

Quick Guide – Use Putty to connect to EC2 instance over SSH

Objective

This guide has been written to help you understand how to use Putty to connect to an EC2 instance over SSH.

Background

In order to connect to an EC2 instance over SSH, it is necessary to use a tool such as Putty.

Before you begin, you must make sure that:

- the instance is running
- the security group (firewall) permits inbound traffic through port 22
- you have a copy of the EC2 key pair

Further reading

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

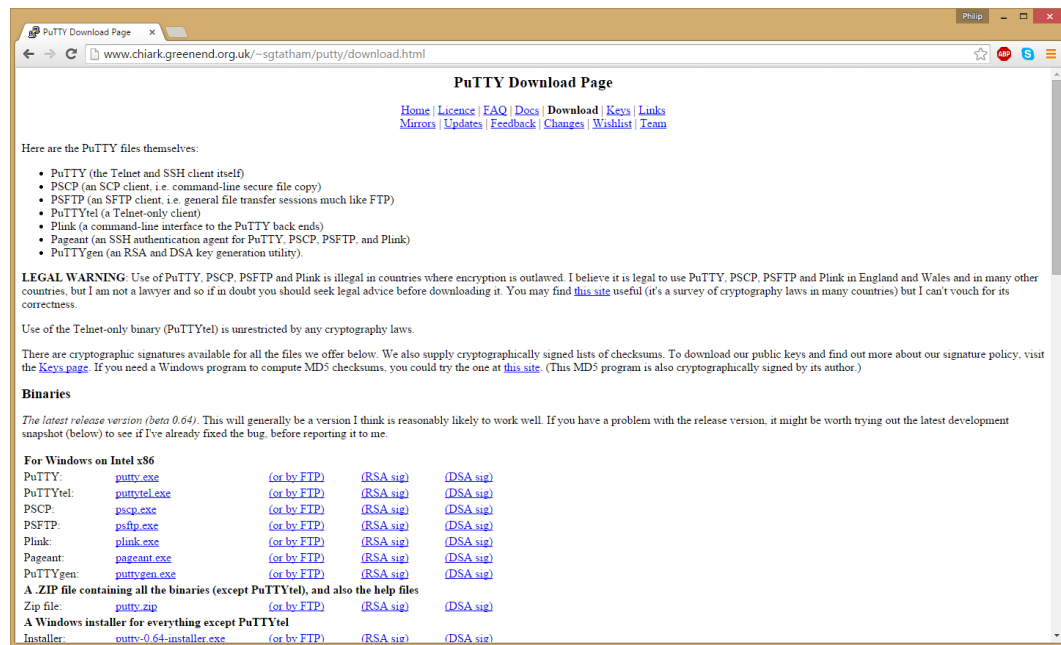
<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/putty.html>

Note: If you find that some of the screen shots or steps are out of date, **please report them to your trainer.**

Stage 1 : Download Putty

- 1 If you do not already have a copy of Putty, you can download it from the following url:

<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>



- 2 Locate the most appropriate the **putty.exe** binary for your client machine and download a copy to a convenient location.

Binaries

The latest release version (beta 0.64). This will generally be a version I think is reasonably likely to work. Please check the snapshot (below) to see if I've already fixed the bug, before reporting it to me.

For Windows on Intel x86

| | | | | |
|-----------|------------------------------|-------------|-----------|-----------|
| PuTTY: | putty.exe | (or by FTP) | (RSA sig) | (DSA sig) |
| PuTTYtel: | puttytel.exe | (or by FTP) | (RSA sig) | (DSA sig) |
| PSCP: | pscp.exe | (or by FTP) | (RSA sig) | (DSA sig) |
| PSFTP: | psftp.exe | (or by FTP) | (RSA sig) | (DSA sig) |
| Plink: | plink.exe | (or by FTP) | (RSA sig) | (DSA sig) |
| Pageant: | pageant.exe | (or by FTP) | (RSA sig) | (DSA sig) |
| PuTTYgen: | puttygen.exe | (or by FTP) | (RSA sig) | (DSA sig) |

