

Topic 1a

Build AWS Cloud Platform

Dr Diarmuid Ó Briain



Module Objectives

On completion of this module the learner will/should be able to:

- Build a VM on AWS

Licence



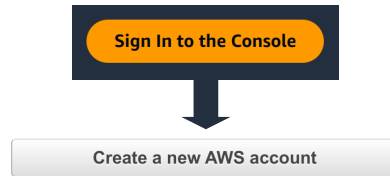
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Amazon AWS

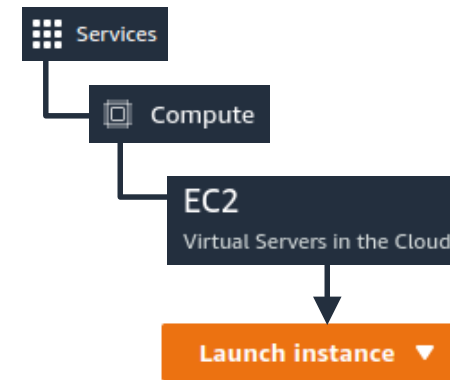
- Amazon Elastic Compute Cloud (EC2) delivers scalable, pay-as-you-go compute capacity in the cloud.
- Amazon AWS offers Auto Scaling and Elastic Load Balancing.
- AWS has a free usage tier that can be used, for example, launch new applications, test existing applications in the cloud, or simply gain hands-on experience with AWS.
- EC2 offers several free basic Amazon Machine Images (AMI), the cloud EC2 instance in this laboratory will use a Debian GNU/Linux EC2 image.

Create an AWS account

- Create an AWS account
 - Go to <http://aws.amazon.com>, and then click Sign Up.
 - Follow the on-screen instructions.
 - Set Europe (Ireland) eu-west-1 as the preferred region.

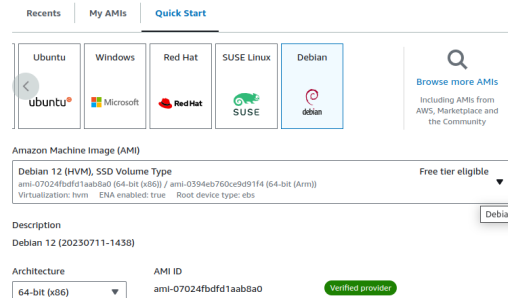


AWS Console

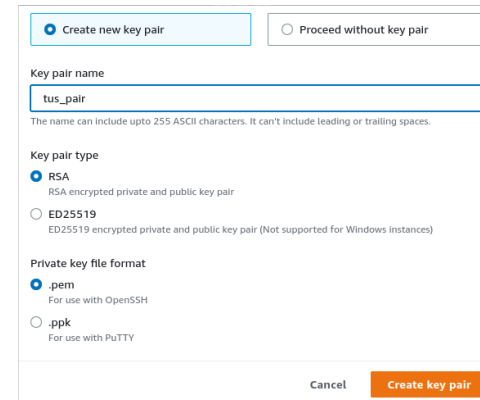


OS image

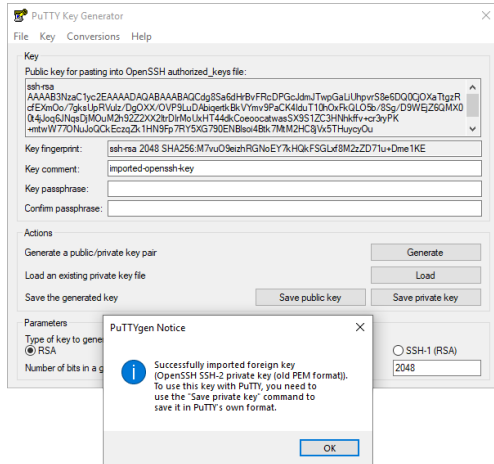
- Select the Instance type drop-down
 - t2.micro
 - 1 virtual Central Processing Unit (vCPU)
 - 1 GiB (1.07 GB) of memory.



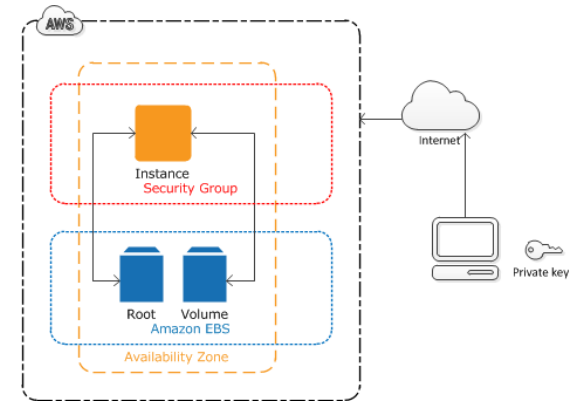
Secure key pair



Convert .pem (OpenSSH) to .ppk (PuTTY)



Instance Environment



Network Settings

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Create security group Select existing security group

We'll create a new security group called 'launch-wizard-3' with the following rules:

Allow SSH traffic from

Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

Storage

- 30 GiB per account on the free tier

1x GiB Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

Add new volume

OpenSSH connection

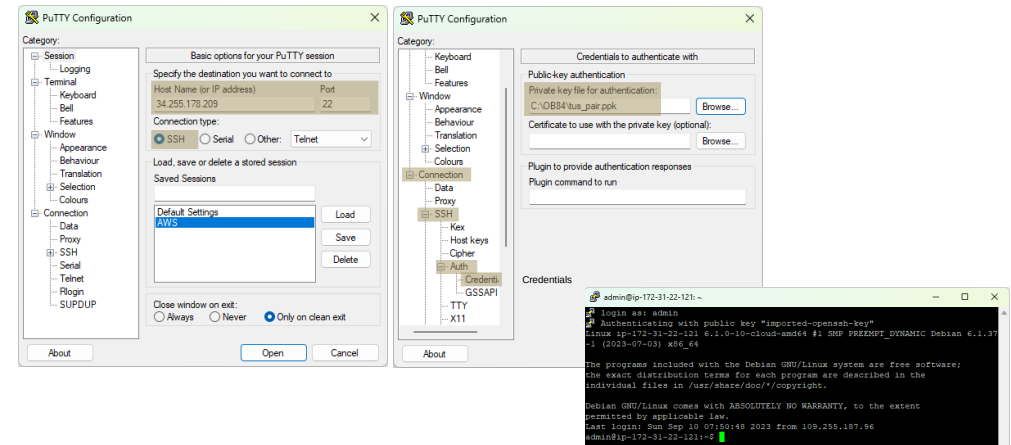
```
~$ ssh -i tus_pair.pem admin@34.255.178.209
The authenticity of host '34.255.178.209 (34.255.178.209)' can't be established.
ED25519 key fingerprint is SHA256:+acoIC5mBpGZyHVAr1+1LAQSnIUScJtmMoL4bJ+Ubjo.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '34.255.178.209' (ED25519) to the list of known hosts.

Linux ip-172-31-22-121 6.1.0-10-cloud-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.37-1 (2023-07-03) x86_64

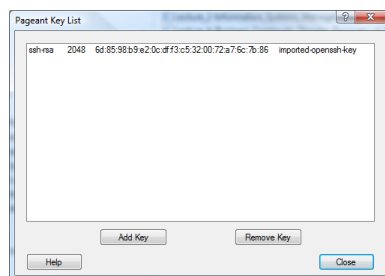
The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
admin@ip-172-31-22-121:~$
```

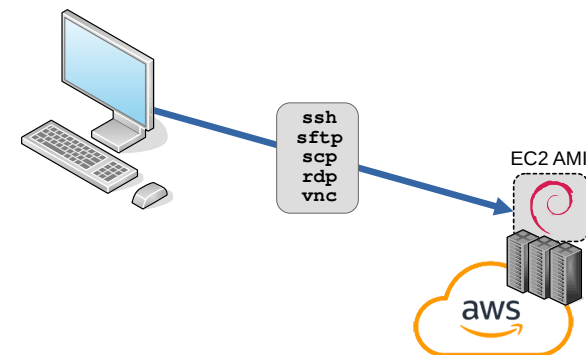
PuTTY connection



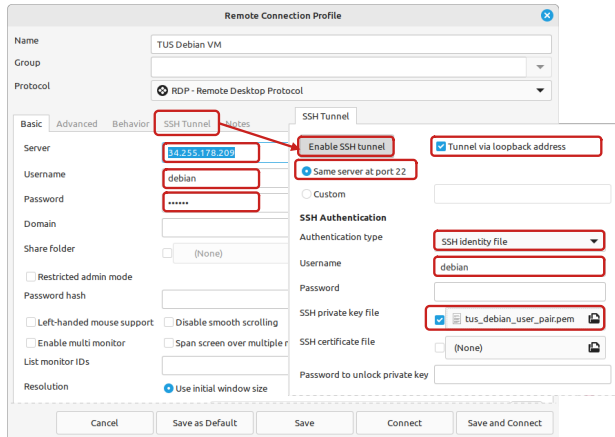
.ppk Keys in Padgent



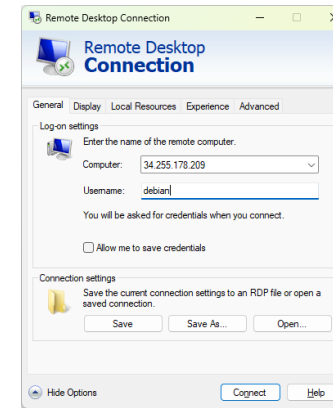
Communication with VM



Configure Remmina for a RDP over SSH connection



Windows RDP Client



Connection to VM Graphical interface



Lesson Objectives

- Tutorial: Flowcharts and Pseudocode ✓
- Brief History of Python ✓
- Python home ✓
- Installing Python ✓
- Running Python ✓
- Text editors and IDLE ✓
- Running Programs ✓
- Mathematical Operators ✓
- Simple functions ✓
- Getting help on functions within a module ✓
- Bytecode files ✓

Exercise #1a



Exercise #1a

- Build a VM on AWS ✓



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Thank you

