. A load balancer allows you to automatically balance incoming traffic among a predefined group of instances, ensuring that requests are sent to an instance that has the capacity to serve them. For more information on load balancers, please see *Using Elastic Load Balancing* in the *Eucalyptus User Guide*.

General

This section is where you specify the basic configuration of your new load balancer.

1. Type the name of your load balancer in the **Name** text box.
2. A listener is the definition of ports (client-side and instance-side) and protocols that the load balancer uses to monitor and route incoming traffic to the load balancer's registered instances. To define one or more listeners for your load balancer:
   a) Type the number for the client-side port into the **CLIENT-SIDE PORT** text box.
   b) Select the protocol for this listener from the **PROTOCOL (CLIENT-SIDE to INSTANCE-SIDE)** drop-down list box.
   c) Type the number for the client-side port into the **INSTANCE-SIDE PORT** text box.
   d) You can add another listener by click on the plus icon next to the **INSTANCE-SIDE PORT** text box.
3. When you are done with the **General** section, click the **Next: Define membership button** to continue.

Membership

This section allows you to add running instances to your new load balancer.

1. Select the name of the load balancer to which you want to add instances from the **Load balancer name** drop-down list.
2. **Note:** You can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking the value.

   Select the check box next to the instances that you want to add from the list of running instances.
3. You can optionally control traffic for one or more scaling groups by selecting a scaling group from the **Also use this load balancer to control traffic for these scaling groups** drop-down list box, using the plus icon to add more than one scaling group.
4. Click the **Next: Configure health check** button to continue.

Membership

This section allows you to define a health check for your load balancer instances. The health check includes a port, protocol, and URL path to query to ensure that an instance is running and healthy.

1. Define the ping settings for the health check:

a) Select the protocol from the **Protocol** drop-down list box.

b) Type the port number to use for the health check ping in the **Port number** text box.

c) Define the path that the health check query should ping by typing it into the **Path** text box.

d) Specify the number of seconds before the health check query times out by typing a number into the **Response timeout (seconds)** text box.

e) Specify the number of minutes before the health check pings by typing a number into the **Time betwen pings (min)** text box.

2. Define the instance thresholds for the health check.

a) Specify the number of failed ping attempts until an instance is considered unhealthy by selecting a number from the **Failures until unhealthy** drop-down list box.

b) Specify the number of successful ping attempts until an instance that was previously marked as unhealthy is considered healthy again by selecting a number from the **Passes until unhealthy** drop-down list box.

3. Once you've reviewed and are satisfied with your load balancer configuration, click the **Create load balancer** button to create your new load balancer.

Edit Load Balancer

This wizard allows you to edit a load balancer. A load balancer allows you to automatically balance incoming traffic among a predefined group of instances, ensuring that requests are sent to an instance that has the capacity to serve them. For more information on load balancers, please see *Using Elastic Load Balancing* in the *Eucalyptus User Guide*.

General

In this section, you can change the basic configuration of your load balancer.

1. Type the name of your load balancer in the **Name** text box.

2. A listener is the definition of ports (client-side and instance-side) and protocols that the load balancer uses to monitor and route incoming traffic to the load balancer's registered instances. To define one or more listeners for your load balancer:

a) Type the number for the client-side port into the **CLIENT-SIDE PORT** text box.

b) Select the protocol for this listener from the **PROTOCOL (CLIENT-SIDE to INSTANCE-SIDE**) drop-down list box.

c) Type the number for the client-side port into the **INSTANCE-SIDE PORT** text box.

d) You can add another listener by clicking on the + icon next to the **INSTANCE-SIDE PORT** text box.

3. When you are done with the **General** section, click the **Next: Define membership button** to continue.

Membership

This section allows you to add running instances to or remove instances from your load balancer.

1. Select the name of the load balancer to which you want to add instances from the **Load balancer name** drop-down list.

2. **Note:** You can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking the value.

Select the check box next to the instances that you want to add from the list of running instances.

3. You can optionally control traffic for one or more scaling groups by selecting a scaling group from the **Also use this load balancer to control traffic for these scaling groups** drop-down list box, using the plus icon to add more than one scaling group.

4. Click the **Next: Configure health check** button to continue.

Membership

This section allows you to define a health check for your load balancer instances. The health check includes a port, protocol, and URL path to query to ensure that an instance is running and healthy.

1. Define the ping settings for the health check:

a) Select the protocol from the **Protocol** drop-down list box.

b) Type the port number to use for the health check ping in the **Port number** text box.

c) Define the path that the health check query should ping by typing it into the **Path** text box.

d) Specify the number of seconds before the health check query times out by typing a number into the **Response timeout (seconds)** text box.

e) Specify the number of minutes before the health check pings by typing a number into the **Time betwen pings (min)** text box.

2. Define the instance thresholds for the health check.

a) Specify the number of failed ping attempts until an instance is considered unhealthy by selecting a number from the **Failures until unhealthy** drop-down list box.

b) Specify the number of successful ping attempts until an instance that was previously marked as unhealthy is considered healthy again by selecting a number from the **Passes until unhealthy** drop-down list box.

