AWS CLOUD OVERVIEW

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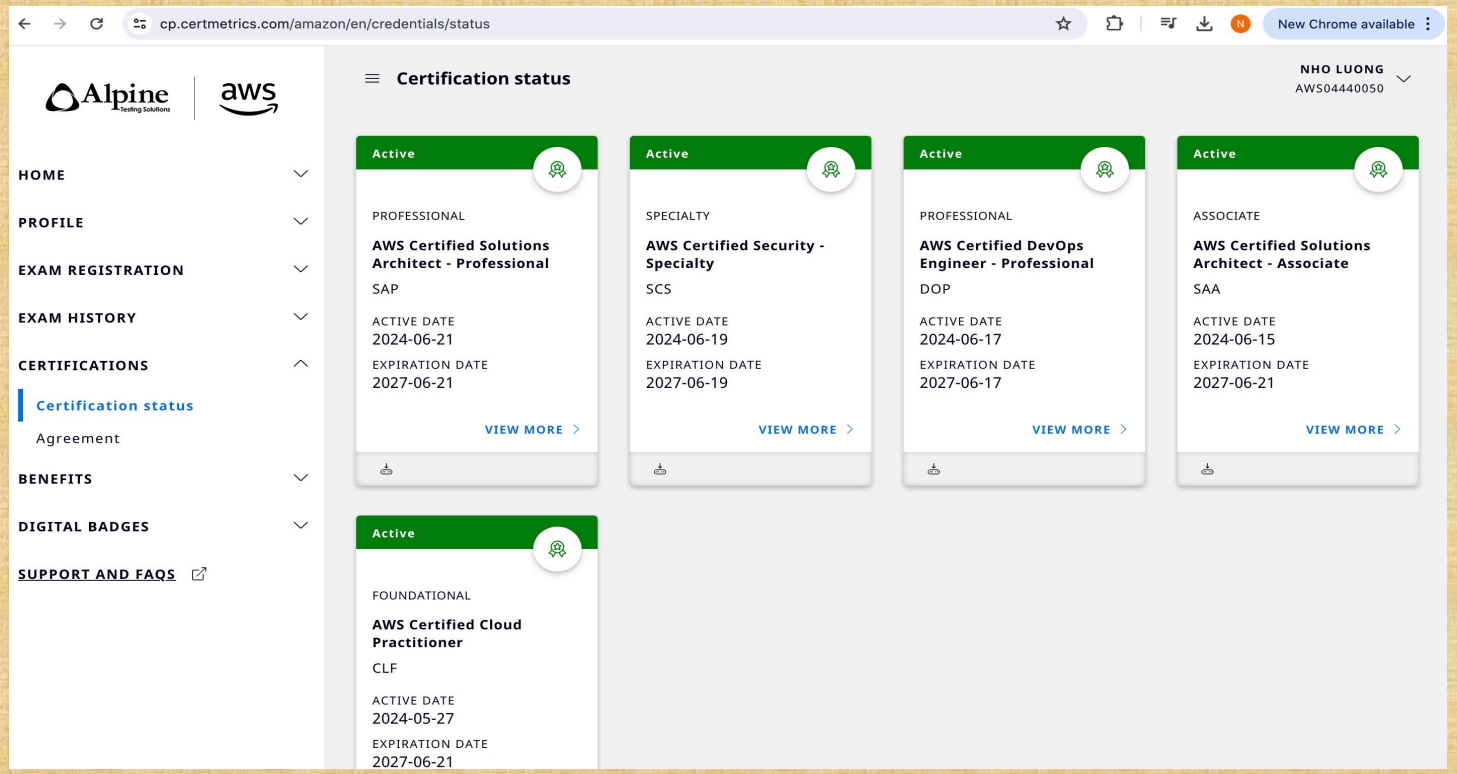
Skill: DevOps Engineer Lead



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AGENDA

- Introduction
- Ec2 Machine
- Storage on AWS
- Scalable system
- Deployment
- Security
- Price optimization

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EC2

Amazon Elastic Compute Cloud (EC2) is a web service that provides resizable compute capacity in the cloud. In simpler terms, EC2 allows you to rent virtual servers (called instances) from Amazon's cloud infrastructure, which you can use to run your applications or services. You can choose the instance type based on your needs, whether it's for general-purpose computing, memory-intensive tasks, or high-performance computing.