A .ZIP file containing all the binaries (except PuTTYtel), and also the help files

| | | | | |
|-----------|---------------------------|-------------|-----------|-----------|
| Zip file: | putty.zip | (or by FTP) | (RSA sig) | (DSA sig) |
|-----------|---------------------------|-------------|-----------|-----------|

A Windows installer for everything except PuTTYtel

| | | | | |
|------------|--|-------------|-----------|-----------|
| Installer: | putty-0.64-installer.exe | (or by FTP) | (RSA sig) | (DSA sig) |
|------------|--|-------------|-----------|-----------|

Checksums for all the above files

| | | | | |
|--------|---|-------------|-----------|-----------|
| MD5: | md5sums | (or by FTP) | (RSA sig) | (DSA sig) |
| SHA-1: | sha1sums | (or by FTP) | (RSA sig) | (DSA sig) |
| | the.earth.li/~sgtatham/putty/latest/x86/putty.exe | (or by FTP) | (RSA sig) | (DSA sig) |

Stage 2 – Download Puttygen

- 3 Although you will use Putty to connect to your EC2 instances, you will also need to download Puttygen.
- Puttygen is needed to convert any EC2 key pair **pem** file you may have into a **ppk** file which Putty requires.

- 4 Locate the **puttygen.exe** binary and download a copy to a convenient location.

Binaries

The latest release version (beta 0.64). This will generally be a version I think is reasonably likely to work snapshot (below) to see if I've already fixed the bug, before reporting it to me.

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| Plink: | plink.exe | (or by FTP) | (RSA sig) | (DSA sig) |
| Pageant: | pageant.exe | (or by FTP) | (RSA sig) | (DSA sig) |
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| | | | | |
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|-----------|---------------------------|-------------|-----------|-----------|

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|------------|--|-------------|-----------|-----------|

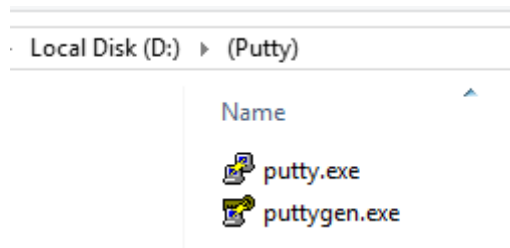
Checksums for all the above files

| | | | | |
|----------|----------------------------|-------------|-----------|-----------|
| MD5: | md5sums | (or by FTP) | (RSA sig) | (DSA sig) |
| SHA-1: | sha1sums | (or by FTP) | (RSA sig) | (DSA sig) |
| SHA-256: | sha256sums | (or by FTP) | (RSA sig) | (DSA sig) |
| SHA-512: | sha512sums | (or by FTP) | (RSA sig) | (DSA sig) |

The latest development snapshot. This will be built every day, automatically, from the current development snapshot. You will be able to find a fixed PuTTY here well before the fix makes it into the release version above. On the other

[the.earth.li/~sgtatham/putty/latest/x86/puttygen.exe](#) ... not date, so it will change every day

