# Pre-requisites

* Setup a keypair within the nectar web dashboard. This allows you to communicate with the Master Administration VM from your local computer through SSH.
* Note your OpenStack password
* Download the OpenStack RC file for the BPA project

## Keypair Setup

This is needed as the initial VM is not configured to allow SSH access using passwords. You also need to have the relevant tools on your local machine to make use of the keys. I’ll describe how this is done on Windows. That’s because CSIRO machines are generally windows and the machines at a workshop are most likely windows too.

1. Firstly, download putty, pageant and puttygen from: <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>
2. Create an SSH key via the cloud dashboard. Once logged in, this link should take you to the relevant page: <https://dashboard.rc.nectar.org.au/nova/access_and_security/>
   1. Click “create keypair” button and give it a name like “NeCTAR-Cloud”
   2. Save the nectar-cloud.pem keypair file to your local windows machine. Keep this safe! This file is in a LINUX format so we need to convert it into a format the putty and pageant can use.
3. Open PuttyGen and import the nectar-cloud.pem file by clicking the Conversions > Import key
   1. Back in the PuttyGen window, change the key comment to something more useful like “NeCTAR Cloud Key” and choose a strong passphrase for the key. You’ll need to enter this when you load the key into pageant. Click, “save private key” to save the key as “nectar-cloud.ppk” in putty format (ppk).
4. Load pageant and open it from the system tray (double click)
   1. Click “add key” and choose the ppk private key you saved in step 3a and enter the passphrase you entered in step 3a.
   2. You key is loaded into pageant and you will be able to use putty to ssh into a VM instantiated on the cloud with the “NeCTAR Cloud Key” (see later).

## OpenStack Password

You need this to allow you to communicate with the OpenStack APIs (software running on the cloud) from the Master Administration VM. Once you create this password, you can’t access/read it again you’d have to create a new password. So make a note of it and take it with you to the workshop.

1. Via the cloud dashboard, go to settings > Reset Password. Alternatively, once logged in, goto: <https://dashboard.rc.nectar.org.au/settings/password/>
2. Note the password

## Download the OpenStack RC File

1. Via the cloud dashboard, go to settings > OpenStack API. Alternatively, once logged in, goto: <https://dashboard.rc.nectar.org.au/settings/project/>
2. Under “Download OpenStack RC File, choose the BPA project (once you’ve been added as a manager) and click the “download RC file button”. Save it as Bioplatforms-Au-NGS-trainging-course\_openrc
   1. This file will need to be copied to the Master Administration VM once it’s up and running.

# Instantiating Your Master Administration VM

1. Goto the following page once logged in: <https://dashboard.rc.nectar.org.au/nova/>
2. Select the BPA project in the left nav bar
3. Choose, Images & snapshots in the left nav bar
4. Find the image “NeCTAR Ubuntu 12.04.1 (Precise) amd64 UEC” and click launch
5. Give the instance name: NeCTAR API
6. Under the “Access & security” tab select the key “NeCTAR Cloud Key” you set up and tick the SSH security groups. The latter allows SSH access on port 22. Without this, you won’t be able to connect to the VM at all.
7. Click launch and give it 5-10 mins to come online and configure itself.
8. Note it’s IP address for use in putty.

# Configure Your Master Administration VM

1. Open putty, enter the IP address for your Master Administration VM
2. Enter the user “ubuntu”
3. Putty should automatically use the key you loaded into pageant and specified when you instantiated the VM
4. Install the tools required on the VM by running the following commands:

sudo apt-get -y install git python-setuptools pssh

cd; git clone git://github.com/openstack-dev/pbr.git

cd pbr; sudo python setup.py install

cd; git clone git://github.com/iguananaut/d2to1.git

cd d2to1; sudo python setup.py install

cd; git clone <https://github.com/openstack/python-novaclient.git> novaclient

cd novaclient; sudo python setup.py install

cd; git clone <https://github.com/openstack/python-swiftclient.git> swiftclient

cd swiftclient; sudo python setup.py install

cd; git clone <https://github.com/openstack/python-keystoneclient.git> keystoneclient

cd keystoneclient; sudo python setup.py install

1. Copy the OpenStack RC File (Bioplatforms-Au-NGS-trainging-course\_openrc) you downloaded before to ~/
   1. Or just copy and paste its contents
   2. When you are ready to use the APIs, you’ll need to source this file and then enter the OpenStack Password you noted previously

# Other Stuff

I’ll leave instantiating VMs via the command line for another day! But this will get you setup