Quick Guide – Launching an EC2 instance

Objective

This guide has been written to help you understand how to launch an EC2 instance via the AWS console.

Background

EC2 instances are virtual machines. In order to launch an EC2 instance, you must have a valid IAM user account that you can use to log into the AWS Console. It is also advisable to have prepared an EC2 Key Pair in advance.

Note. If you are unsure how to create an EC2 keypair, see the guide **Generating and EC2 key pair** for detailed steps.

Further reading

Should you require any further information, please refer to the following resource:

http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/launching-instance.html

Note: If you find that some of the screen shots or steps are out of date, **please report them to your trainer.**

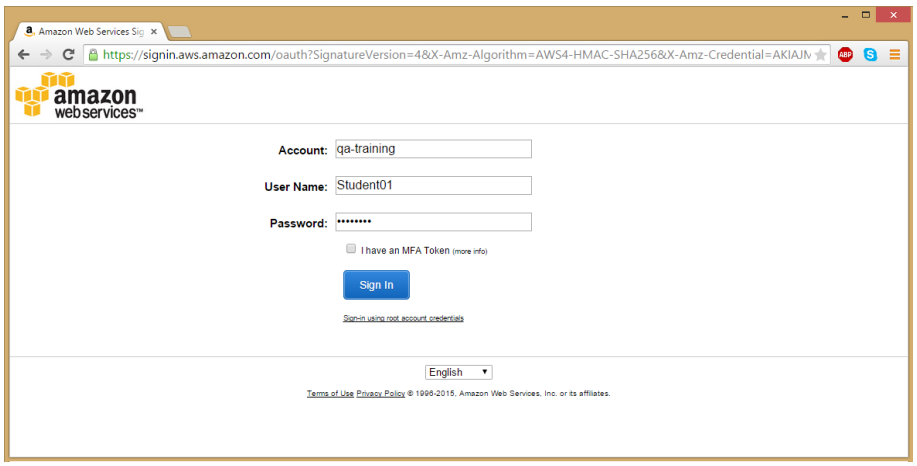
Stage 1 : Log into the AWS Console

1 Navigate to the AWS Console using the following URL:

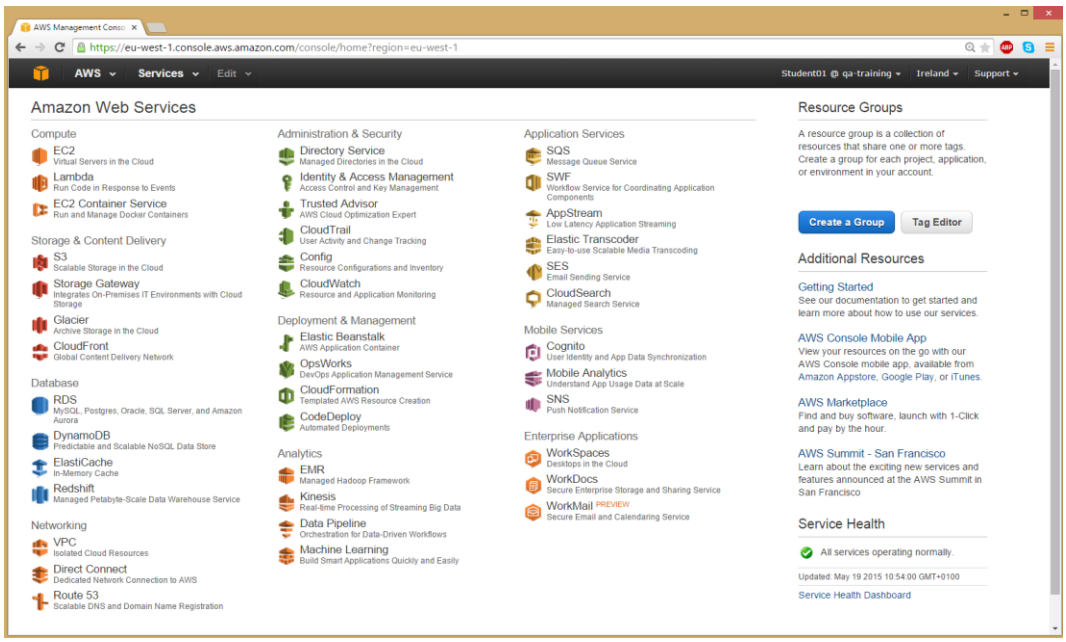
https://qa-training.signin.aws.amazon.com/console

Log in with the following credentials:

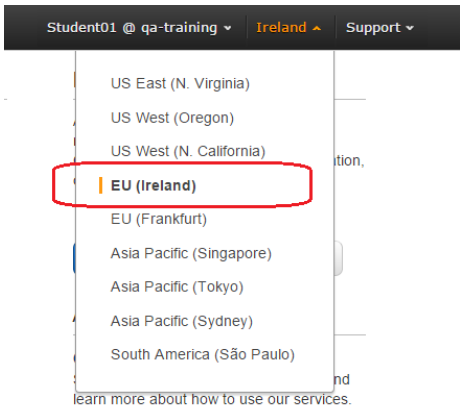
User Name	**StudentXX** (where XX is your student number)
Password	**Pa$$w0rd**



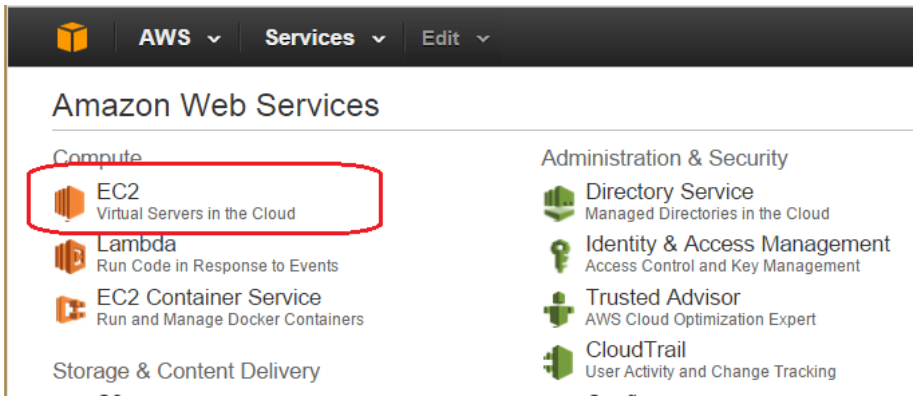
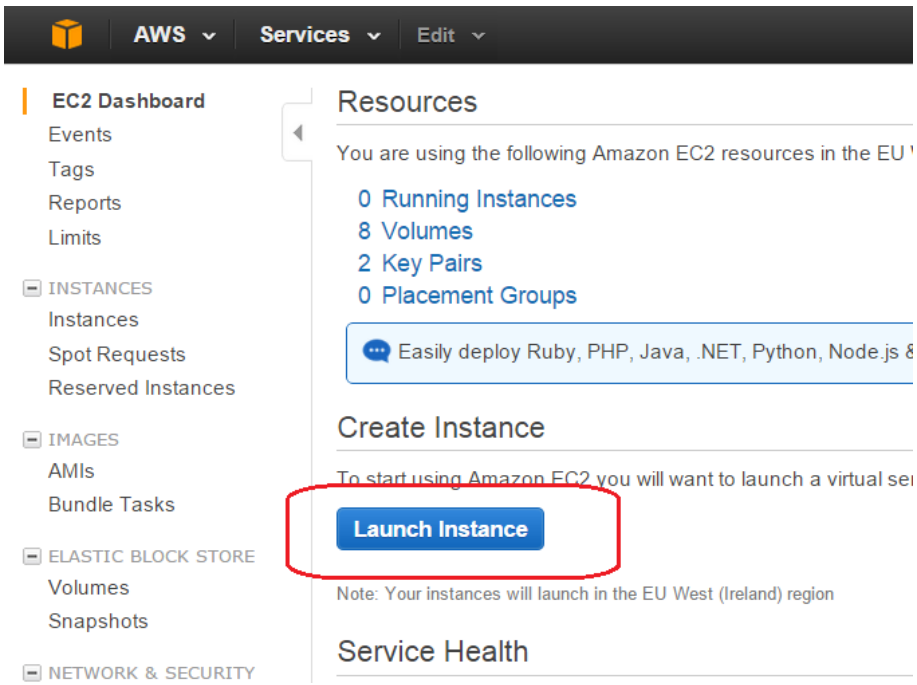
2	You will now see the AWS Console.