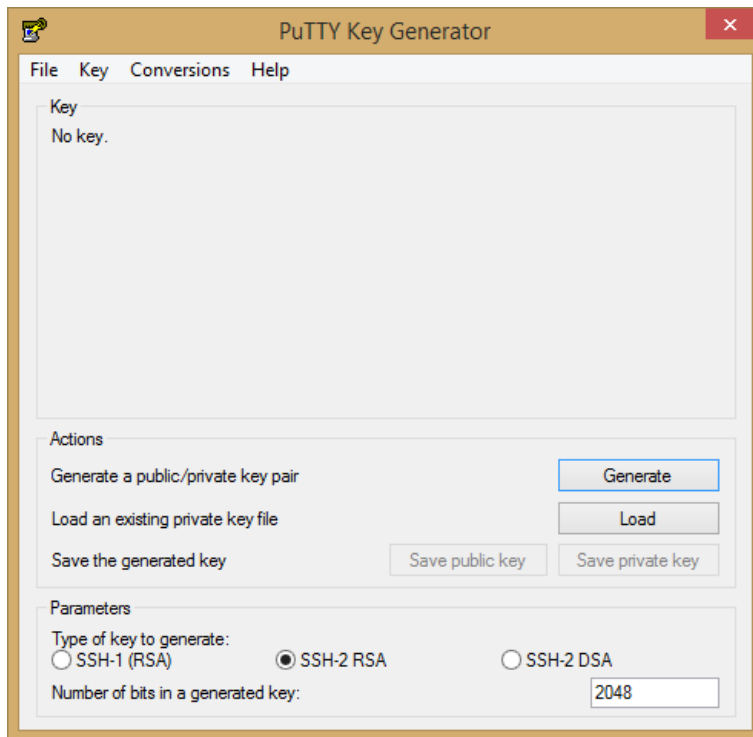
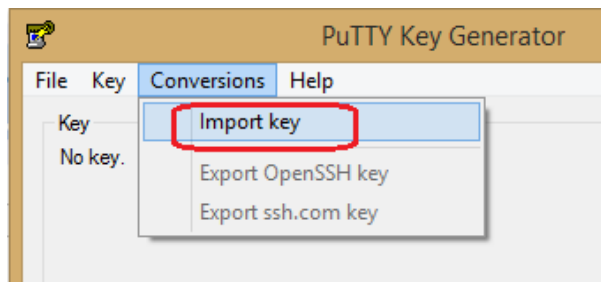
- 5 You should now have both the binaries downloaded to a convenient location.



Stage 3 – Convert EC2 key file from pem to ppk

- 6 When you launched your EC2 instance, you will have assigned it an EC2 key pair.
If you cannot recall the name of the EC2 key pair that you used, you can always retrieve it by viewing the instance's metadata in the **AWS Console**.

| | |
|---------------|-------------------------------|
| Platform | - |
| IAM role | BootstrapRole |
| Key pair name | PuppetKey |

7 Launch **puttygen.exe**.8 Select **Import key** from the **Conversions** menu.9 Locate the EC2 key pair **pem** file that relates to the EC2 instance that you wish to connect to and then click the **Open** button.

This PC > Local Disk (D:) > AWS > (_Key Pairs)

older

| Name | Date modified | Type | Size |
|-------------------------|------------------|----------|------|
| ClassBuildKey.pem | 17/08/2013 15:03 | PEM File | 2 KB |
| ClassBuildKey.ppk | 13/01/2015 23:15 | PPK File | 2 KB |
| DevKeyPair.pem | 12/02/2014 00:44 | PEM File | 2 KB |
| NCalifornia_keypair.pem | 19/02/2015 17:54 | PEM File | 2 KB |
| NCKeypair.pem | 19/02/2015 18:39 | PEM File | 2 KB |
| PGS-US-EAST.pem | 24/07/2014 14:07 | PEM File | 2 KB |
| philKeyPair.pem | 12/03/2015 12:12 | PEM File | 2 KB |
| PuppetKey.pem | 13/01/2015 19:58 | PEM File | 2 KB |
| QAKeyPair.pem | 01/04/2015 12:19 | PEM File | 2 KB |

10 You will now see the contents of your half of the EC2 key pair.

PuTTY Key Generator

File Key Conversions Help

Key

Public key for pasting into OpenSSH authorized_keys file:

```
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQCbPybnIPNYRDo7sLT +OPEMAF4RvT3sDdRgpncl4qwCr37RarVoUr61wbarTwM9HK5GuNPH1J/XPr9Nyp S607x6gghSCu+ltroYRJLxGLNGkaSq3IDzttHgpqgZf+1xr1nqBqotK +7rFcvgySMOpWV5fA +FK2mqhskQGLDdwDCjksxMG2JXAVwfnLmWJ2OWt5Nr5Q/XzmaGguA9p0MLTFOja
```

