

# [OpenStack Lab on VMware Workstation - Setting up the All-In-One VM](#)

✘ In our [first post](#), we got to the start of the OpenStack install using the Rackspace Private Cloud ISO (Alamo). Because we had to set up the VM, we stopped at our first menu option. Now we are going to set up the base system using the All-In-One option which co-locates all of the OpenStack node roles (controller and compute) in a single system.

## Understanding the OpenStack Framework

First we need to do some quick review of what exactly will be found in our OpenStack All-In-One VM. There are numerous components in the OpenStack framework including:

- Compute (Nova)
- Image Service (Glance)
- Dashboard (Horizon)
- Identity (Keystone)
- Block Storage (Cinder)

Object Storage (Swift) is one of the components that's not packaged with the All-In-One deployment, but you can install it after the fact if you desire.

Here is a logical layout of the design (image care of OpenStack.org):



So what exactly are these components is your next question right?

### Compute (Nova)

Nova is the compute node system of OpenStack which provisions virtual servers. It was built by NASA. No, seriously, it was built by NASA. This is some true space age computing!

### Image Service (Glance)

The role of Glance is to store a catalog of virtual images. The images will be deployed into compute nodes and will be key for any real dynamic environments. For lab purposes, we won't be using this as much but we need to fully understand its operational requirements and behavior.

### Dashboard (Horizon)

This is your web application which will be how you perform most activities in the OpenStack cloud. This is how you launch a new instance, manage ACLs and network addresses.

### Identity (Keystone)

The identity management of OpenStack is inside Keystone. This is your authentication and authorization system for your cloud. This is also a service catalog for your OpenStack cloud.

## Block Storage (Cinder)

Newly minted for the Folsom release of OpenStack, the Cinder block storage system houses your VMs. Just like your traditional VMware storage environment, this is block, not NFS or CIFS.

## Let's Get Started

We begin where we left off, which is at the first menu during the OpenStack installation process. We are choosing the **All-In-One** deployment option:



We give our VM a static IP address from the VMware Workstation NAT range so it can communicate with the outside world:



Provide the gateway address next. Note that it will default to x.x.x.1 so you have to make sure it is the NAT gateway for your virtual network which should be x.x.x.2



We need DNS to be able to resolve addresses. I've chosen to use 8.8.8.8 which is the Google public DNS:



I always love a little humor during an install. The "you can make something up here" always makes me smile. I've used **openstack01** as the hostname for my instance:



This can be whatever is appropriate for your system, but I've opted for my own domain which is corp.discoposse.com:



The Nova range (private internal range) is already selected, so I've accepted the default:



Enter a password for your **admin** user (I've used **openstack** to make it easy to remember:



Re-enter your password:



Next we create the OpenStack user account (consumer of our services). I've opted to keep the default which is **demo**:



Again, we need to select a password. I've also used **openstack** to make it easy to remember:



Re-enter the password:



We provide a full name to a non-admin user account. I've used my name:



Next we set the username for the non-admin account:



Set your password:



Re-enter your password:



Now the installation will begin. This takes a little while, but you will be able to monitor the progress on the console:



Once the base installation is done, the system needs to contact the public mirror for Ubuntu to be able to download additional libraries and applications:



The subfolder will be defaulted to /Ubuntu and you can leave this as-is and continue:



If you have an HTTP proxy between your VMware Workstation and the internet, enter the information here. I'm directly connected so I have just left this blank:



Next the additional components are downloaded:



You will notice the installer screen changes and the actual Rackspace OpenStack environment begins to install and configure itself:



A little bit of waiting (depending on speed of your system) and you will see the final screen with the current configuration on the console of your VM:



Browse to the IP address using `https://youripaddress` as shown in the configuration screen. You are presented with the login screen where you will use the **admin** user and your password to log in:



Now you see the Rackspace OpenStack console for your new VM deployment:



Yay!!!



Congratulations! You are now at the next step in our journey into discovering OpenStack. More posts to come!