

# AWS EC2 Question Bank (18 Practical Tasks)

## Generic Instruction:

Make sure none of the instances are publicly open to **0.0.0.0/0** IP in their security groups.  
Restrict access to only your specific IP or your institution's IP range.

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## Question 1

Create an AWS EC2 (**t2.micro**) instance using the **Ubuntu 22.04 LTS** Linux image.

Attach a disk of **10 GB** to the root volume. Add another disk of **8 GB** to this instance.

Tag the instance using the following data:

- (name) – compulsory
- (project) – Cloud-Intro
- (roll\_no) – compulsory
- (date) –
- (teacher\_name) – Prof. Meera Kumar

Create a keypair using your roll\_number.

Login to the instance using SSH.

Take appropriate screenshots showing instance details, login screen, and instance tags.

Create a Google Doc with these screenshots uploaded.



## QUESTION 1 – Full Step-by-Step Solution

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### 1. Open AWS & Go to EC2

- Sign in to your AWS account.
  - Navigate to **Services → EC2 → Instances → Launch Instances.**
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### 2. Name the Instance

Under **Name and tags:**

- **Name:** *your\_roll\_number* (compulsory)

You will add remaining tags later.

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### 3. Select the AMI (OS Image)

Under “Application and OS Images”:

- Select **Ubuntu Server 22.04 LTS (HVM, SSD)**.
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### 4. Choose Instance Type

- Select **t2.micro**.

This is free-tier eligible.

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### 5. Create Key Pair

- Click **Create new key pair**.
- Name: **your\_roll\_number**
- Type: RSA
- Format: **.pem**
- Download the key.

DO NOT lose this file.

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### 6. Configure Network (Security Group)

**⚠️ IMPORTANT: Do NOT allow SSH from 0.0.0.0/0.**

Under **Security Group**:

- Create new SG
- Add rule:

Type	Port	Source	Comment
SSH	22	My IP	Your current IP only

This satisfies the generic instruction.

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## 7. Configure Storage

### Root Volume

- Set size to **10 GB**

### Add Additional Disk

Click **Add New Volume**:

- Volume type: gp3/gp2
- Size: **8 GB**

Your instance now has:

- 10 GB root
  - 8 GB extra EBS volume
- 

## 8. Add Tags

Scroll to **Tags** → **Add Tags**

Add EXACTLY these:

Key	Value
Name	<i>your_roll_number</i>
Project	Cloud-Intro
Roll_No	<i>your_roll_number</i>
Date	<i>current date</i>
Teacher_Name	Prof. Meera Kumar

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## 9. Launch the Instance

Click **Launch Instance**.

Wait until:

- State: **Running**
  - Status Checks: **2/2 checks passed**
-

## 10. SSH into the Instance

Open your terminal (PowerShell, Git Bash, Linux terminal).

### Set permissions once:

```
chmod 400 your_roll_number.pem
```

### Connect:

```
ssh -i your_roll_number.pem ubuntu@<public-ip-address>
```

- Default user for Ubuntu = **ubuntu**
- Accept the prompt by typing **yes**

You should now see the Ubuntu shell.

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## 11. Take Required Screenshots

Take clean screenshots of:

✓ EC2 dashboard: Instance details

— instance ID

— type t2.micro

— Ubuntu 22.04

— public IP

✓ Storage volumes

— 10 GB root

— 8 GB extra disk

✓ Security group

— SSH allowed only from **your IP**

✓ Tags tab

— all 5 required tags

✓ SSH terminal

— logged in as `ubuntu@ip`

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## 12. Create a Google Doc

Open Google Docs → Insert:

- **Heading 1:** Question 1 – AWS EC2 Setup
- **Screenshot Section 1:** Instance Details
- **Screenshot Section 2:** Storage Configuration

- **Screenshot Section 3:** Security Group Rules
  - **Screenshot Section 4:** Tags
  - **Screenshot Section 5:** SSH Login
- 

## Question 2

Create an AWS EC2 (**t2.nano**) instance using the **Amazon Linux 2** image.

Attach a disk of **8 GB** to the root volume. Add another disk of **8 GB** to this instance.

Tag the instance using the following data:

- (name) – compulsory
- (project) – Compute-Lab
- (roll\_no) – compulsory
- (owner) – LabTeam-A
- (date) –

Create a keypair using your roll\_number.

Login to the instance using SSH.

Take appropriate screenshots showing instance details, login screen, and instance tags.

Create a Google Doc with these screenshots uploaded.

## QUESTION 2 – Complete Step-by-Step Guide

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### 1. Open AWS → EC2 Dashboard

Log in and go to:

**Services → EC2 → Instances → Launch instance**

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### 2. Configure the Instance

**Instance Name**

- Name = **your\_roll\_number** (compulsory)
- 

### 3. Select AMI (Image)

Under Amazon Machine Images:

- Choose **Amazon Linux 2 (AMI)**

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#### 4. Select Instance Type

- Choose **t2.nano**
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#### 5. Key Pair

Create a new Key Pair:

- Name: **your\_roll\_number**
- Type: RSA (recommended)
- Format: **.pem** (for SSH)

Download the **.pem** file.