Key fingerprint: ssh-rsa 2048 8f:b3:d0:9d:be:47:83:5f:eb:82:54:ae:e8:a7:56:40

Key comment: imported-openssh-key

Key passphrase:

Confirm passphrase:

Actions

Generate a public/private key pair Generate

Load an existing private key file Load

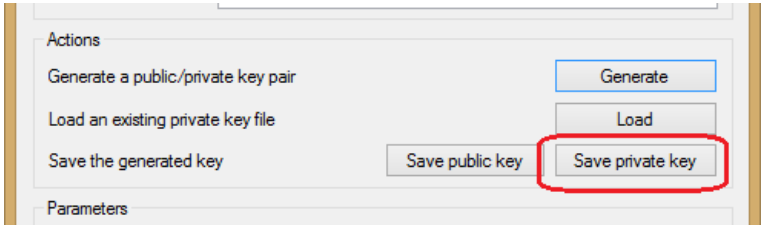
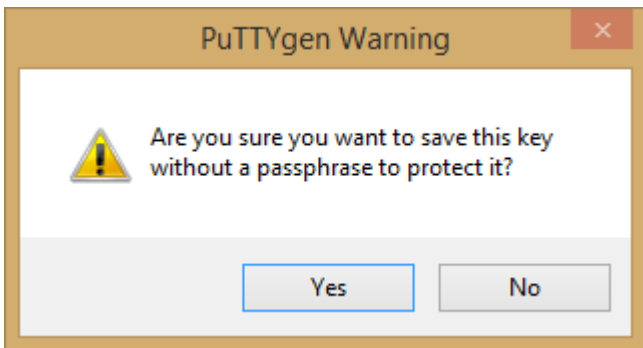
Save the generated key Save public key Save private key

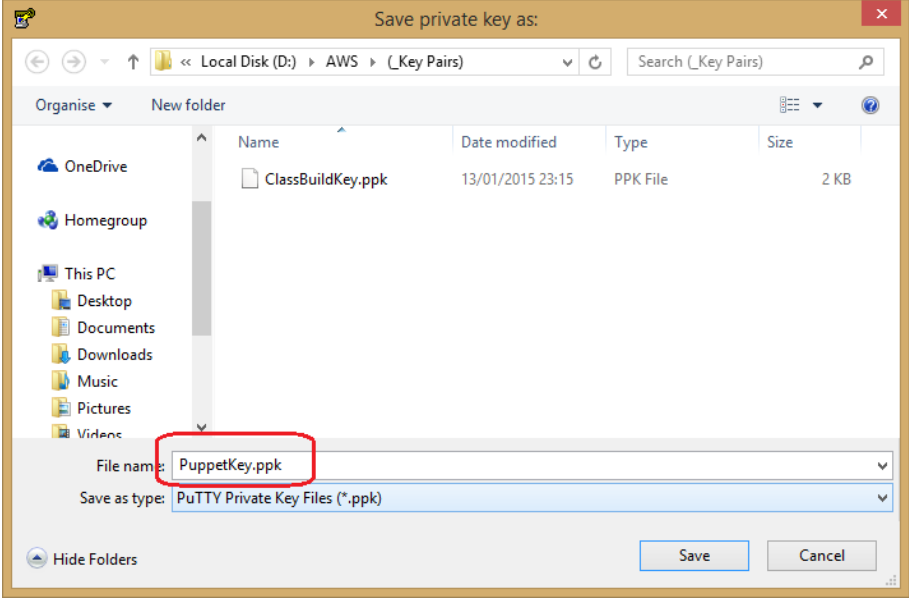
Parameters

Type of key to generate:
☐ SSH-1 (RSA) ☒ SSH-2 RSA ☐ SSH-2 DSA

Number of bits in a generated key:

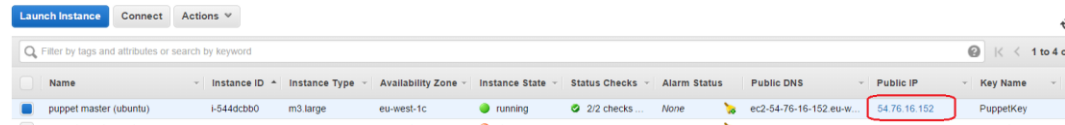
11 Click on the **Save private key** button.

| | |
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| |  |
| 12 | <p>You will be warned about generating a private key file without a passphrase. Go ahead and click the Yes button.</p>  |
| 13 | <p>In the Save private key as dialog, supply a name for your key file. Ideally, you should use the same filename as you used for the source pem file. Click the Save button.</p> |

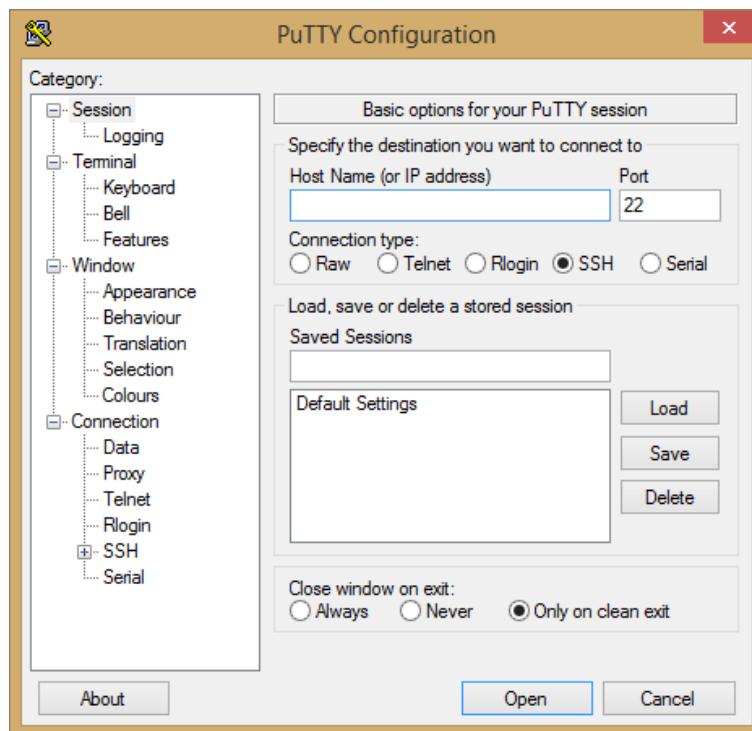
| | |
|----|---|
| |  |
| 14 | <p>Now that you have generated a ppk file from your EC2 key pair pem file, you are ready to connect to an EC2 instance.</p> <p>Note. There is no need to generate a new ppk file each time you want to connect to an EC2 instance. Once you have a ppk file to match the appropriate pem file, you can simply continue to use it.</p> |

Stage 4 – Connect to an EC2 instance using Putty

- 15 Locate the public IP of your running EC2 instance and make a note of it.

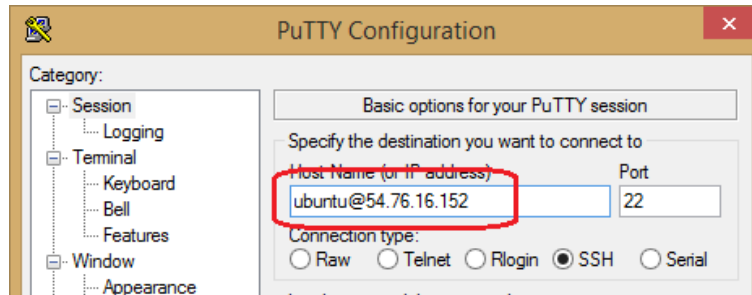


- 16 Launch **putty.exe**.



