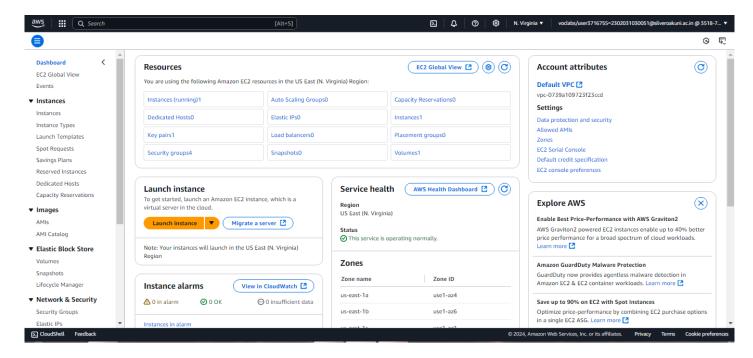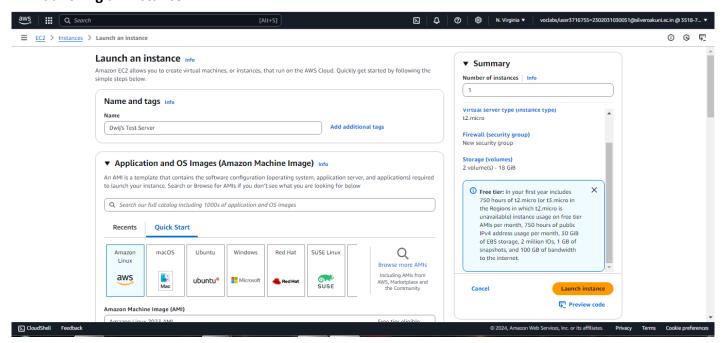# Day-2

....

Today, the main target is to understand an instance and the process from launching to terminating an instance. Also, details of an instance, its network and storage settings, instance state, Instance template, AMI etc.
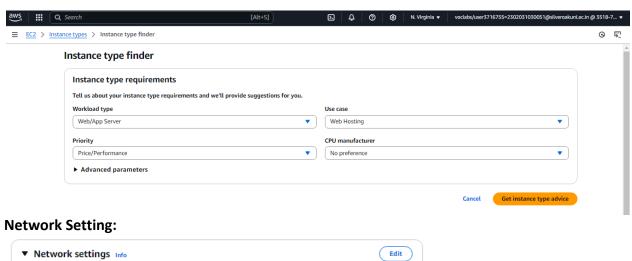
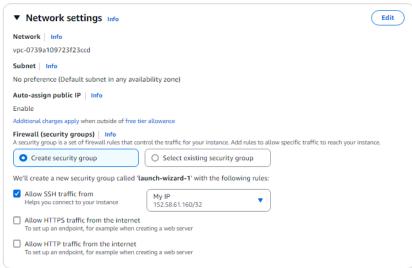**EC2 Dashboard:**

Launching an Instance:

Instance type finder: EC2 Instance Type Explorer, you can more easily navigate and discover the instances that are right for your workloads and business needs. Using filters, you can quickly narrow the search for the right instance family based on instance category, or by hardware configuration.

Network Setting:

Storage Configuration:

Launching Process:

Launching instance
Launch initiation

77%

► Details

Please wait while we launch your instance.
Do not close your browser while this is loading.

Instance Dashboard:

EBS Volume Dashboard:

Instance Action Menu:

Instance State:

Instance Storage Details:

Filtered Volume Search: (by Volume ID)

Creating Instance template:

Create launch template

Creating a launch template allows you to create a saved instance configuration that can be reused, shared and launched at a later time. Templates can have multiple versions.

Launch template name and description

Launch template name - *required*

`MyTemplate`

Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '*', '@'.