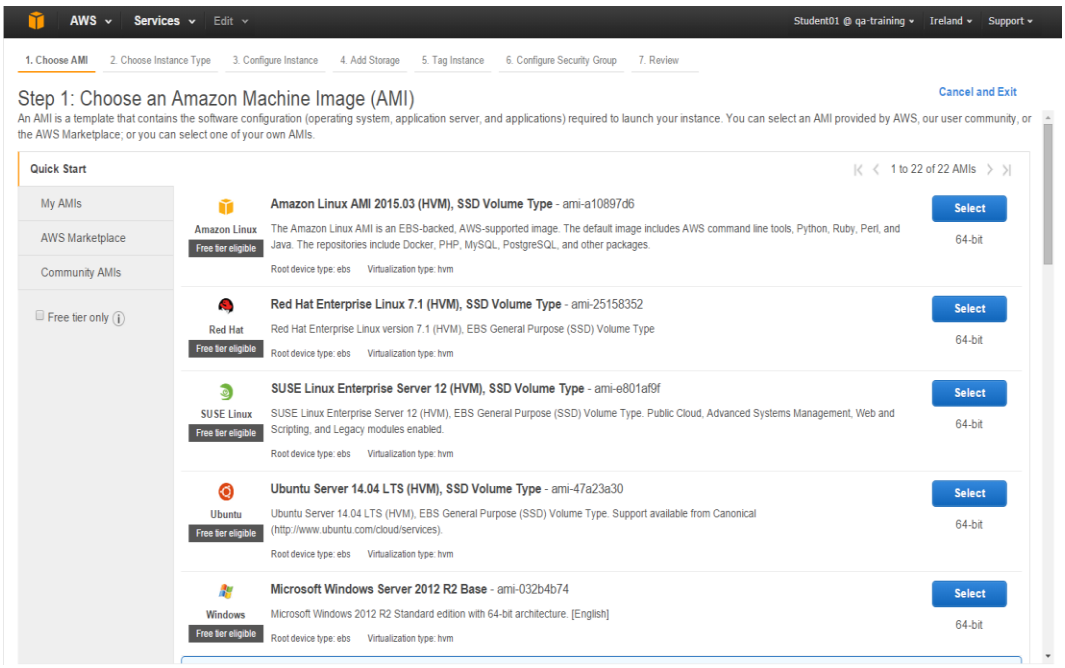
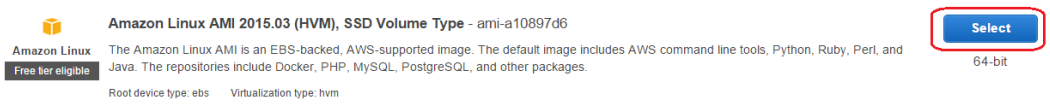


Stage 2 – Choose your region

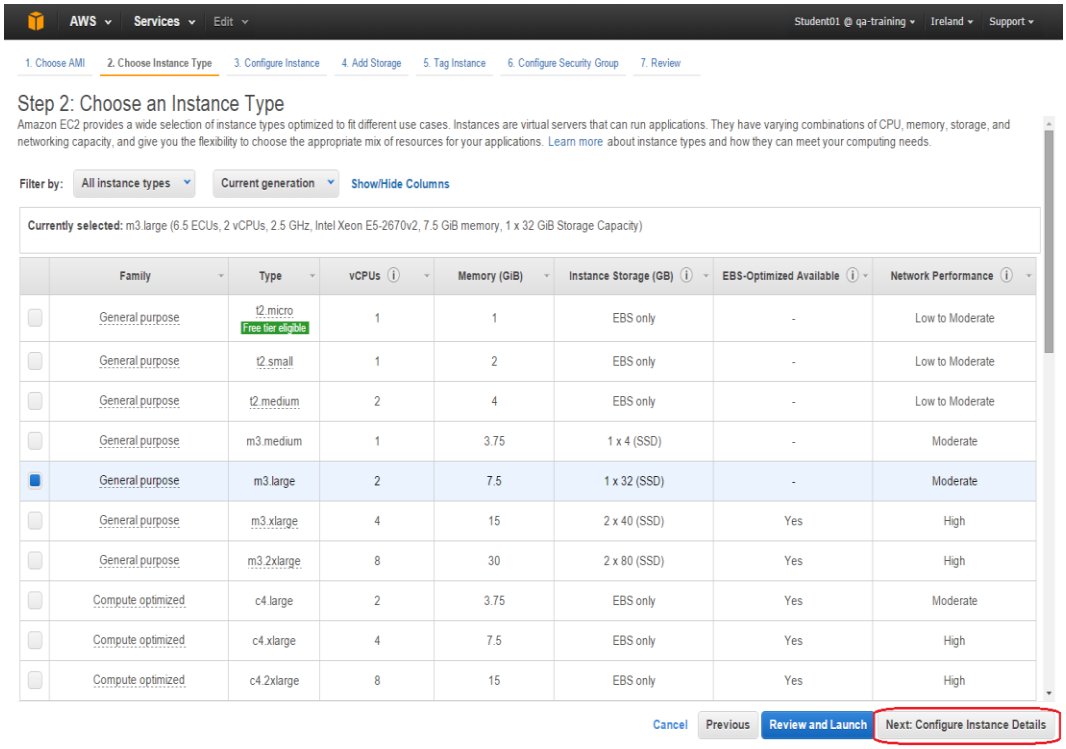
3	When you launch EC2 instances, they are situated in regions which are situated around the world. Your choice of region might depend its proximity to your location. It might be a matter of compliance. i.e. your assets must be deployed in the Eurpoean Union. For more information regarding AWS Regions, please read the following: http://aws.amazon.com/about-aws/global-infrastructure/
4	Select your preferred region from the **Region** list in the top right hand corner of the screen. 