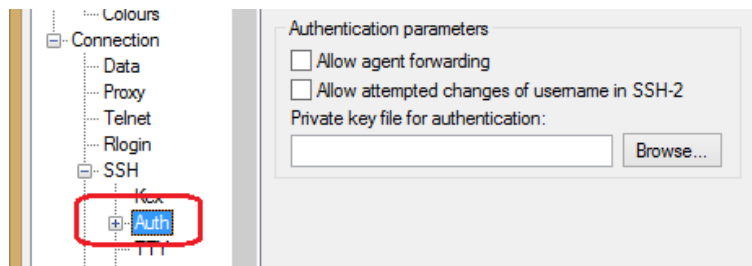
- 17 Enter the EC2 instance's public IP address prefixed with the appropriate username using the format:

<username>@<public-IP>

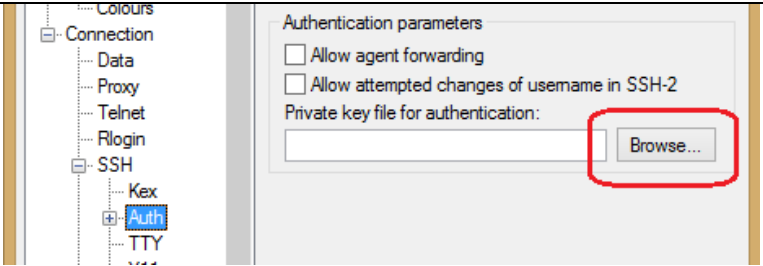
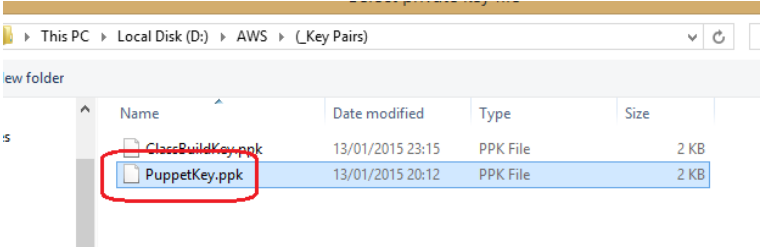


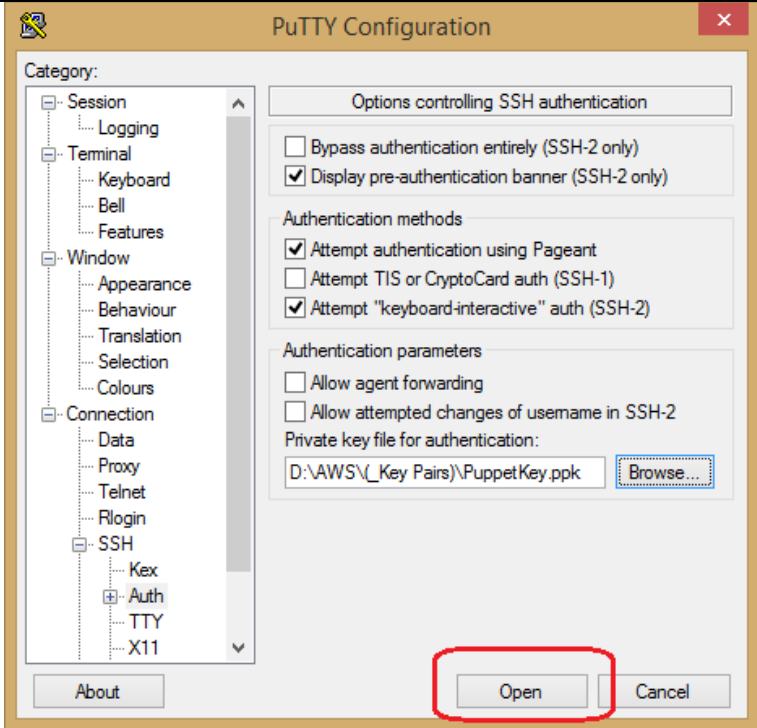
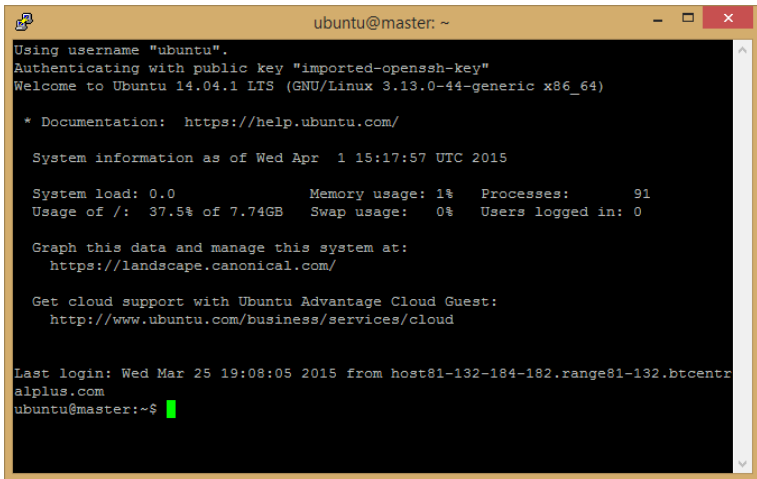
Note. The user name depends on the type of EC2 instance. If it is an Ubuntu server then the username will be **ubuntu**. However, if you are connecting to a Linux server, the username will be **ec2-user**.