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HOW TO CREATE

EC2 Machine

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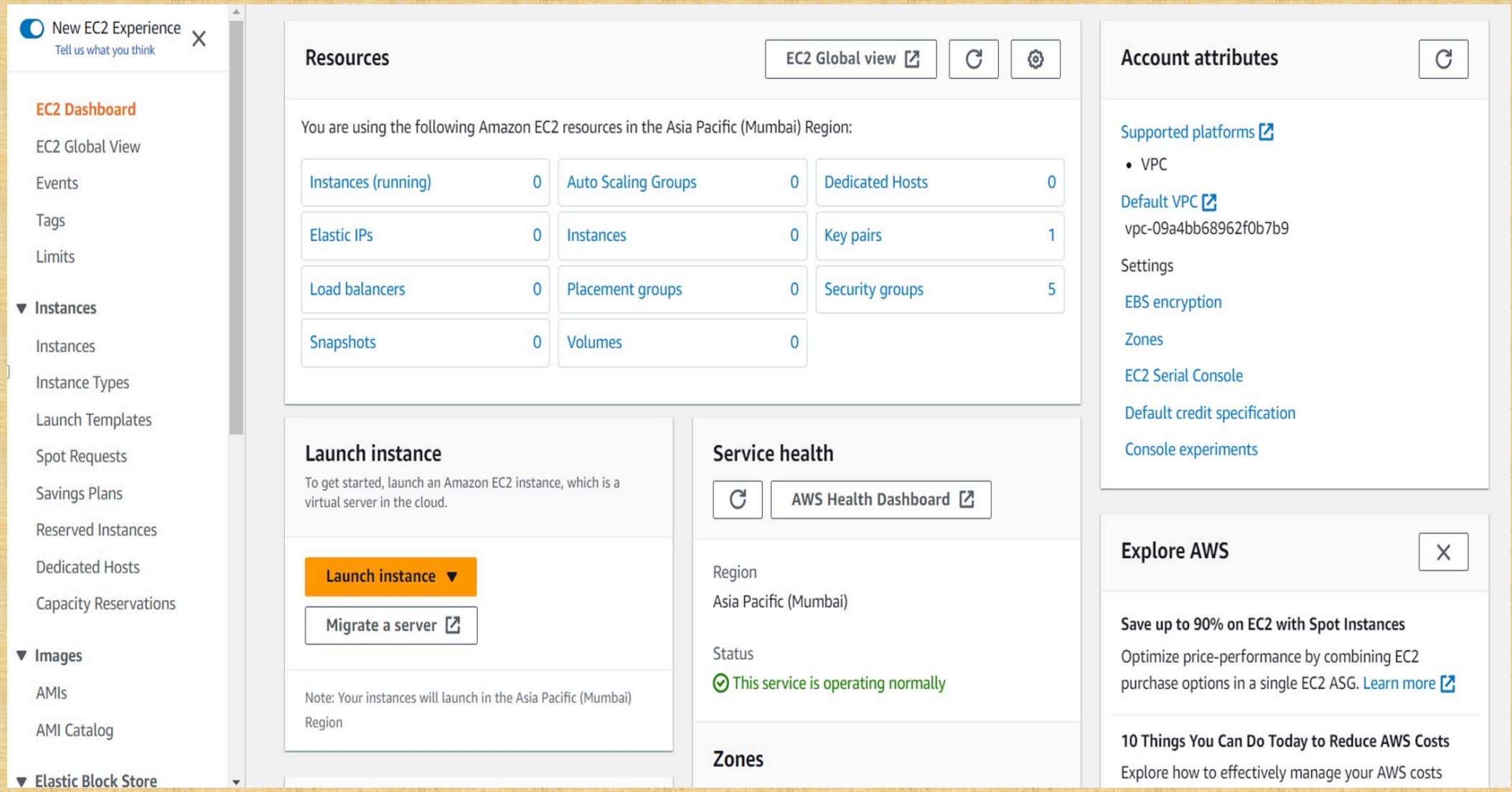
Ec2 Dashboard



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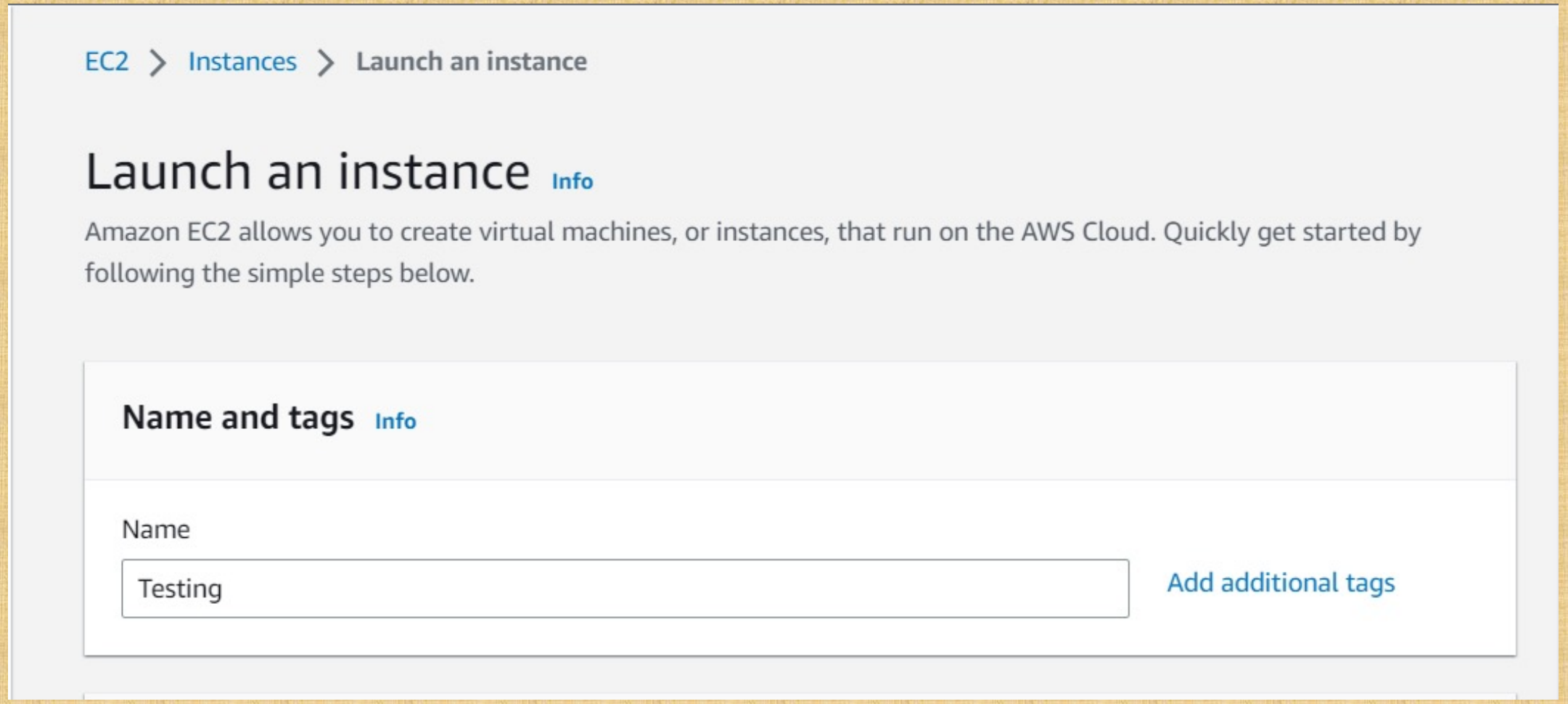
Naming of Instance