3. Once you've reviewed and are satisfied with your modified load balancer configuration, click the **Save changes** button to save your changes.

Delete Load Balancer

This dialog box allows you to confirm or cancel a load balancer delete operation.

Verify Load Balancer Deletion

1. To verify that you wish to delete the selected load balancer, click the **Yes, delete** button.

2. To cancel the delete operation, click the **Cancel** button.

Add Instances to Load Balancer

This page allows you to add instances to a load balancer. If you launched this dialog from the Instances landing page, the instances that were selected on the Instances landing page will be pre-selected in the instances list on this page.

To add instances to a load balancer

1. Select the name of the load balancer to which you want to add instances from the **Load balancer name** drop-down list.

2. **Note:** You can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking the value.

   Select the check box next to the instances that you want to add from the list of running instances.

3. Click the **Add instances** button to add the instances to the selected load balancer.

Remove Instances from Load Balancer

This page allows you to remove instances from a load balancer. If you launched this dialog from the Instances landing page, the instances that were selected on the Instances landing page will be pre-selected in the instances list on this page.

To remove instances from a load balancer

1. Select the name of the load balancer from which you want to remove instances from the **Load balancer name** drop-down list.

2. **Note:** You can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking the value.

   Select the check box next to the instances that you want to remove from the list of running instances.

3. Click the **yes, remove instances** button to remove the instances from the selected load balancer.

Work with Snapshots

This section covers how to work with the snapshot dialogs and screens in the Eucalyptus User Console.

Manage Snapshots

Eucalyptus This screen allows you to view a list of your snapshots, create new snapshots, and delete snapshots. You can page through the list of snapshots by clicking the navigation buttons at the bottom of the screen.

Sorting the Snapshot List

Click on any column header to toggle sorting the list of snapshots in ascending or descending order by the selected column.

Searching the Snapshot List

1. Type some search text into the **Search** text box to filter the list of snapshots.
2. For some lists, you can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking.

Searching the Snapshot List

Type some search text into the **Search** text box to filter the list of snapshots.

Creating a Snapshot

Click the **Create new snapshot** button. The Create Snapshot dialog box will appear.

Viewing Details of a Snapshot

You can expand a snapshot entry in the list to see details about the snapshot, including associated tags and snapshots.

1. Click the name of the snapshot in the list of snapshots.

   The area beneath the snapshot name will expand to a tabbed interface.

2. Click the **General** tab to see a panel of detailed information about the snapshot, include the volume associated with the snapshot.
3. Click the **Tags** tab to see a list of tags associated with the snapshot.

Deleting Snapshots

1. Click the checkbox next to the snapshot.
2. Right-click in the snapshot list and select **Delete** from the context menu. The **Delete Snapshot** dialog box will appear.

Create a Snapshot

A snapshot is a block level storage volume that is created by copying an existing volume and is backed by persistent storage. You can use snapshots to create new volumes to be used with your instances.

General tab

Add the details of your snapshot:

1. Enter a name for the volume in the **Name** text box.
2. Start typing a volume ID (they usually start with "vol-") in the **Volume** text field, and then select a volume name from the drop-down list.
3. Enter a description for the volume in the **Description** text box.
4. Click the **Create** button to create your new snapshot, or click the **Cancel** button to cancel the operation.

Tags tab

You can optionally tag this resource by performing the following steps:

To add new tags:

1. Type the key name for your tag into the **Key** text box.
2. Type the value for your tag into the **Value** text box.
3. If you wish to add additional tags, click the + button to the right of the **Value** text box.

To edit one or more tags:

Move your mouse over the tag you wish to edit and click the pencil button to the right of the **Value** text box.

To delete one or more tags:

Move your mouse over the tag you wish to delete and click the minus button to the right of the **Value** text box.

To undelete one or more tags:

Move your mouse over the tag you wish to undelete and click the X button to the right of the **Value** text box.

Save Your Work

Click the **Create** button to save your work, or click the **Cancel** button to cancel the operation.

Register a Snapshot as an Image

A snapshot is a block level storage volume that is created by copying an existing volume and is backed by persistent storage. You can register a snapshot as an image if it the snapshot was created from a volume containing a root file system. Once registered, this image can then be used to launch EBS-backed instances.

1. Enter a name for the image in the **Name** text box.
2. Enter a description for the image in the **Description** text box.
3. Click the **Register** button.

Delete Snapshot

This dialog box allows you to confirm or cancel a snapshot delete operation.

Verify Snapshot Deletion

1. To verify that you wish to delete the selected snapshot(s), click the **Yes, delete** button.
2. To cancel the delete operation, click the **Cancel** button.

Work with Images

This section covers how to work with the image screens and dialogs in the the Eucalyptus User Console.

Manage Images

This screen allows you to view a list of your images and launch instances from an image. You can page through the list of images by clicking the navigation buttons at the bottom of the screen.

Sorting the Image List

Click on any column header to toggle sorting the list of images in ascending or descending order by the selected column.

Searching and Filtering the Image List

1. Type some search text into the **Search** text box to filter the list of images.
2. For some lists, you can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking.