Template version description

`A prod webserver for MyApp`

Max 255 chars

Auto Scaling guidance | Info
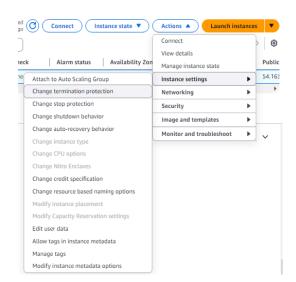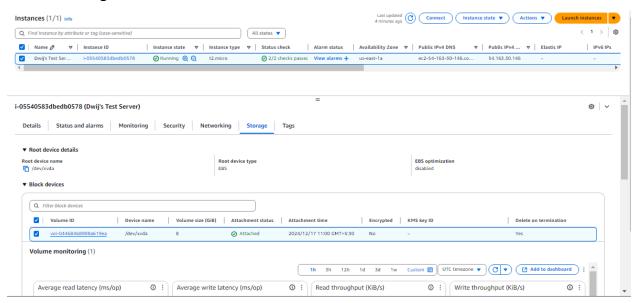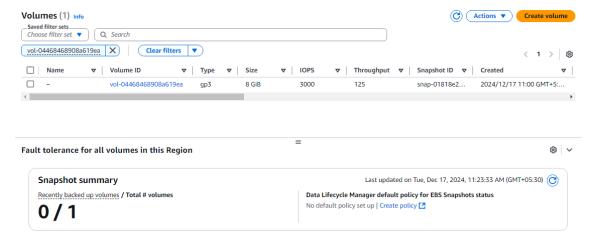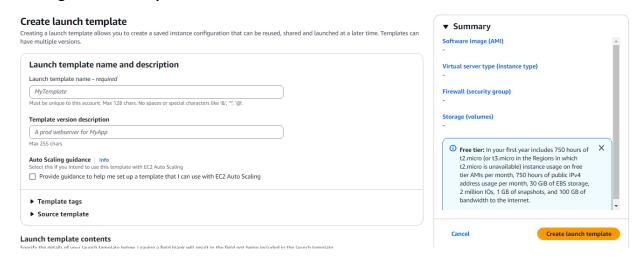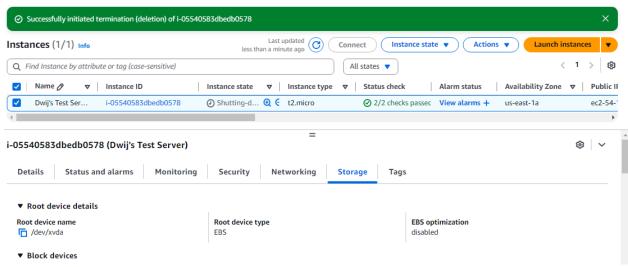Select this if you intend to use this template with EC2 Auto Scaling

☐ Provide guidance to help me set up a template that I can use with EC2 Auto Scaling

▶ Template tags
▶ Source template

Launch template contents
Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

▼ Summary

Software Image (AMI)
-

Virtual server type (instance type)
-

Firewall (security group)
-

Storage (volumes)
-

ⓘ **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 IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet. ✕

Cancel   **Create launch template**

Terminating an Instance:

⊘ Successfully initiated termination (deletion) of i-05540583dbedb0578   ✕

Instances (1/1) Info   Last updated less than a minute ago ↻   Connect   Instance state ▾   Actions ▾   **Launch instances** ▾

🔍 Find Instance by attribute or tag (case-sensitive)   All states ▾   < 1 > ⚙

☑	Name	⊘	▾	Instance ID	Instance state	▾	Instance type	▾	Status check	Alarm status	Availability Zone	▾	Public II
☑	Dwij's Test Ser...			i-05540583dbedb0578	⊘ Shutting-d... 🔍 ∈		t2.micro		⊘ 2/2 checks passec	View alarms +	us-east-1a		ec2-54-1