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#### 6. Configure Network (IMPORTANT FOR SECURITY RULE)

##### Security Group settings

- Create a new security group
- Add rule:

Type	Port	Source	Purpose
SSH	22	<b>Your IP only</b> (NOT 0.0.0.0/0)	Secure login

**⚠ Do NOT select "Anywhere".**

Click “My IP” → AWS auto-detects your IP.

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#### 7. Configure Storage

##### Root Volume

- Change size to **8 GB**

##### Add Another Volume

Click **Add New Volume**

- Volume Type: gp3 or gp2
- Size: **8 GB**

- Device name (auto): /dev/xvdf or similar
- 

## 8. Add Tags

Click “Add Tag” and add:

Key	Value
Name	your_roll_number
Project	Compute-Lab
Roll_No	your_roll_number
Owner	LabTeam-A
Date	current date

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## 9. Launch Instance

Click **Launch Instance**.

Wait until state = **Running** and status checks passed.

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## 10. SSH Login

Set permissions (only once)

```
chmod 400 your_roll_number.pem
```

SSH command

```
ssh -i your_roll_number.pem ec2-user@<public-ip>
```

For Amazon Linux 2, default user = **ec2-user**

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## 11. Take the Required Screenshots

- ✓ Instance details
- ✓ Storage showing two volumes (8GB + 8GB)
- ✓ Security group showing **restricted SSH IP**

- ✓ Tags page
  - ✓ SSH terminal after login
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## 12. Create Google Doc

Insert all screenshots + labels like:

- Screenshot 1: Instance details
  - Screenshot 2: Storage volumes
  - Screenshot 3: Security group rules
  - Screenshot 4: Tags
  - Screenshot 5: SSH login
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### Question 3

Create an AWS EC2 (**t2.micro**) instance using the **Debian 12 (Bookworm)** Linux image.

Attach a disk of **12 GB** to the root volume. Add another disk of **10 GB** to this instance.

Tag the instance using the following data:

- (name) – compulsory
- (project) – Storage-Lab
- (roll\_no) – compulsory
- (email) –
- (teacher\_name) – Prof. R. Nagekar

Create a keypair using your roll\_number.

Login to the instance using SSH.

Take appropriate screenshots showing instance details, login screen, and instance tags.

Create a Google Doc with these screenshots uploaded.

## QUESTION 3 – Complete Step-by-Step Guide

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### 1. Go to AWS EC2 Dashboard

Log in → **Services** → **EC2** → **Instances** → **Launch Instance**

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## 2. Set the Instance Name

Under **Name and Tags**:

- **Name:** *your\_roll\_number* (compulsory)
- 

## 3. Select AMI (Operating System)

Under AMI selection:

- Search for **Debian 12 (Bookworm)**
  - Choose **Debian 12 (HVM), SSD, Bookworm**
- 

## 4. Choose Instance Type

- **t2.micro**
- 

## 5. Create Key Pair

Create a new key pair:

- Name: **your\_roll\_number**
- Type: RSA
- File format: `.pem`
- Download the key

You will use this for SSH.

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## ⚠ 6. Configure Network (Security Group – IMPORTANT)

As per generic instructions, **do NOT allow SSH from 0.0.0.0/0**.

Create a new Security Group:

- **SSH (22)**  
Source: **My IP** (or institution IP range)
-

## 7. Configure Storage

### Root Volume

- Change size to **12 GB**

### Add New Volume

Click **Add New Volume**:

- Type: gp3/gp2
- Size: **10 GB**

Your storage setup:

- ✓ 12 GB root
  - ✓ 10 GB additional EBS disk
- 

## 8. Add Tags

Under **Tags** → **Add Tag**:

Key	Value
Name	<i>your_roll_number</i>
Project	Storage-Lab
Roll_No	<i>your_roll_number</i>
Email	<i>your email id</i>

Teacher\_Name Prof. R. Nagekar

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## 9. Launch Instance

Click **Launch Instance** → wait until:

- State: **Running**
  - Status Checks: **2/2 checks passed**
- 

## 10. SSH Login

### Set PEM file permission

```
chmod 400 your_roll_number.pem
```

## SSH Command

Debian uses the user: **admin OR debian** (AWS usually sets default as “admin” or “debian”)

Try:

```
ssh -i your_roll_number.pem admin@<public-ip>
```

If not:

```
ssh -i your_roll_number.pem debian@<public-ip>
```

(One of these will work depending on the Debian AMI)

Accept the prompt by typing **yes**.

You are now logged in.

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## 11. Take Required Screenshots

Capture the following:

### ✓ Instance Details

- Debian 12 image
- t2.micro
- Public IPv4
- Instance ID

### ✓ Storage Volumes

- 12 GB root
- 10 GB additional

### ✓ Security Group

- SSH allowed only from your IP
- No 0.0.0.0/0

### ✓ Tags Section

- All five tags visible

### ✓ SSH Terminal

- Logged in as admin/debian
-

## 12. Create the Google Doc

Open Google Docs → Insert:

- **Title: Question 3 – AWS EC2 (Debian 12) Setup**
- **Screenshot 1:** Instance Details
- **Screenshot 2:** Storage Volumes
- **Screenshot 3:** Security Group
- **Screenshot 4:** Instance Tags
- **Screenshot 5:** SSH Login Screen