Viewing Details of an Image

You can expand an image entry in the list to see details about the image, including associated block device mappings and tags.

1. Click the name of the image in the list of images.

   The area beneath the image name will expand to a tabbed interface.

2. Click the **General** tab to see a panel of detailed information about the image, include the volume associated with the image.

3. Click the **Block Device Mappings** tab to see a list of block device mappings associated with the image.

4. Click the **Tags** tab to see a list of tags associated with the image.

Launching an Image

Click the **Launch instance** link next to the image that you wish to use to launch an instance. The **Create Instance** dialog box will appear.

Work with IP Addresses

This section covers how to work with the IP address screens and dialogs in the Eucalyptus User Console.

Manage Elastic IP Addresses

Your Eucalyptus cloud can offer elastic IP addresses that you can associate with your running instances. This screen allows you to view a list of your available elastic IP addresses, allocate new elastic IP addresses, associate and disassociate elastic IP addresses with running instances, and release elastic IP addresses. You can page through the list of elastic IP addresses by clicking the navigation buttons at the bottom of the screen.

Sorting the IP Address List

Click on any column header to toggle sorting the list of IP addresses in ascending or descending order by the selected column.

Searching the IP Address List

1. Type some search text into the **Search** text box to filter the list of IP addresses.

2. For some lists, you can select one or more filters by pressing the enter key or clicking on the search bar and selecting an available filter from the drop down list. Selecting some filters will expose a menu with a list of valid filter values that you can select by pressing the enter key or clicking.

Viewing Details of an IP Address

You can expand an instance entry in the list to see details about the IP address, including associated instances.

1. Click the name of the instance in the list of IP addresses.

   The area beneath the IP address name will expand to a tabbed interface.

2. Click the **General** tab to see a panel of detailed information about the IP address, include the associated instance ID and hostname.

Allocate New IP Addresses

Click the **Allocate new IP address** button. The **Allocate IP Addresses** dialog box will appear.

Attach an IP Address to a Running Instance

1. Select an unassociated IP address from the **Manage IP Addresses** window.

2. Click the **More actions** button at the top of the screen and select **Associate with instance** from the drop-down menu.

   The **Assocate IP address with instance** dialog appears.

Disassociate an IP Address from a Running Instance

1. Select one or more attached IP address you wish to disassociate from a running instance.
2. Click the **More actions** link at the top of the screen and select **Disassociate from instance** item from the drop-down menu. The **Disassociate IP addresses from instance** dialog box will appear.

Releasing IP Addresses

1. Select one or more unassociated IP addresses from the list.
2. Select the IP addresses to release and select **Release to cloud** item from the **More actions** menu link at the top of the list. The **Release IP address to cloud** dialog box will appear.

Allocate IP Addresses

This dialog box lets you allocate IP addresses for your cloud.

1. Type the number of IP addresses you want to allocate into the text box.

   Note: This operation may not allocated all the requested addresses if the number of addresses you entered exceeds the number of addresses you're allowed by administrative policy. For more information, refer to your system administrator.

2. Click the **Associate addresses from cloud** button.

Release IP Addresses

This dialog box allows you to confirm or cancel an IP address release operation.

1. To verify that you wish to release the selected IP address(es), click the **Yes, release** button.
2. To cancel the delete operation, click the **Cancel** button.

Associate an Elastic IP Address with an Instance

This dialog box lets you associate an elastic IP address with a running instance.

1. Start typing the ID of an instance and then select the instance from the drop-down list box.
2. Click the **Associate Address** button.

Disassociate an Elastic IP Address from an Instance

This dialog box lets you verify that you wish to disassociate one or more elastic IP addresses from running instance(s).

1. Verify that you want to disassociate the listed IP addresses.
2. Click the **Yes, disassociate** button.

Work with Tags

This section covers how to work with resource tags in the Eucalyptus User Console.

Add/Edit Tags

To help you manage your cloud's instances, images, and other Eucalyptus resources, you can optionally assign your own metadata to each resource in the form of tags. You can use tags to create user-friendly names, make resource searching easier, and improve coordination between multiple users. This panel allows you to add, edit, and delete tags from a resource.

Add Tags

To add new tags:

1. Type the key name for your tag into the **Key** text box.
2. Type the value for your tag into the **Value** text box.
3. If you wish to add additional tags, click the + (plus) button to the right of the **Value** text box.
4. When you are finished adding tags, click the **Save changes** button to save your tags, or click the **Cancel** button to cancel.

Edit Tags

To edit one or more tags:

1. Move your mouse over the tag you wish to edit and click the pencil button to the right of the **Value** text box.
2. When you are finished editing tags, click the **Save changes** button to save your changes, or click the **Cancel** button to cancel.

Delete Tags

To delete one or more tags:

1. Move your mouse over the tag you wish to delete and click the **-** (minus) button to the right of the **Value** text box.
2. When you are finished deleting tags, click the **Save changes** button to confirm your deletions, or click the **Cancel** button to cancel.

Delete Tags

To delete one or more tags:

Move your mouse over the tag you wish to undelete and click the **x** button to the right of the **Value** text box.