Stage 3 – Launch an EC2 instance

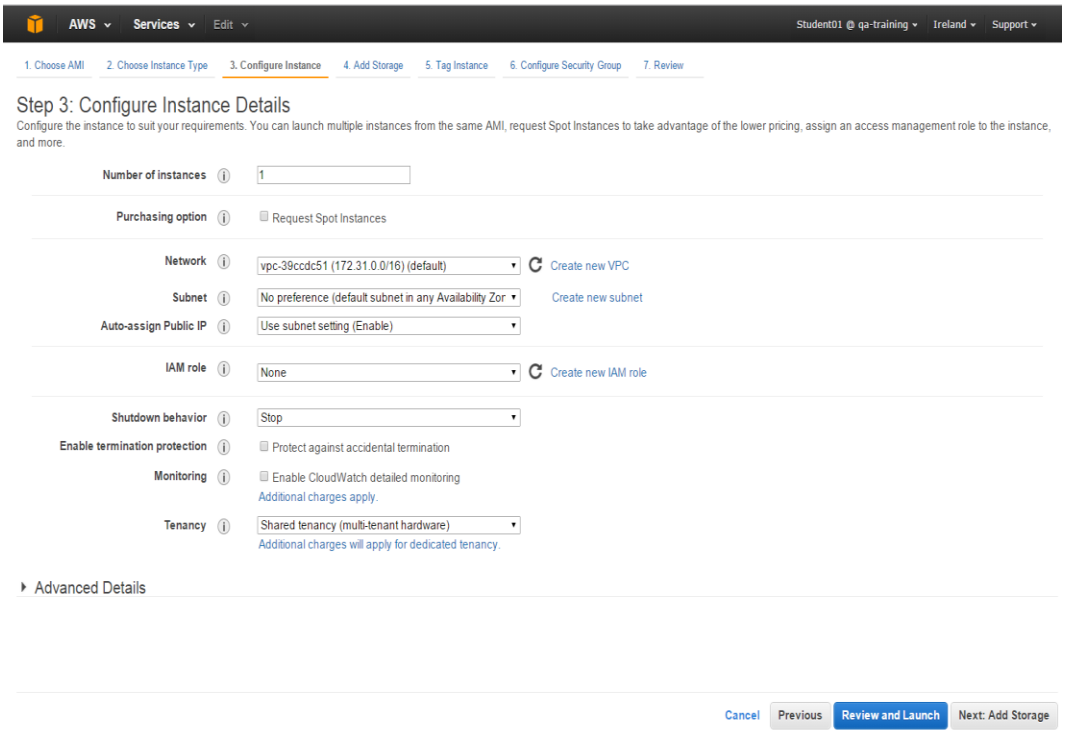
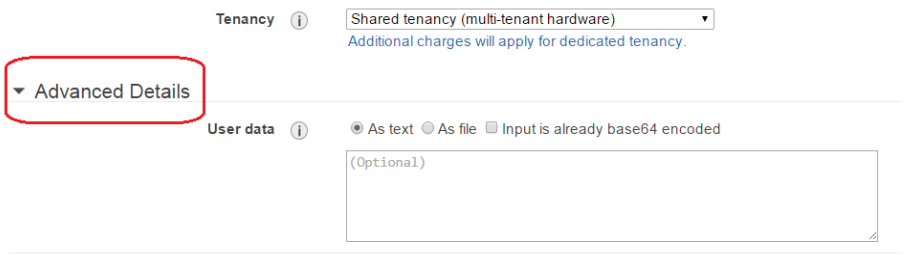
5	Click on the EC2 link in the top left hand corner of the screen. 
6	In the EC2 Dashboard, click the **Launch** Instance button. 