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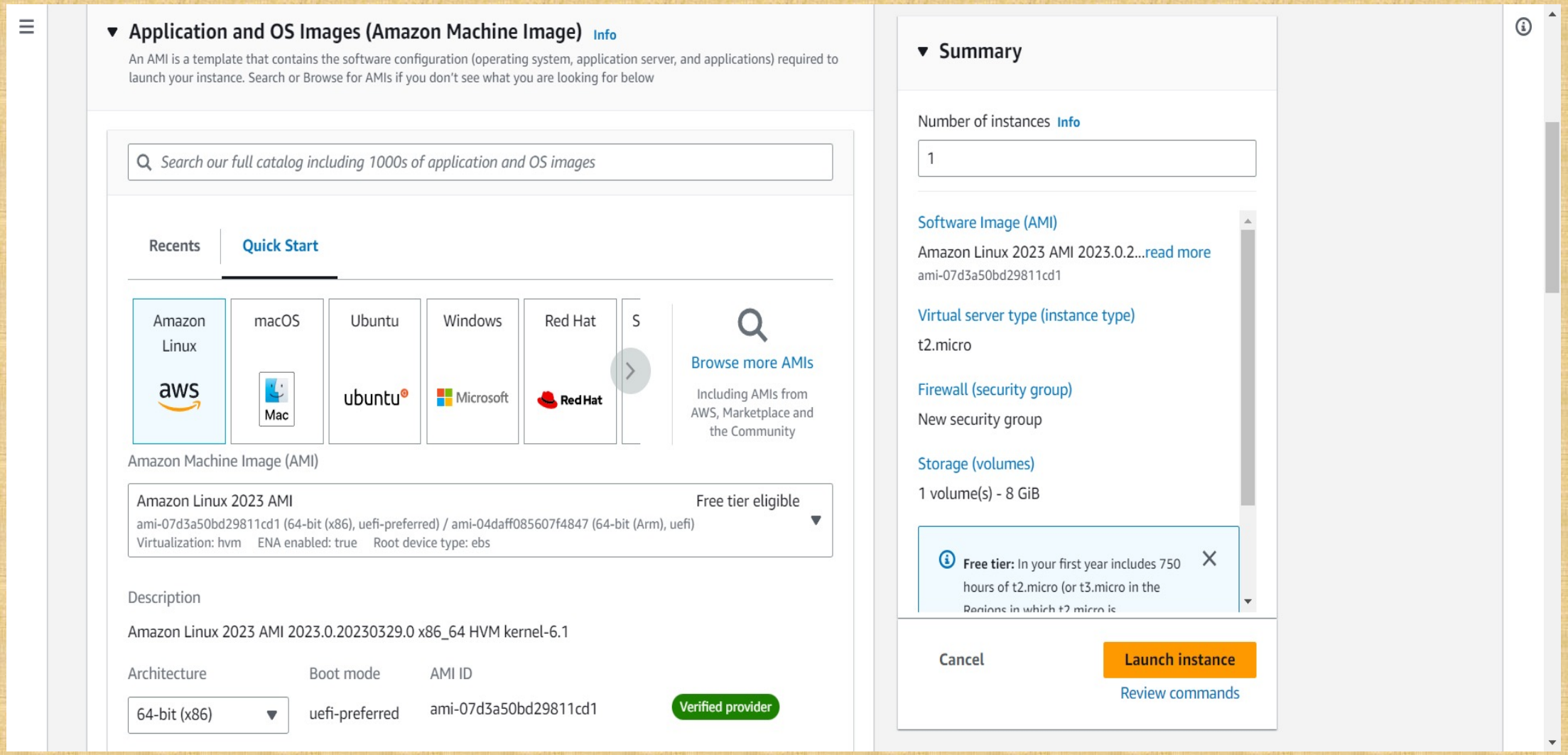
OS Types



