

# CBE 321 Lab 1

## SHRAVASTI OHOL 2022BCY0012

Creating an instance :

### 1. Ubuntu Platform

The screenshot shows the 'Launch an instance' wizard on the AWS EC2 Instances page. In the 'Name and tags' section, the name 'instance\_one' is entered. The 'Quick Start' tab is selected in the AMI dropdown, which lists various operating systems including Amazon Linux, macOS, Ubuntu, Windows, Red Hat, SUSE Linux, and Del. The 'Ubuntu' option is highlighted. Below the dropdown, the 'Amazon Machine Image (AMI)' details are shown: Ubuntu Server 24.04 LTS (HVM), SSD Volume Type, ami-053b12d3152c0c71 (64-bit (x86)) / ami-0c5cfa79ab2c2e3e9 (64-bit (Arm)), Virtualization: hvm, ENA enabled: true, Root device type: ebs. A note indicates 'Free tier eligible'. On the right, the 'Summary' section shows 1 instance selected, with software image set to Canonical, Ubuntu, 24.04, amd64, and virtual server type set to t2.micro. A callout box highlights the 'Free tier' information.

The screenshot shows the 'Launch an instance' wizard on the AWS EC2 Instances page. In the 'Key pair (login)' section, the key pair 'shravasti' is selected. The 'Network settings' section includes options for Network (vpc-007543eb92d582d02), Subnet (Info - No preference), and Auto-assign public IP (Info - Enabled). Under Firewall (security groups), the 'Create security group' option is selected. A note states: 'We'll create a new security group called "launch-wizard-2" with the following rules:'. Under 'Allow SSH traffic from' and 'Allow HTTPS traffic from the internet', checkboxes are checked. The 'Summary' section on the right shows 1 instance selected, with software image set to Canonical, Ubuntu, 24.04, amd64, and virtual server type set to t2.micro. A callout box highlights the 'Free tier' information.

**EC2 > Instances > Launch an Instance**

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

**Configure storage** Info Advanced

1x 8 GiB gp3 Root volume 3000 IOPS (Not encrypted)

**Add new volume**

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

**Click refresh to view backup information**  
The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems Edit

**Advanced details** Info

**Summary**

Number of instances | [Info](#)

1

**Software Image (AMI)**  
Canonical, Ubuntu, 24.04, amd6... [read more](#)  
ami-053b12d3152c0cc71

**Virtual server type (instance type)**  
t2.micro

**Firewall (security group)**  
New security group

**Storage (volumes)**  
1 volume(s) - 8 GiB

**Free tier**: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOPS, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

[Launch instance](#) [Preview code](#)

**Instances (1/2) [Info](#)**

Last updated less than a minute ago

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
lambda	i-091325e6f3893c95	Terminated	t2.micro	-	<a href="#">View alarms +</a>	ap-south-1b	-
<b>instance_one</b>	i-0b0906cbce841efa1	Running	t2.micro	0/2 checks passed	<a href="#">View alarms +</a>	ap-south-1b	ec2-65-0-71-101.ap-south-1.compute.internal

**i-0b0906cbce841efa1 (instance\_one)**

[Details](#) [Status and alarms](#) [Monitoring](#) [Security](#) [Networking](#) [Storage](#) [Tags](#)

**Instance summary** Info

Instance ID	<a href="#">i-0b0906cbce841efa1</a>	Public IPv4 address	<a href="#">65.0.71.101   open address</a>
IPv6 address	-	Instance state	<a href="#">Running</a>
Hostname type	IP name: ip-172-31-10-252.ap-south-1.compute.internal	Private IP DNS name (IPv4 only)	<a href="#">ip-172-31-10-252.ap-south-1.compute.internal</a>
Answer private resource DNS name	IPv4 (A)	Instance type	t2.micro
Auto-assigned IP address	<a href="#">65.0.71.101 [Public IP]</a>	VPC ID	<a href="#">vpc-007543eb92d582d02</a>

**Private IPv4 addresses**  
[172.31.10.252](#)

**Public IPv4 DNS**  
[ec2-65-0-71-101.ap-south-1.compute.amazonaws.com | open address](#)

**Elastic IP addresses**  
-

**AWS Compute Optimizer finding**  
[Opt-in to AWS Compute Optimizer for recommendations.](#)

## 2. Windows Platform

### a. Creating the instance

The screenshot shows the 'Launch an instance' page in the AWS EC2 console. In the 'Name and tags' section, the name 'windows' is entered. Under 'Application and OS Images (Amazon Machine Image)', the 'Windows' tab is selected, showing various options like Amazon Linux, macOS, Ubuntu, Windows, Red Hat, SUSE Linux, and Del. A search bar at the top right of this section contains the placeholder 'Search our full catalog including 1000s of application and OS images'. On the right side, the 'Summary' panel shows 'Number of instances' set to 1. It also displays the selected 'Software Image (AMI)' as 'Microsoft Windows Server 2025 ...read more' (ami-03235cc8fe4d99f1e). The 'Virtual server type (instance type)' is set to 't3.micro'. Below these, 'Firewall (security group)' and 'Storage (volumes)' are listed. A callout box highlights the 'Free tier' information: 'In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.' At the bottom right are 'Launch instance' and 'Preview code' buttons.