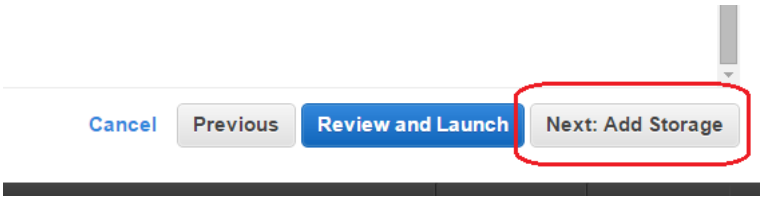
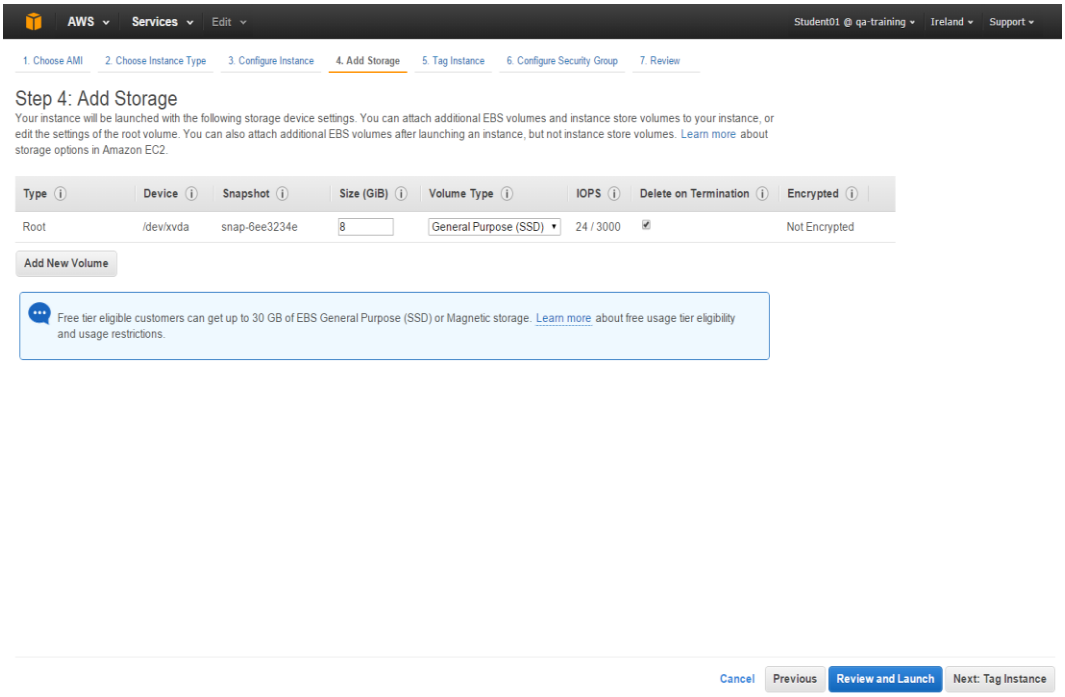
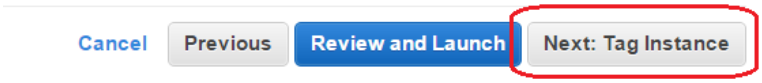
7	You will now be presented with a list of Amazon Machine Images – AMIs.  These are a series of prebuilt images, with the operating system already installed.
8	Click the **Select** button alongside the desired AMI. In this example we have chosen the **Amazon Linux AMI**. 

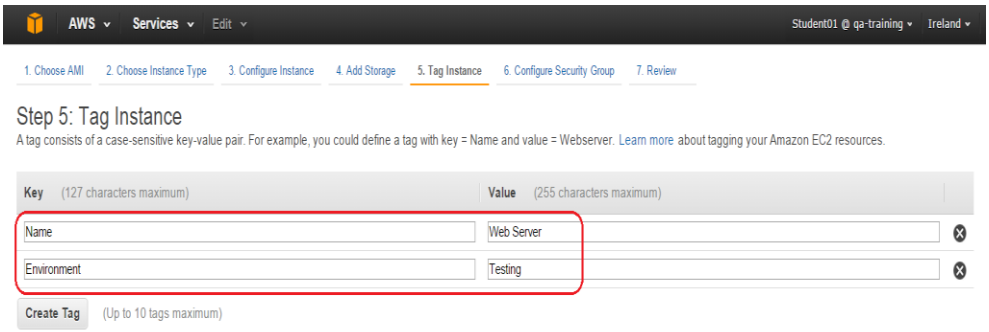
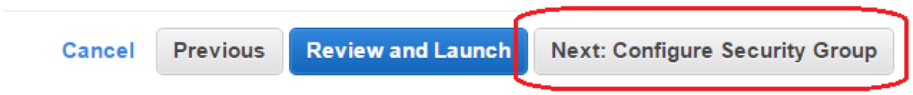
9 The next step is to choose the **Instance Type**. This dictates the resources available to the instance. Such as the number of virtual cores (vCPUs) and Memory.

