



ÅBO AKADEMI UNIVERSITY

CLOUD COMPUTING

## Assignment 1



LUIS ARAÚJO(2004624)

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## Chapter 1

# Launching a instance of a virtual machine

The first step to launch a instance of a virtual machine, at the AWS services, is actually **choosing witch Amazon Machine Image** (template that contains the software configuration required to launch your instance) we want to use. For the assignment we are going to choose the Amazon Linux 2 AMI (HVM).



Figure 1.1: Amazon Linux 2 AMI (HVM)

After that, we need to **select witch instance type** of the virtual machine we desire. In this case, it was chosen the "t2.micro".

	t2	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
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Figure 1.2: Instance Type

Continuing with launch, it is possibly to configure the details of the virtual machine, **adding storage, adding tags, and finally configure security group.**

Lastly, we can access the virtual machine by running the command `ssh -i "key.pem" ec2-user@ec2-52-87-230-83.compute-1.amazonaws.com`

```
(base) Desktop » ssh -i "key.pem" ec2-user@ec2-52-87-230-83.compute-1.amazonaws.com
The authenticity of host 'ec2-52-87-230-83.compute-1.amazonaws.com (52.87.230.83)' can't be established.
ECDSA key fingerprint is SHA256:mL8GS/uFsRIfZy2JrqqJjhxR+UeJM3LY29kM8uFZxro.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-52-87-230-83.compute-1.amazonaws.com,52.87.230.83' (ECDSA) to the list of known hosts.

 _ | _ | )
 _ | ( /  Amazon Linux 2 AMI
 _ | \ _ |

https://aws.amazon.com/amazon-linux-2/
```

Figure 1.3: Accessing the VM

## Chapter 2

# Information about the VM

By using the command `vi /proc/cpuinfo` it is possible to identify the following:

- **What is the model name of your CPUs?**  
Intel(R) Xeon(R) CPU E5-2676 v3 @ 2.40GHz
- **What is the cache size?**  
30720 KB
- **What is the clock frequency of your CPU(s)?**  
2400.096 MHz
- **What is the CPU vendor?**  
GenuineIntel

```
processor       : 0
vendor_id      : GenuineIntel
cpu family     : 6
model          : 63
model name     : Intel(R) Xeon(R) CPU E5-2676 v3 @ 2.40GHz
stepping       : 2
microcode      : 0x44
cpu MHz        : 2400.074
cache size     : 30720 KB
physical id    : 0
siblings       : 1
core id        : 0
cpu cores      : 1
apicid         : 0
initial apicid : 0
fpu            : yes
fpu_exception  : yes
cpuid level    : 13
wp             : yes
flags           : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall nx rdtscp lm constant_tsc rep_
good nopl xtopology cpuid pni pclmulqdq ssse3 fma cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand hypervisor lahf_lm
abm cpuid_fault invpcid_single pti fsgsbase bmi1 avx2 smep bmi2 erms invpcid xsaveopt
bugs           : cpu_meltdown spectre_v1 spectre_v2 spec_store_bypass l1tf mds swaps itlb_multihit
bogomips       : 4800.09
clflush size   : 64
cache alignment : 64
address sizes   : 46 bits physical, 48 bits virtual
power management:
```

Figure 2.1: Virtual Machine Information

And by using the command `sudo dmidecode | grep -i -e vendor` we find out:

- **What is the name of the hypervisor vendor?**  
Xen

```
[ec2-user@ip-172-31-55-133 ~]$ sudo dmidecode | grep -i -e manufacturer -e product -e vendor
Vendor: Xen
Manufacturer: Xen
Product Name: HVM domU
Manufacturer: Xen
Manufacturer: Intel
Manufacturer: Not Specified
```

Figure 2.2: Virtual Machine Information

## Chapter 3

# Report

- What would happen if you lose the private key provided when you instantiated your VM?

It is informed, when launching the instance of a virtual machine, that if the key gets lost there will be not possible way to log into the instance created.

**Select an existing key pair or create a new key pair** ×

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. [Learn more about removing existing key pairs from a public AMI.](#)

Choose an existing key pair

**Select a key pair**

key

☒ I acknowledge that I have access to the selected private key file (key.pem), and that without this file, I won't be able to log into my instance.

[Cancel](#) [Launch Instances](#)

Figure 3.1: Key information

- **Do you have any idea where was the physical server on which your VM was running?**

By searching about the server information in the **AWS Management Console**, it is possible to know that the servers region is located in the US East (N.Virginia)

Service health	
<div> <div>↺</div> <div>Service Health Dashboard ↗</div> </div>	
Region	Status
US East (N. Virginia)	<div> <div>✔</div> <div>This service is operating normally</div> </div>

Figure 3.2: Server information

- **How long was the “waiting time” (approximately) between requesting a VM and having it up and running?**

The “waiting time” between requesting a VM and having it up and running was roughly 25 seconds.

- **Content of your log.dat file.**

After exiting the virtual machine and running the command `scp -i "key.pem" ec2-user@ec2-54-174-108-65.compute-1.amazonaws.com : /home/ec2-user/log.dat` we obtain a file named “log.dat” that, in its content is the following information:

*Name : Luis\_Araujo -- 54.174.108.65 -- ec2-54-174-108-65.compute-1.amazonaws.com -- 172.31.36.77 -- 1617791900 -- curl/7.61.1*

## Chapter 4

# Conclusion

Concluding the assignment, and reviewing what was practiced, we can see how simple is to launch a virtual machine remotely, from the other side of the world. It was particularly satisfying to connect a remote machine to a local one, in this case, coping the "log.dat" file into my personal machine.