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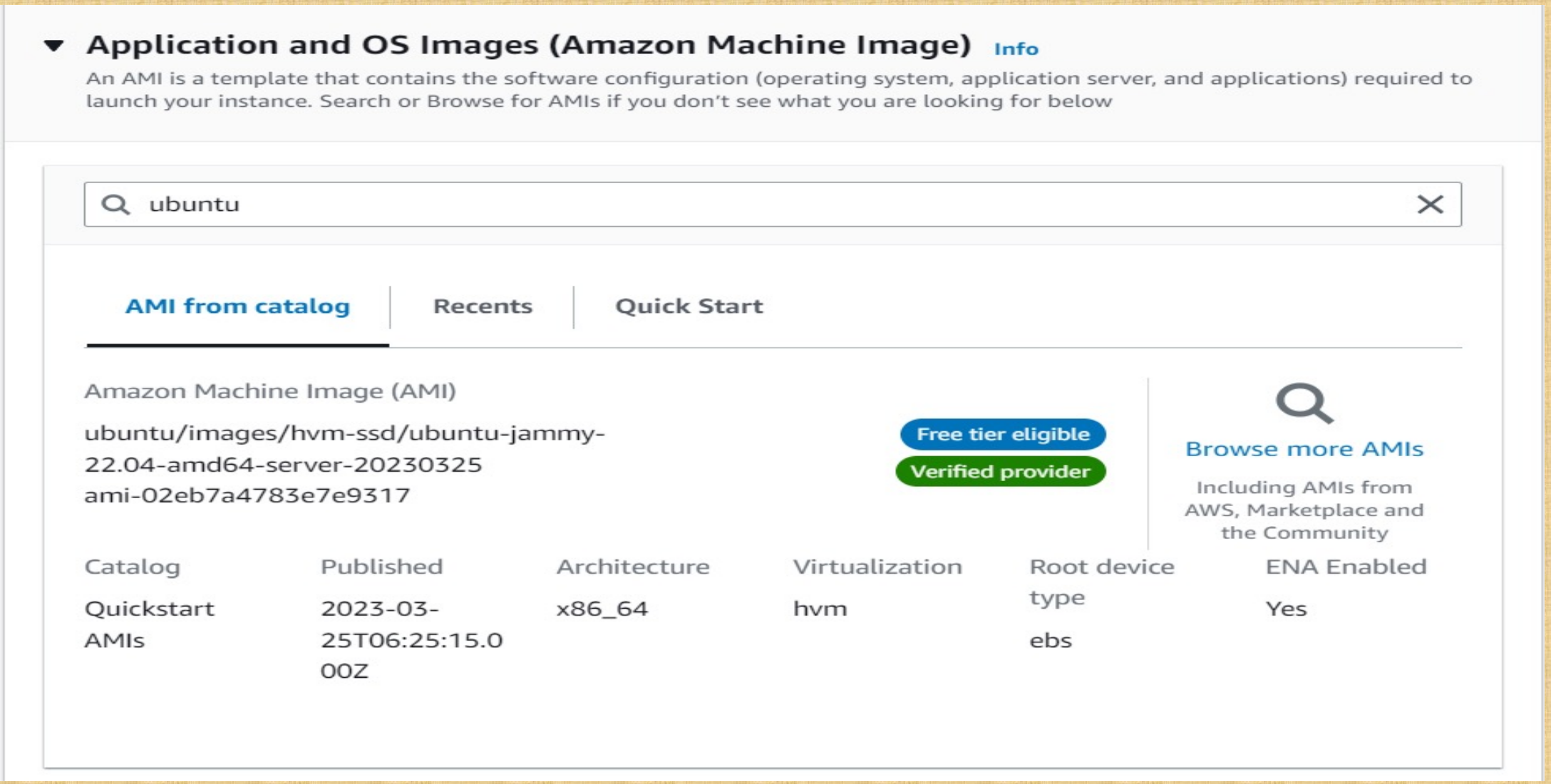
OS Types