═

i-05540583dbedb0578 (Dwij's Test Server)   ⚙ ⌄

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

▼ **Root device details**

Root device name
📋 /dev/xvda

Root device type
EBS

EBS optimization
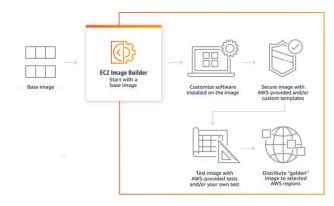disabled

▼ **Block devices**
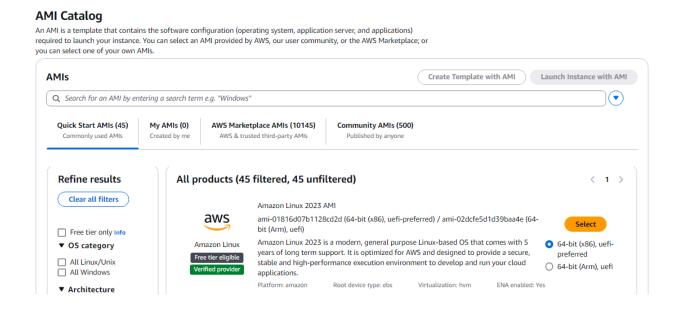
AMI (Amazon Machine Image):

It is a template that contains the software and data required to launch an EC2 instance. You can create your own AMI to your specific requirements. The AMI must be compatible with the instance type that you chose for your instance. You can use an AMI provided by AWS, a public AMI, an AMI that someone else shared with you, or an AMI that you purchased from the AWS Marketplace.

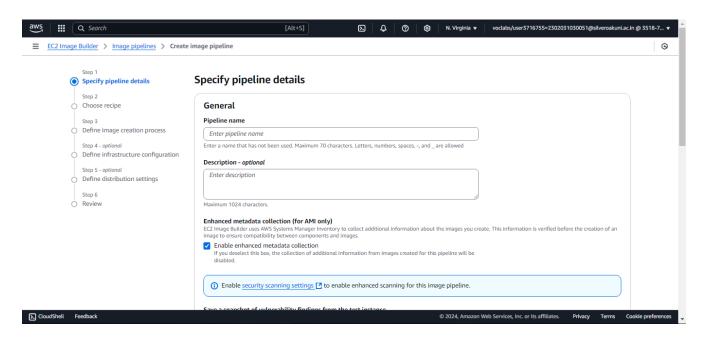An AMI is specific to the following:

- Region
- Operating system
- Processor architecture
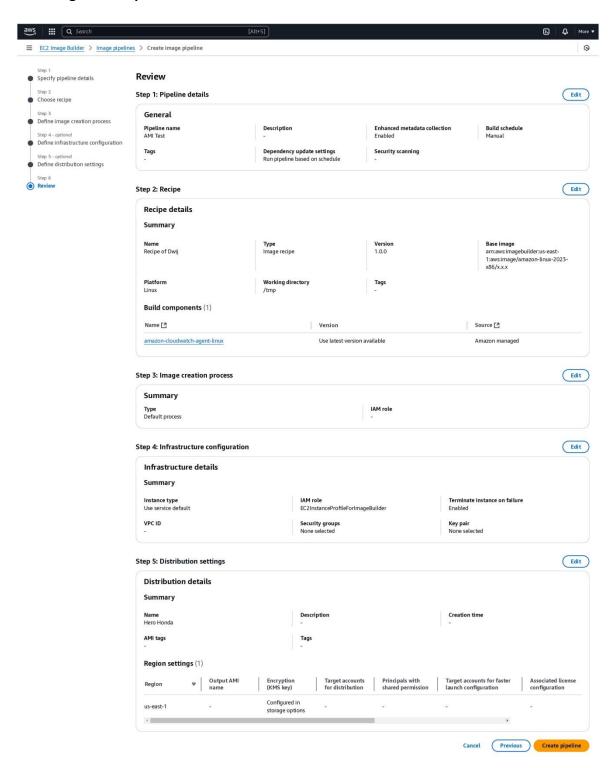- Root device type
- Virtualization type

AMI Catalog: There are Free Tier & Quick Start AMIs along with AWS own created AMIs with trusted third party AMI. It also provides templates that are published by anyone but they are not recommended.