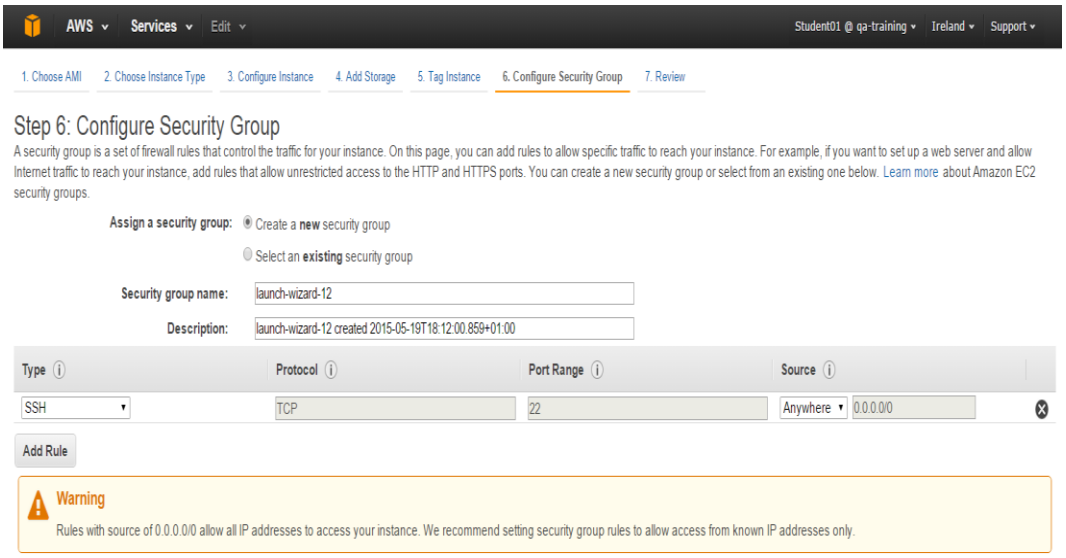
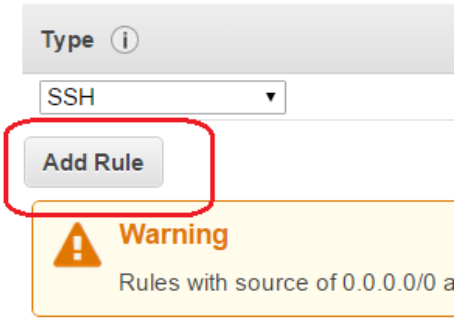


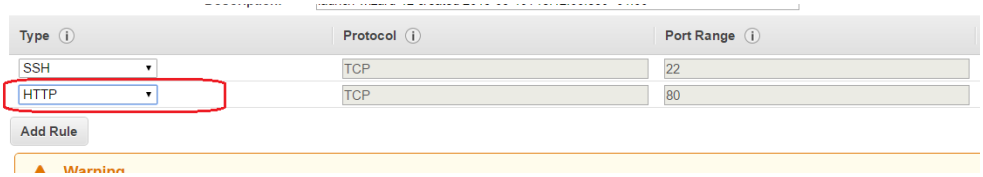
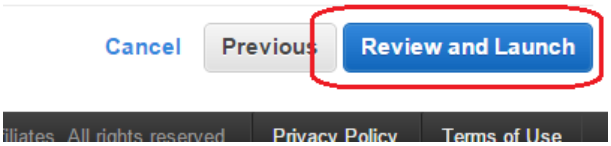
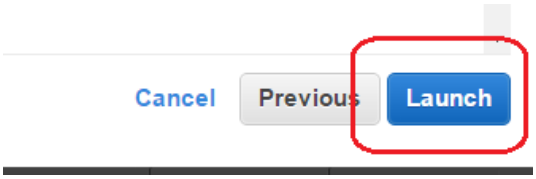
Note. Once you have selected your desired Instance Type (e.g. m3.large), you should click the **Next: Configure Instance Details** button to proceed.