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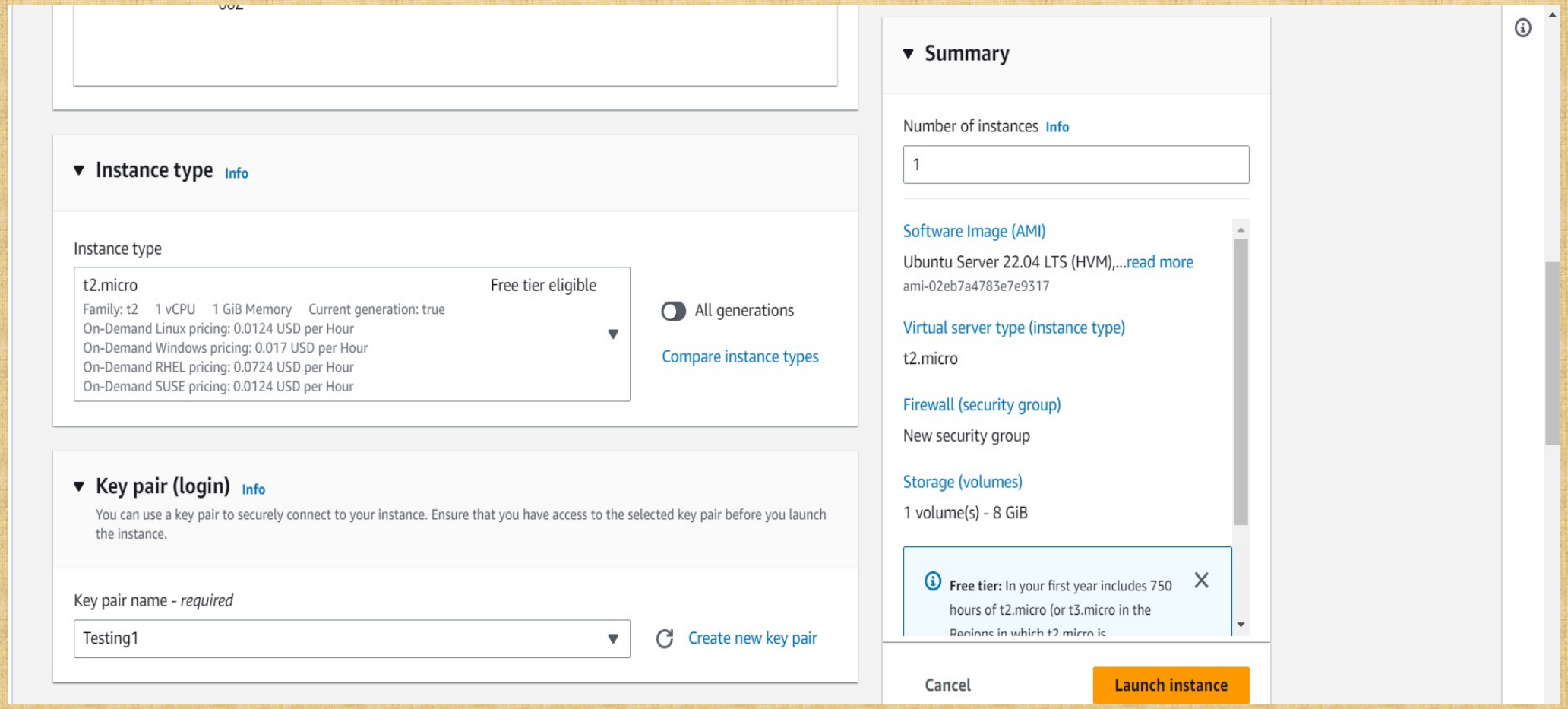
Instance Types



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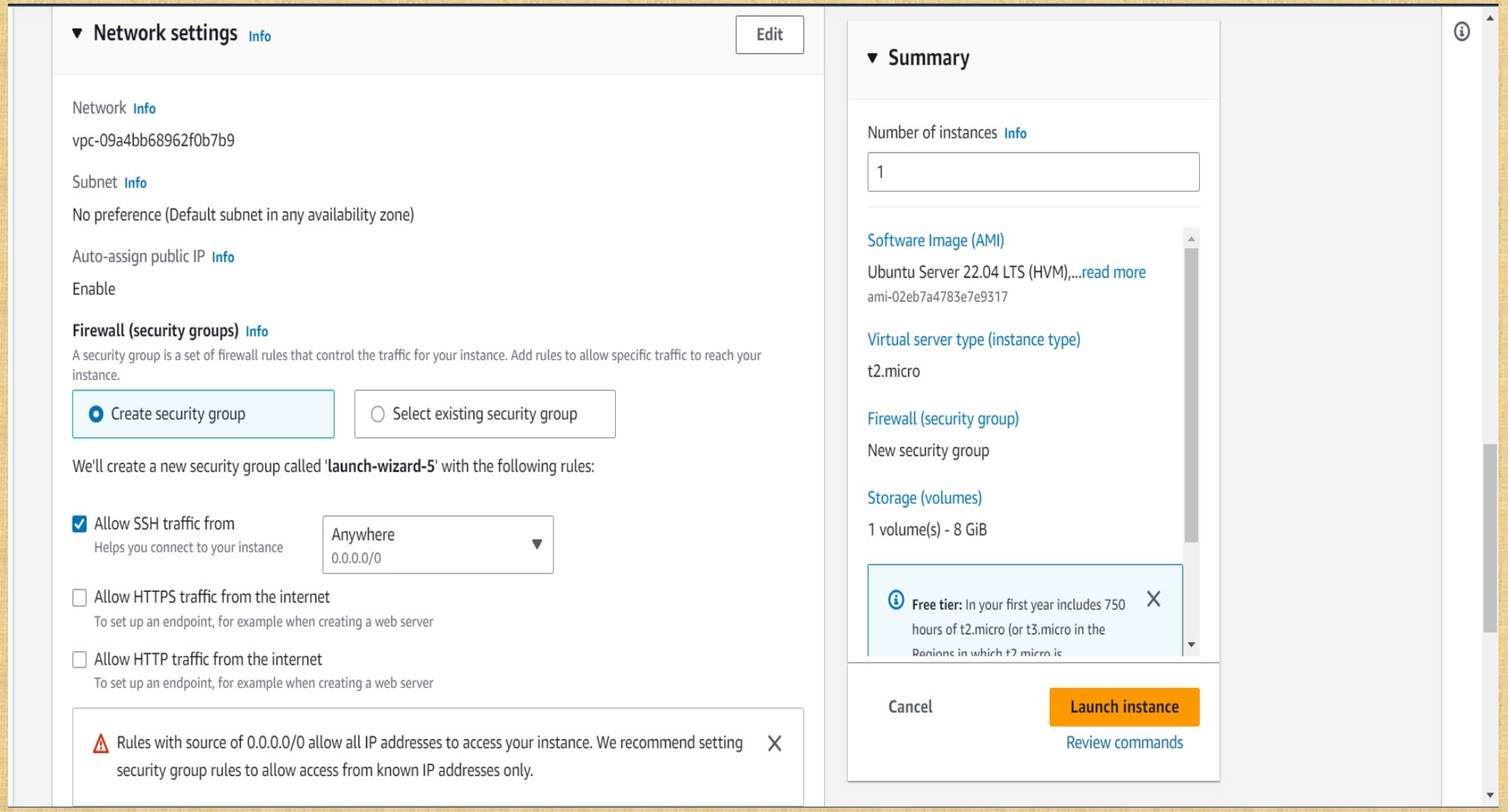
Network Setting for traffic