EC2 Image Builder to create your own AMI:

Reviewing AMI Properties:

Practical Task: I was provided with two sets of data, **Type of Instances** and **Reserved Instances** information region wise. My task was to compare these datasets and identify any difference. I was instructed to highlight any data that did not match between the two sets. (The highlighted instance shows that the Instance type does not have a Reserved Instance, so usage cost will be high)

Types of Instances

Name	Instance ID	Instance state	Instance type	Availability Zone	Platform details	Remarks
Server 7	i-0de0bd6c8d7c8bcdd	Stopped	c4.large	ap-south-1a	Linux/UNIX	No reseve instance active
Server 1	i-0fe257b0a224a6a98	Running	c4.xlarge	ap-south-1a	Windows	
Server 21	i-0dd1befccd10fcc5b	Stopped	c4.xlarge	ap-south-1a	Windows	No reseve instance active
Server 9	i-00f3319c979b721e0	Running	c5.2xlarge	ap-south-1a	Windows BYOL	No reseve instance active
Server 16	i-0e79e26d17ddb443a	Running	c5.xlarge	ap-south-1a	Windows	
Server 14	i-06ac07a42bd06b560	Stopped	c5a.large	ap-south-1a	Windows	No reseve instance
Server 8	i-00fa0318587e773cc	Running	m5.large	ap-south-1a	Windows	
Server 10	i-0927c6e5fe2efa8a1	Running	m5.large	ap-south-1a	Windows	No reseve instance
Server 4	i-090651ced9faa9cc8	Running	m5.xlarge	ap-south-1a	Windows	
Server 11	i-031437958bd165095	Running	t2.large	ap-south-1a	Linux/UNIX	
Server 15	i-0e6c4a1302a52cef6	Running	t2.large	ap-south-1a	Linux/UNIX	
Server 17	i-0c9df6a2563752345	Stopped	t2.large	ap-south-1a	Linux/UNIX	No reseve instance
Server 2	i-02865b996e33d0b66	Running	t2.medium	ap-south-1a	Linux/UNIX	No reseve instance
Server 13	i-08753ed649c06fda7	Running	t2.medium	ap-south-1a	Linux/UNIX	
Server 20	i-0e0ec8c943c72e12b	Running	t2.medium	ap-south-1a	Linux/UNIX	
Server 3	i-0158b3ad1511ccb23	Running	t2.xlarge	ap-south-1a	Windows	
Server 5	i-0bf322914d8f28d41	Running	t3.large	ap-south-1a	Windows	
Server 6	i-056ad03bfdaa1cf3b	Running	t3.medium	ap-south-1a	Windows	
Server 19	i-0931e06c09bf2c7e3	Stopped	t3a.large	ap-south-1a	Windows	No reseve instance
Server 18	i-09c8b82a1dc8d15de	Running	t3a.medium	ap-south-1a	Linux/UNIX	No reseve instance
Server 22	i-06e526c7fa29304f4	Running	t3a.medium	ap-south-1a	Linux/UNIX	No reseve instance
Server 12	i-0d4fc5afc9226f987	Running	t3a.xlarge	ap-south-1a	Windows	

Facts:

1) To create an instance, you can use the Amazon EC2 console, command line interface, or API.

2) You can enable termination protection to prevent your instance from being accidentally terminated.

3) By default, every menu selects a free tier of storage. (Only if you are eligible for the free tier)

4) Types of Instance State are as follows:-
   i. Pending
   ii. Running
   iii. Stopped
   iv. Terminated
   v. Rebooting

5) EC2 instances can be complex to set up and manage, especially for non-technical users.

6) You can use the EC2 Instance Type Explorer to find the right instances for your workloads and business needs.