

**Type Your Name Here: Reid Roberts**

# **CPSC 6157 Network & Cloud Management**

**Spring 2025**

## **Hands-on Exercise 11**

### **AWS EC2 Instances**

**Due by 11:30 PM Monday, April 14**

**Instructions: Please submit a single PDF or Word document that contains the answers and all the screenshots to CougarView.**

**Part I. (10%)** Watch the YouTube video about basic Amazon AWS concepts through the link [AWS In 10 Minutes](#)

Conduct research and write a detailed summary below **with at least 200 words** about the **Amazon AWS EC2 Service** (available under the category “Compute” on AWS). You may write a detailed summary by answering the following questions about EC2:

- What is Amazon EC2?
  - EC2 is a service that gives the customer a machine to launch and run their software. It provides resizable virtual servers (instances) in the cloud so that users can launch and manage servers on demand, without needing to invest in the hardware infrastructure themselves. It is a convenient Infrastructure as a Service (IaaS) product that enables customers to run applications, host websites, and perform large-scale computing tasks flexibly and efficiently by leveraging Amazon’s massive infrastructure and economy of scale which results in lower hardware costs, high availability, and scalable performance.
- What are the features of Amazon EC2?
  - EC2 offers a wide range of features. There are several different instance types that are optimized for memory, compute, storage, or GPU performance so that users can select the optimal configuration for their needs. It also provides customizable virtual machines which allow users to select their operating systems, storage options, and network settings. Regarding scalability, EC2 can automatically scale up and down depending on load and has elastic load balancing to manage traffic distribution. Perhaps, the best part about EC2 instances is that they are pay-as-you-go so that customers only pay for as much resources as they use. However, there are different pricing models to choose from such as reserved, spot, and savings plans that make it cost-effective for different use cases.

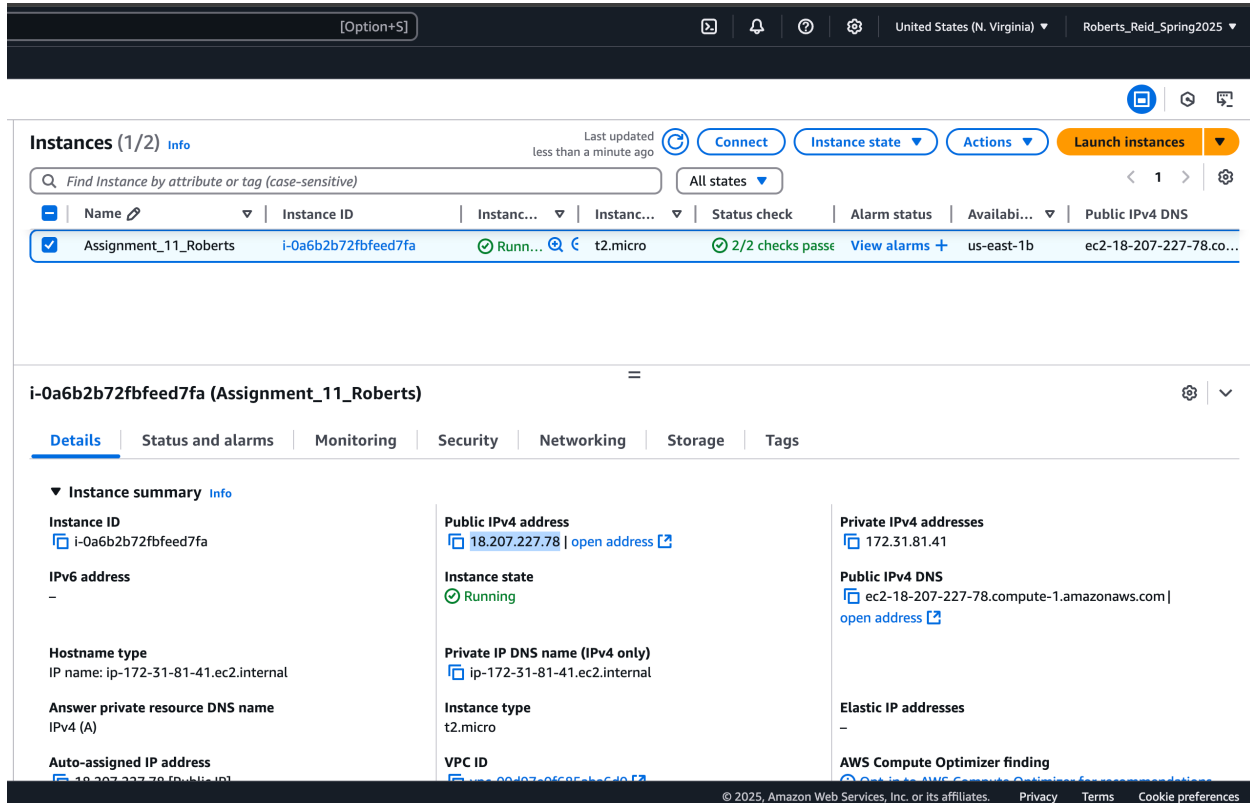
**Part II (45%)** Create an AWS EC2 instance in your AWS account by following the steps presented in the tutorial video below:

<https://www.youtube.com/watch?v=0Gz-PUeUF0&t=288s>

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**Take screenshots (one or more) as proof of the successful creation of your AWS EC2 instance. Your screenshots MUST contain the username of your AWS account as well as the following information about the AWS EC2 instance you created:**

1. Instance ID
2. Instance status
3. Public DNS
4. Public IP



The screenshot displays the AWS Management Console interface. At the top, the user's name 'Reid Roberts' is visible in the top right corner. The main content area shows the 'Instances' page with a table of EC2 instances. One instance, 'Assignment\_11\_Roberts', is listed with the ID 'i-0a6b2b72fbfeed7fa' and is in a 'Running' state. Below the table, the details for this instance are expanded, showing various attributes such as the public IPv4 address (18.207.227.78), the public IPv4 DNS (ec2-18-207-227-78.compute-1.amazonaws.com), and the instance type (t2.micro).

**Part III (45%).** Establish an SSH connection to your AWS EC2 instance in the cloud. If SSH (Secure SHell) is already available in your computer, follow the steps presented close to the end of the above video and remotely connect to your AWS EC2 instance using SSH. If you don't have SSH on your computer or it does NOT work, follow the tutorial video below to install Putty (an SSH client) **on Windows** and create an SSH connection to your AWS EC2 instance:

<https://www.youtube.com/watch?v=f52IOtTqcP8>

**On Linux or Mac OS,** below is a YouTube tutorial to create SSH connection to EC2 Instances

[https://www.youtube.com/watch?v=8UqtMcX\\_kg0](https://www.youtube.com/watch?v=8UqtMcX_kg0)

**Take a screenshot that shows a successful SSH connection to your AWS EC2 instance from your local computer.**

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```
AWS Keys — ubuntu@ip-172-31-81-41: ~ — ssh -i AWS_CSU_Student_PEM_Key.pem ubuntu@18.207.227.78 — 139x49
reidrobarts@Reids-MacBook-Pro AWS Keys % ssh -i AWS_CSU_Student_PEM_Key.pem ubuntu@18.207.227.78
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1024-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sat Apr 12 18:23:06 UTC 2025

System load:  0.0                Processes:    103
Usage of /:   25.0% of 6.71GB    Users logged in: 0
Memory usage: 20%              IPv4 address for enx0: 172.31.81.41
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

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

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-81-41:~$ whoami
ubuntu
ubuntu@ip-172-31-81-41:~$ ping google.com
PING google.com (172.253.122.139) 56(84) bytes of data.
64 bytes from bh-in-f139.1e100.net (172.253.122.139): icmp_seq=1 ttl=58 time=2.50 ms
64 bytes from bh-in-f139.1e100.net (172.253.122.139): icmp_seq=2 ttl=58 time=2.50 ms
64 bytes from bh-in-f139.1e100.net (172.253.122.139): icmp_seq=3 ttl=58 time=1.81 ms
64 bytes from bh-in-f139.1e100.net (172.253.122.139): icmp_seq=4 ttl=106 time=1.81 ms
64 bytes from bh-in-f139.1e100.net (172.253.122.139): icmp_seq=5 ttl=106 time=2.02 ms
64 bytes from bh-in-f139.1e100.net (172.253.122.139): icmp_seq=6 ttl=106 time=2.02 ms
64 bytes from bh-in-f139.1e100.net (172.253.122.139): icmp_seq=7 ttl=106 time=2.43 ms
64 bytes from bh-in-f139.1e100.net (172.253.122.139): icmp_seq=8 ttl=58 time=2.07 ms
```

## What to submit for this hands-on exercise?

Copy and paste all of your screenshots into **this Word document**, and then upload them to CougarView.