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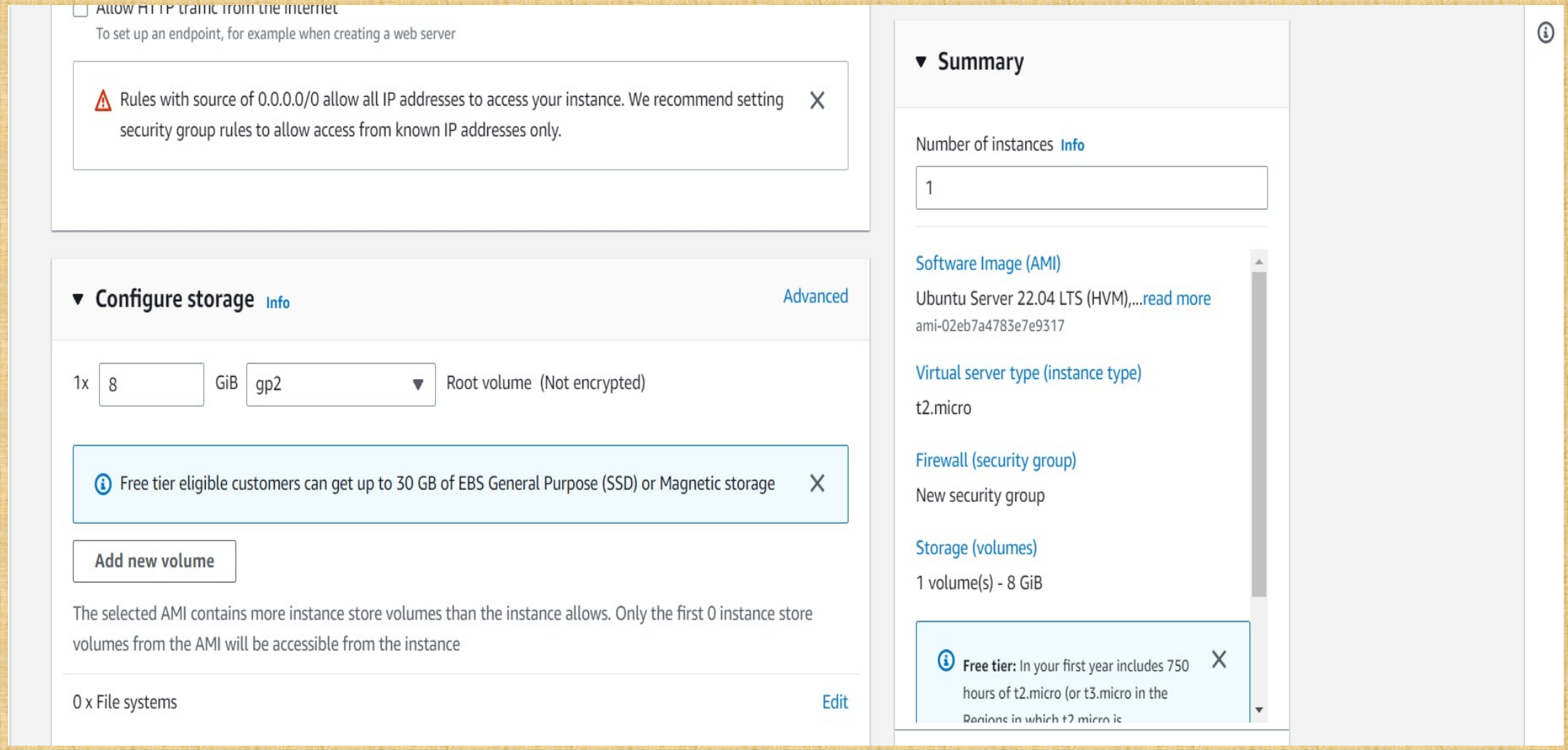
Storage to install OS on EC2