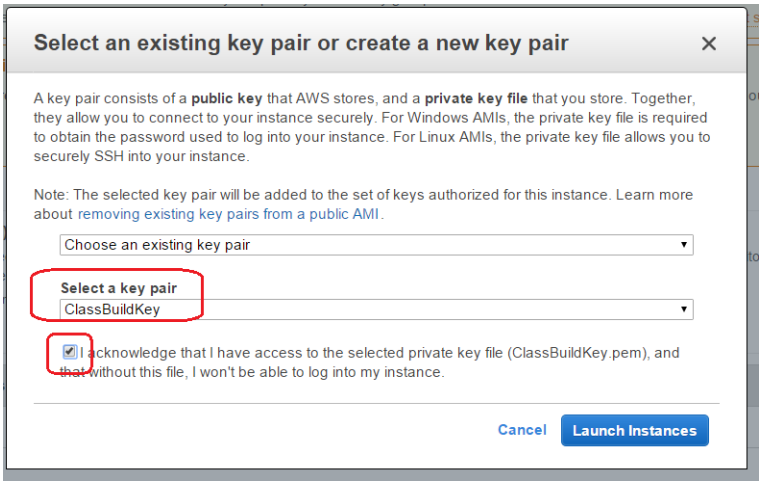
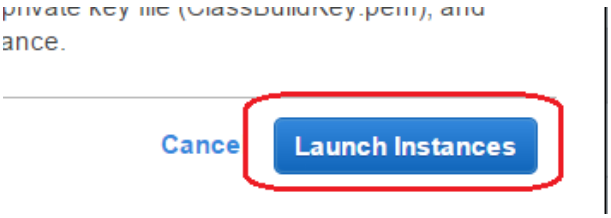
10	This next screen (**Configure Instance Details**) contains several options. They include the network (VPC, and Subnet) that you want to launch your instance(s) into. 
11	Perhaps the most interesting option on this screen is hidden away at the bottom. Expand the **Advanced Details** link at the bottom of the screen.  As you can see, it reveals a field for **User data**. The User data field permits you to pass a script to the launching instance that will be executed as it boots up. This script could be a bash script (for Linux) or Powershell (for Windows). Passing scripts to launching instances in this way is known as **Bootstrapping**.

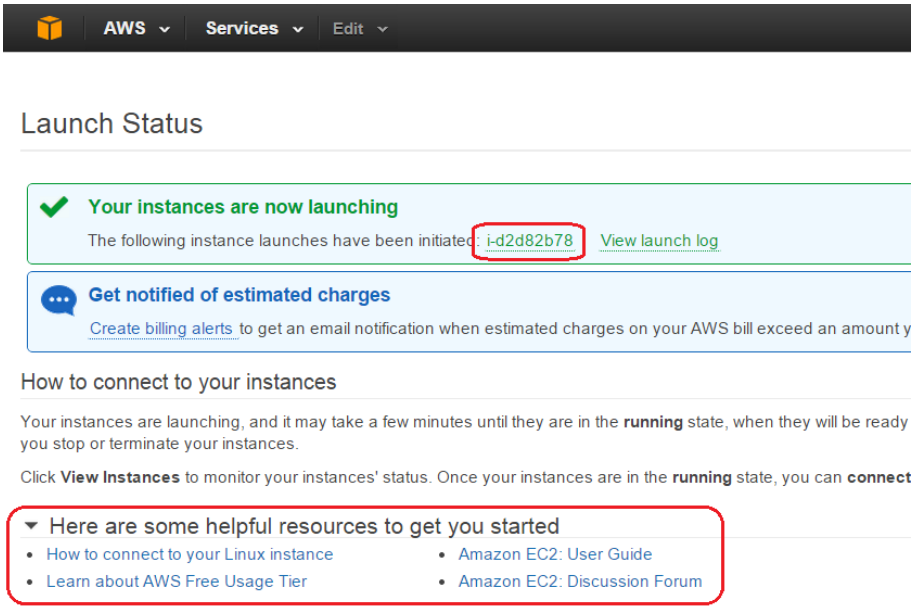
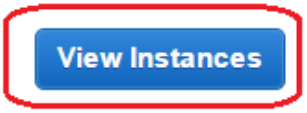
12	Once you have finished on the **Configure Instance Details** screen, you should click the **Next: Add Storage** button to proceed. 
13	The **Add Storage** screen allows you to change the size of your instance's boot partition and add additional volumes. A single boot partition is sufficient for most server roles. 
14	Once you have finished on the **Add Storage** screen, you should click the **Next: Tag Instance** button to proceed. 

