Chapter Six

Starting and Registering Eucalyptus

INTRODUCTION

Make sure that each host you installed a Eucalyptus component on resolves to an IP address. Edit the /etc/hosts file if necessary.

Eucalyptus 3.3 requires version 7 of the Java Virtual Machine. Make sure that your CLOUD_OPTS settings in the /etc/eucalyptus/eucalyptus.conf file either do not set --java-home, or that --java-home points to a version 7 JVM. This needs to happen before services are started but after the upgraded packages are installed.

Start the Eucalyptus components in the order presented in this documentation.

Starting Eucalyptus

STARTING THE CLOUD CONTROLLER (CLC)

Log in to the Cloud Controller (CLC).

Enter the following command to initialize the CLC :

```
/usr/sbin/euca_conf --initialize
```

NOTE: Please ensure that the "eucalyptus-cloud" process is not running prior to executing this command.

Enter the following command to start the CLC :

```
service eucalyptus-cloud start
```

If you installed Walrus on the same host as the CLC, the above will start Walrus and the Storage Controller (SC) also.

START THE CLUSTER CONTROLLER (CC)

Log in to the CC server (Frontend) and enter the following :

```
service eucalyptus-cc start
```

START THE NODE CONTROLLERS (NCs)

Log in to an NC server (VM-containers) and enter the following command :

```
service eucalyptus-nc start
```

Repeat for each NC server.

Verify the startup

At this point, all Eucalyptus components are enabled and starting up. Some of these services perform intensive initialization at start-up, particularly the first time they are started. You might have to wait a few minutes until they are fully operational.

One quick way to determine if the components are running is to run netstat on the various hosts and look to see when the service ports are allocated to a process. Specifically, the CLC, Walrus and the SC allocate ports 8773. The CC listens to port 8774, and the NC uses port 8775.

1. To check if the clc is listening on ports 8443.

```
sudo netstat -tulpn |grep 8443
```

Output:

```
tcp       0      0 0.0.0.0:8443            0.0.0.0:*               LISTEN   31412/eucalyptus-cl
```

2. To check if Walrus,CLC and SC are listening on port 8773.

```
sudo netstat -tulpn |grep 8773
```

Output:

```
tcp       0      0 0.0.0.0:8773            0.0.0.0:*               LISTEN      31412/eucalyptus-cl
udp       0      0 228.7.7.3:8773          0.0.0.0:*                           31412/eucalyptus-cl
udp       0      0 192.168.41.203:8773     0.0.0.0:*                           31412/eucalyptus-cl
```

3. The CC is listening on port 8774

```
sudo netstat -tulpn|grep 8774
```

Output:

```
tcp       0      0 :::8774                 :::*                    LISTEN      3624/httpd
```

4. To check if the NC is listening to port 8775.

```
rocks run host vm-container "hostname; netstat -tulpn |grep 8775"
```

A similar output like the one below will be given by all the nodes.

Output:

```
vm-container-0-0.local
tcp       0      0 0.0.0.0:8775            0.0.0.0:*               LISTEN      6140/httpd
```

Registering Eucalyptus

Eucalyptus implements a secure protocol for registering separate components so that the overall system can't be tricked into including a component run by an unauthorized administrator or user. You only need to register components the first time Eucalyptus is started after it was installed.

Most registration commands run on the CLC server. NCs, however, are registered on each CC. You must register each NC on every CC for the cluster on which the NC participates.

Note that each registration command will attempt an SSH as root to the remote physical host where the registering component is assumed to be running. The registration command also contacts the component so it must be running at the time of the command is issued. If a password is required to allow SSH access, the command will prompt the user for it.

Except for NCs, each registration command requires four pieces of information:

- The **component** (--register-XYZ) you are registering, because this affects where the commands must be executed.
- The **partition** (--partition) the component will belong to. The partition is the same thing as availability zone in AWS.
- The **name** (--component) ascribed to the component. This is the name used to identify the component in a human-friendly way. This name is also used when reporting system state changes which require administrator attention. This name must be globally-unique with respect to other component registrations. To ensure this uniqueness, we recommend using a combination of the component type (CLC, SC, CC, etc) and system hostname or IP address when you choose your component names. For example: clc-eucahost15 or clc-192.168.0.15.
- The **IP address** (--host) of the service being registered. The host must be specified by IP address to function correctly.

NCs only have two pieces of information: component name and IP address.

NOTE: All registrations discussed below has to be done in frontend machine only.

REGISTERING WALRUS

```
/usr/sbin/euca_conf --register-walrus --partition walrus --host
192.168.41.203 --component zeus-walrus
```

REGISTER CLOUD CONTROLLER (CC)

```
/usr/sbin/euca_conf --register-cluster --partition zeus --host
192.168.41.203 --component zeus-cc
```

REGISTER THE STORAGE CONTROLLER (SC)

```
/usr/sbin/euca_conf --register-sc --partition zeus --host 192.168.41.203 --
component zeus-sc
```

REGISTERING THE NODE CONTROLLERS (NCs)

The private IP's may differ get the ips using (in frontend)

```
cat /etc/hosts
```

Output:

```
127.0.0.1       localhost.localdomain   localhost

10.1.255.254    network-0-0.local       network-0-0
10.1.255.253    vm-container-0-0.local  vm-container-0-0
```

```
10.1.255.251    vm-container-0-2.local  vm-container-0-2
10.1.255.252    vm-container-0-3.local  vm-container-0-3
10.1.255.250    vm-container-0-4.local  vm-container-0-4
10.1.255.249    vm-container-0-5.local  vm-container-0-5
10.1.1.1        zeus.local      zeus
192.168.41.203  zeus.nitc.ac.in
```

Now note all the IP of vm-containers and register.

```
/usr/sbin/euca_conf --register-nodes "10.1.255.253 10.1.255.252
10.1.255.251 10.1.255.250 10.1.255.249"
```