

CloudStack Setup

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This guide describes how to setup CloudStack on a CentOS 5.8 machine. The steps involved for the setup are mostly the same for other versions of CentOS or Ubuntu. Detailed instructions for alternative setup scenarios can be found on CloudStack's website: cloudstack.org

How to setup CloudStack v2.2.14:

1. You will need to create several VM's for the setup. Since CloudStack is really intended use somewhere that has an elaborate network, it is a little tricky to emulate this. At a very minimum, you will need 4 VM's :

The Management Server, the VM host, a nfs server and a desktop environment

CloudStack requires that nfs be used for transferring VM images. The desktop environment is needed, because CloudStack provided a web browser interface through which things can be managed.

2. Pay close attention to the system requirements. The management server will need 2GB of ram and at least an 80 GB hard drive. The nfs server needs to have a hard drive of 100GB. You also need to pay attention to which version of CloudStack you use. You have to use certain versions with the version of CentOS/RH that you are using. This information is available at cloudstack.org

2. We setup everything up in VirtualBox. We created the VM and selected "Bridged Adapter" for the network interface. The Bridged Adapter allows the machines to exist on the same network and also be able to go out to the internet. They will be automatically assigned IP's such as 192.168.1.11 and this saves the trouble of having to spend too much time configuring a more complex network setup.

3. The next step is to configure the Management Server. First off, you must check that it has a fully qualified domain name. This can be done with the following command:

```
hostname --fqdn
```

This command should return something like: "mgmt.cummings.net", if it doesn't, edit the /etc/hosts file so that it does.

4. Now you must SELinux to permissive, this allows CloudStack to be able to run properly.

5. Make sure the machine is able to reach the internet

6. CloudStack uses ntp to synchronize server in the network, so if you haven't done so, install, ntp on the machine with the command: `yum install ntp`

Then use the following commands:

```
service ntpd restart
```

```
chkconfig ntpd on
```

7. CloudStack utilizes NFS(Network File System) for either primary or secondary storage. It is necessary to have some type of functional NFS Server. A separate VM should be created that will function as the nfs server.

8. Now you have to get the file that you need to install. This can be obtained from the CloudStack

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website, you have to pick the version of CloudStack that you will use based on what Linux you are using. Once you have downloaded the tar.gz file, untar it with the command: `tar xzf filename`

9. Now there will be a new directory that is created that has the same name as the file, change to that directory and then run the installer with the command: `./install.sh`

The installer will run and all you need to do is select the option "Install the Management Server" when you are prompted to do so.

10. After you finish the installation, you need to install MySQL. This can be done easily by running the installer again, but this time selecting option "D", which is "Install Database Server". This will do everything automatically.

11. Next you need to add the following lines to the end of the file `/etc/my.cnf`

```
innodb_rollback_on_timeout=1
innodb_lock_wait_timeout=600
max_connections=350
log-bin=mysql-bin
binlog-format = 'ROW'
```

12. Now it is time to create the mysql database that CloudStack will use. Do this with the following command, but be sure to replace `<password>` with whatever password you are using.

```
cloud-setup-databases cloud:<dbpassword>@localhost --deploy-as=root:<password>
```

13. Finally start the management server with the following command:

```
cloud-setup-management
```

14. If you go now to a VM that has a desktop environment and a browser, you can access the CloudStack UI through the following link:

```
http://management-server-ip-address:8080/client
```

15. This completes the setup of the CloudStack Management Server. There is much more configuration that is needed to have a functional environment, and this is covered in great detail in user guides on CloudStack's website. These user guides do a good job of walking you through step by step.