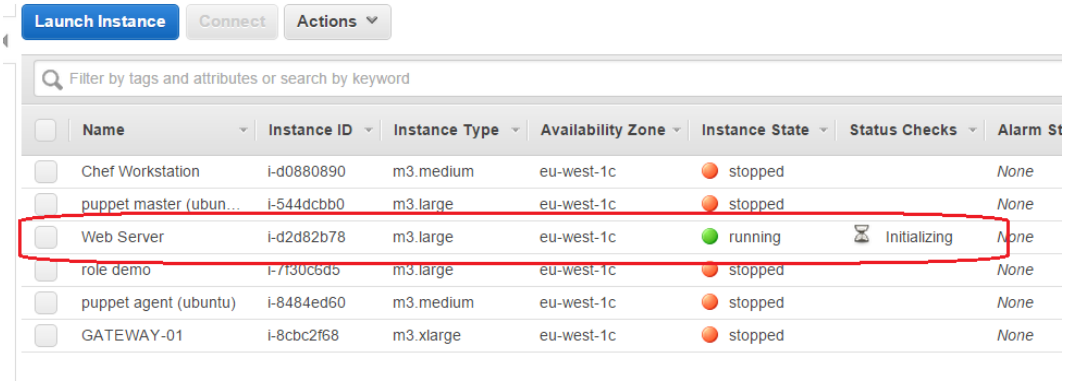
15	On the **Tag Instance** screen, you can define up to 10 tags for your instance. Tags are very useful for identifying your instance if you have several instances running. Be default you are offered a tag of Name. Tags such as **Environment** or **Cost Centre** could be useful to manage costs or perhaps identify those instances that can be terminated at the end of the week, e.g. **Environment = R&D**  Note. Although the **Name** tag is offered, you are free to define any tags that you like.
16	Once you have finished on the **Tag Instance** screen, you should click the **Next: Configure Security Group** button to proceed. 

17	The **Configure Security Group** screen requires some careful thought. A security group is a set of firewall rules for your instance(s). By default, you are offered a security group with a single rule permitting **SSH** traffic via port **22**. This is ideal for connecting to your remote instance for maintenance.  If you need to allow traffic via any other ports e.g. ports **80** and **443** for web traffic, you should add more rules.
18	To add more rules, you should click the **Add Rule** button. 

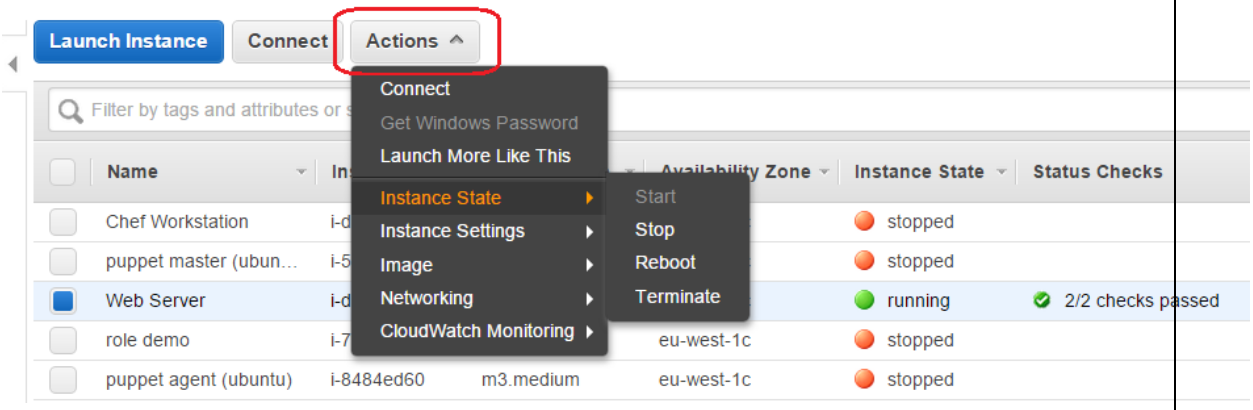
19	You can then select the desired rule type e.g. HTTP, HTTPS etc. 
20	Once you have finished on the **Configure Security Group** screen, you should click the **Review and Launch** button to proceed. 
21	The **Review and Launch** screen is simply a screen where you can review your options. If you are happy to proceed, simply click the **Launch** button 

22	The final step is to select a Key Pair to associate with your launching instance then acknowledge your understanding that if you lose your key, you will not be able to log into your instance.  Note. It is possible to create a key pair 'on the fly' at this point but that would suggest that you were 'winging it'. If you are unsure how to create an EC2 keypair, see the guide **Generating and EC2 key pair** for detailed steps.
23	Finally, click the **Launch Instances** button to proceed. 

24	You will be presented with the **Launch Status** screen which will provide you with the ID of your launching instance as well as some useful links. 
25	To view your launching instance(s), click on the **View Instances** button. 

26	Locate your launching instance in the **Instances** screen.  **Note**. Your instance will have a status of Initialising for a couple of minutes while it boots up. (Windows instances take longer than Linux)
27	Eventually, the status of your instance should change to 2/2 checks passed. 
28	Congratulations, you have successfully launched an EC2 instance.

One more thing

29	When you have finished with your instance, you can either **Stop** or **Terminate** it. If you **Stop** an instance, you can Start it again another time with no loss of data. If you **Terminate** it, you lose all of the data on the boot partition. If you need another instance, you would need to launch a replacement. 

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