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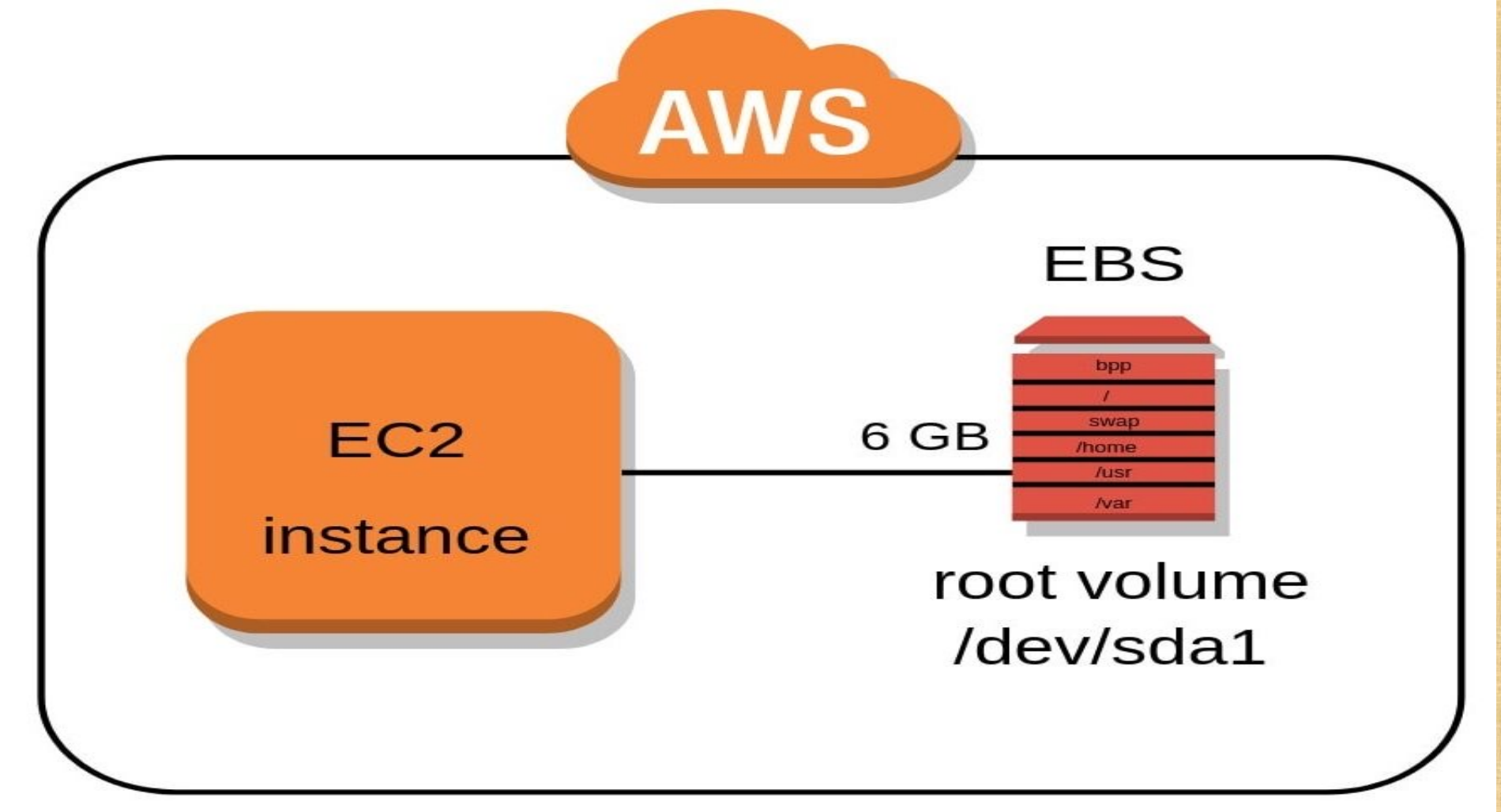
EC2 EBS



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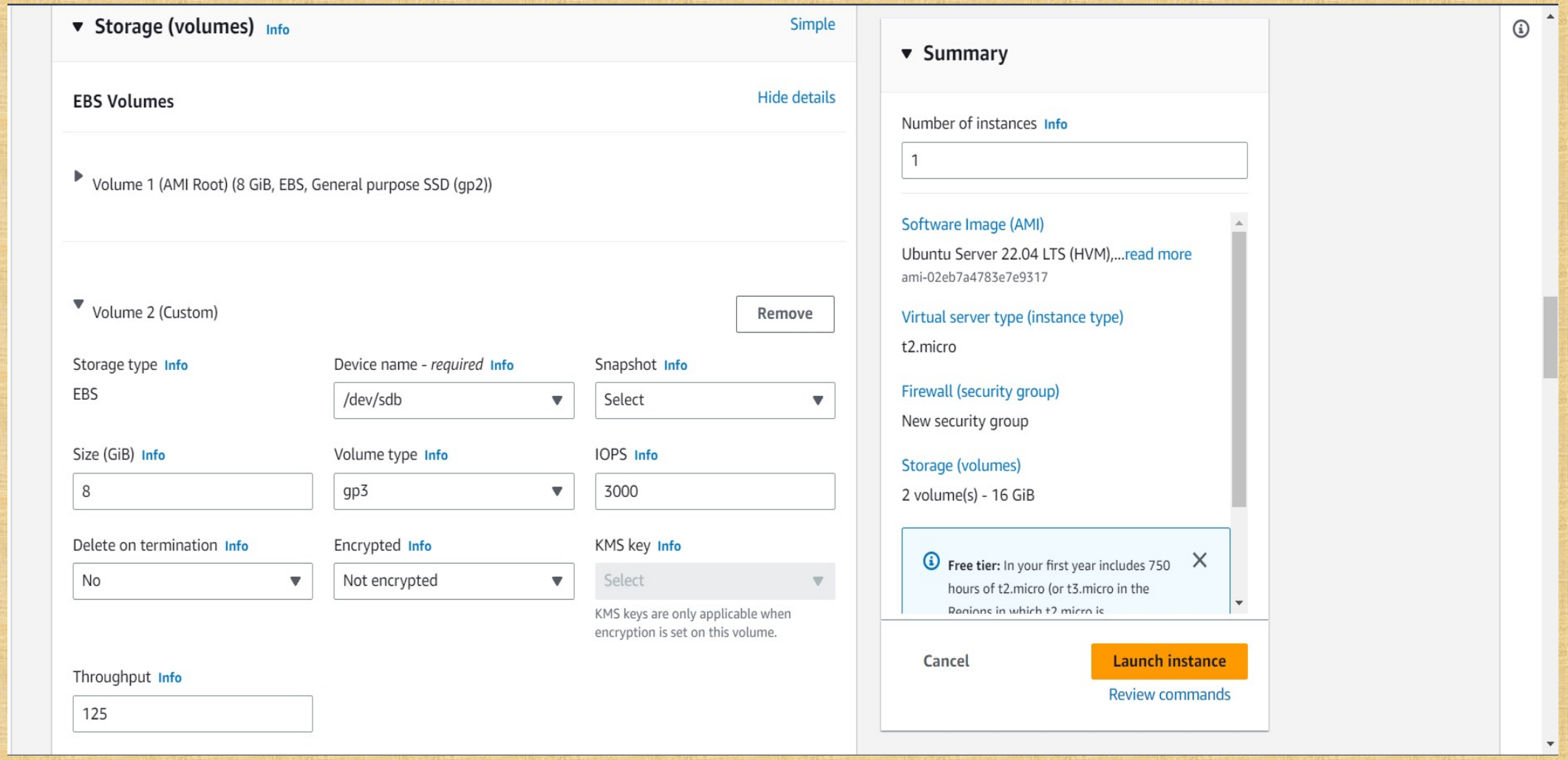
Advance Volume Settings