- 18 Expand the **Connection** category and click on the **Auth** node.



- 19 Click on the **Browse** button to locate the required **ppk** file.

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| |  |
| 20 | <p>Locate and select the required ppk file and click the Open button.</p>  |
| 21 | <p>Finally. Click the Open button to open a Command window to your EC2 instance.</p> |

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| |  <p>The image shows the PuTTY Configuration dialog box. The 'Category' list on the left has 'SSH' selected, and the 'Auth' sub-category is expanded. The 'Options controlling SSH authentication' section has 'Display pre-authentication banner (SSH-2 only)' checked. The 'Authentication methods' section has 'Attempt authentication using Pageant' and 'Attempt "keyboard-interactive" auth (SSH-2)' checked. The 'Authentication parameters' section has 'Allow agent forwarding' and 'Allow attempted changes of username in SSH-2' unchecked. The 'Private key file for authentication' field shows 'D:\AWS\(_Key Pairs)\PuppetKey.ppk' with a 'Browse...' button next to it. The 'Open' button at the bottom right is highlighted with a red rectangle.</p> |
| 22 | <p>What you do now is entirely up to you.</p>  <p>The image shows a terminal window titled 'ubuntu@master: ~'. It displays the following text:</p> <pre>Using username "ubuntu". Authenticating with public key "imported-openssh-key" Welcome to Ubuntu 14.04.1 LTS (GNU/Linux 3.13.0-44-generic x86_64) * Documentation: https://help.ubuntu.com/ System information as of Wed Apr 1 15:17:57 UTC 2015 System load: 0.0 Memory usage: 1% Processes: 91 Usage of /: 37.5% of 7.74GB Swap usage: 0% Users logged in: 0 Graph this data and manage this system at: https://landscape.canonical.com/ Get cloud support with Ubuntu Advantage Cloud Guest: http://www.ubuntu.com/business/services/cloud Last login: Wed Mar 25 19:08:05 2015 from host81-132-184-182.range81-132.btcentr alplus.com ubuntu@master:~\$</pre> |

| | |
|----|--|
| 23 | Congratulations. You have successfully downloaded putty.exe and puttygen.exe , used puttygen.exe to generate a ppk file and then used putty.exe to connect to an EC2 instance over SSH. |
|----|--|

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