This screenshot shows the continuation of the 'Launch an instance' process. In the 'Instance type' section, 't3.micro' is selected from a dropdown. Below it, 'Additional costs apply for AMIs with pre-installed software' is noted. The 'Key pair (login)' section shows a dropdown with 'shrawasti' selected and a 'Create new key pair' button. The 'Network settings' section includes tabs for 'Network' (selected), 'Subnet' (set to 'No preference (Default subnet in any availability zone)'), and 'Auto-assign public IP' (set to 'Enable'). The right side of the screen shows the same 'Summary' panel as the previous screenshot, including the 'Free tier' details. The 'Launch instance' and 'Preview code' buttons are also present at the bottom right.

Screenshot of the AWS EC2 'Launch an Instance' wizard.

**Security Group:**

- Allow RDP traffic from Anywhere (0.0.0.0/0)
- Allow HTTPS traffic from the internet
- Allow HTTP traffic from the internet

**Configuration Summary:**

- Number of instances: 1
- Software Image (AMI): Microsoft Windows Server 2025
- Virtual server type (instance type): t3.micro
- Firewall (security group): New security group
- Storage (volumes): 1 volume(s) - 30 GB

**Launch Instance**

Screenshot of the AWS EC2 Instances page.

**Instances (1/3) Info:**

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
instance_one	i-0b0906cbcbe841efa1	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1b	ec2-65-0-71-101.ap-sou
lambda	i-0913255e6f3893c95	Terminated	t2.micro	-	View alarms +	ap-south-1b	-
windows	i-0540605a77e528ffc	Running	t3.micro	Initializing	View alarms +	ap-south-1b	ec2-65-1-130-16.ap-sou

**Instance Details for i-0540605a77e528ffc (windows):**

**Details** | Status and alarms | Monitoring | Security | Networking | Storage | Tags

**Instance summary:**

- Instance ID: i-0540605a77e528ffc
- Public IPv4 address: 65.1.130.16 | [open address](#)
- Instance state: Running
- Private IP DNS name (IPv4 only): ip-172-31-5-154.ap-south-1.compute.internal
- Instance type: t3.micro
- VPC ID: vpc-007543eb92d582d02

## b. Connecting to the instance

The screenshot shows the AWS EC2 Instances page. At the top, there are filters for 'Name' and 'Instance ID', and a search bar. Below the header are buttons for 'Connect', 'Instance state', 'Actions', and 'Launch instances'. A table lists three instances:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
windows	i-0540605a77e528ff	Running	t3.micro	3/3 checks passed	View alarms +	ap-south-1b	ec2-65-1-130-16.ap-so
instance_one	i-0b0906cbce841efa1	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1b	ec2-65-0-71-101.ap-so
lambda	i-0913255e6f3893c95	Terminated	t2.micro	-	View alarms +	ap-south-1b	-

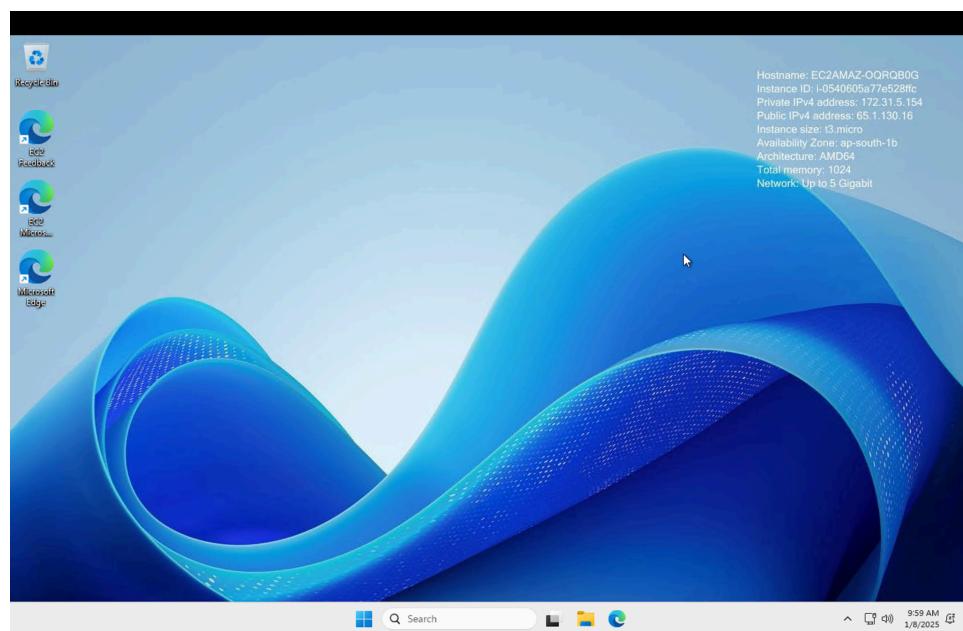
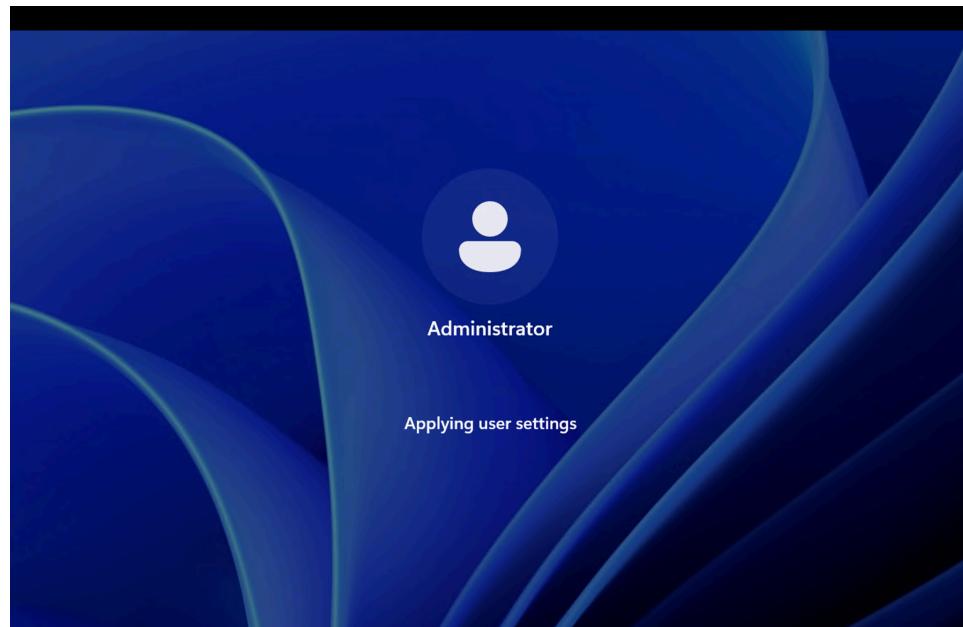
A 'Select an instance' dropdown is open at the bottom left. The URL in the browser is [https://console.aws.amazon.com/ec2/v2/home?#Instances%3Afilter%3Dwindows](#).

The screenshot shows the 'Connect to instance' dialog for the instance with ID i-0540605a77e528ff (windows). The 'RDP client' tab is selected. It displays connection options:

- Session Manager**: Shows the instance ID.
- RDP client**: Selected tab, showing the RDP client configuration. It includes:
  - Connection Type**: Radio button for "Connect using RDP client".
  - Download remote desktop file**: A button to download the RDP shortcut file.
  - Username Info**: Set to "Administrator".
  - Public DNS**: The IP address ec2-65-1-130-16.ap-south-1.compute.amazonaws.com.
  - Password**: The password Wr9yds9wsvobJLJ@y!6dq!lQGijO)xxY.
- EC2 serial console**: Not selected.

A note at the bottom says: "If you've joined your instance to a directory, you can use your directory credentials to connect to your instance." The URL in the browser is [https://console.aws.amazon.com/ec2/v2/home?#Instances%3Afilter%3Dwindows&instanceId=i-0540605a77e528ff](#).

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## c. Configuring SSH Client

The screenshot shows the AWS CloudWatch Metrics interface. At the top, there's a search bar and a navigation bar with tabs for 'EC2', 'Instances', and 'Connect to instance'. Below this, a sub-menu for 'Connect to instance' is open, showing 'Info' and 'SSH client' tabs. The 'SSH client' tab is selected. It displays instructions for connecting via SSH, including steps like opening an SSH client, locating the private key file, running a command to ensure the key is not publicly viewable, and connecting using the Public DNS. It also shows examples of the command to run in the terminal and a note about the default AMI username.

The screenshot shows a terminal window titled 'CloudShell'. The session starts with the command 'ssh -i ~/Downloads/shravasti.pem ubuntu@ec2-65-0-71-101.ap-south-1.compute.amazonaws.com'. The terminal then displays the Ubuntu 24.04.1 LTS welcome message and system information. It shows the system load (0.0), processes (105), usage of the root partition (24.6% of 6.71GB), memory usage (20%), and swap usage (0%). It also indicates that security maintenance is not enabled and lists available updates. The terminal ends with a note about running sudo apt update to check for new updates.

```
shravastiohol@Shravasti-MacBook-Pro ~ % chmod 400 ~/Downloads/shravasti.pem
shravastiohol@Shravasti-MacBook-Pro ~ % ssh -i ~/Downloads/shravasti.pem ubuntu@ec2-65-0-71-101.ap-south-1.compute.amazonaws.com

shravastiohol@Shravasti-MacBook-Pro ~ % Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1018-aws x86_64)

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

System information as of Wed Jan  8 10:02:54 UTC 2025

 System load: 0.0          Processes:           105
 Usage of /: 24.6% of 6.71GB  Users logged in:   0
 Memory usage: 20%          IPv4 address for enX0: 172.31.10.252
 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.
```