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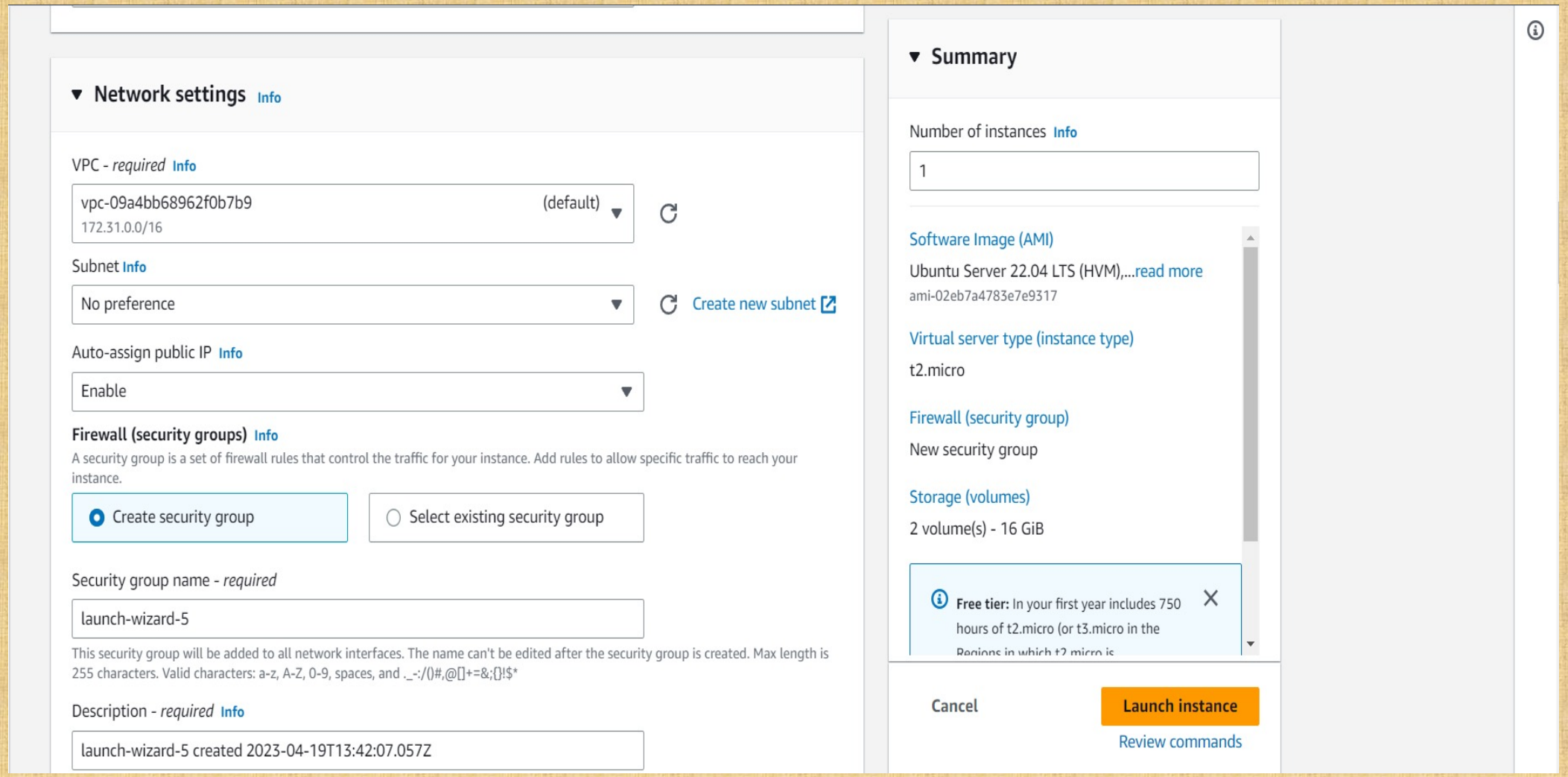
Advance Network Settings Virtual Private Cloud



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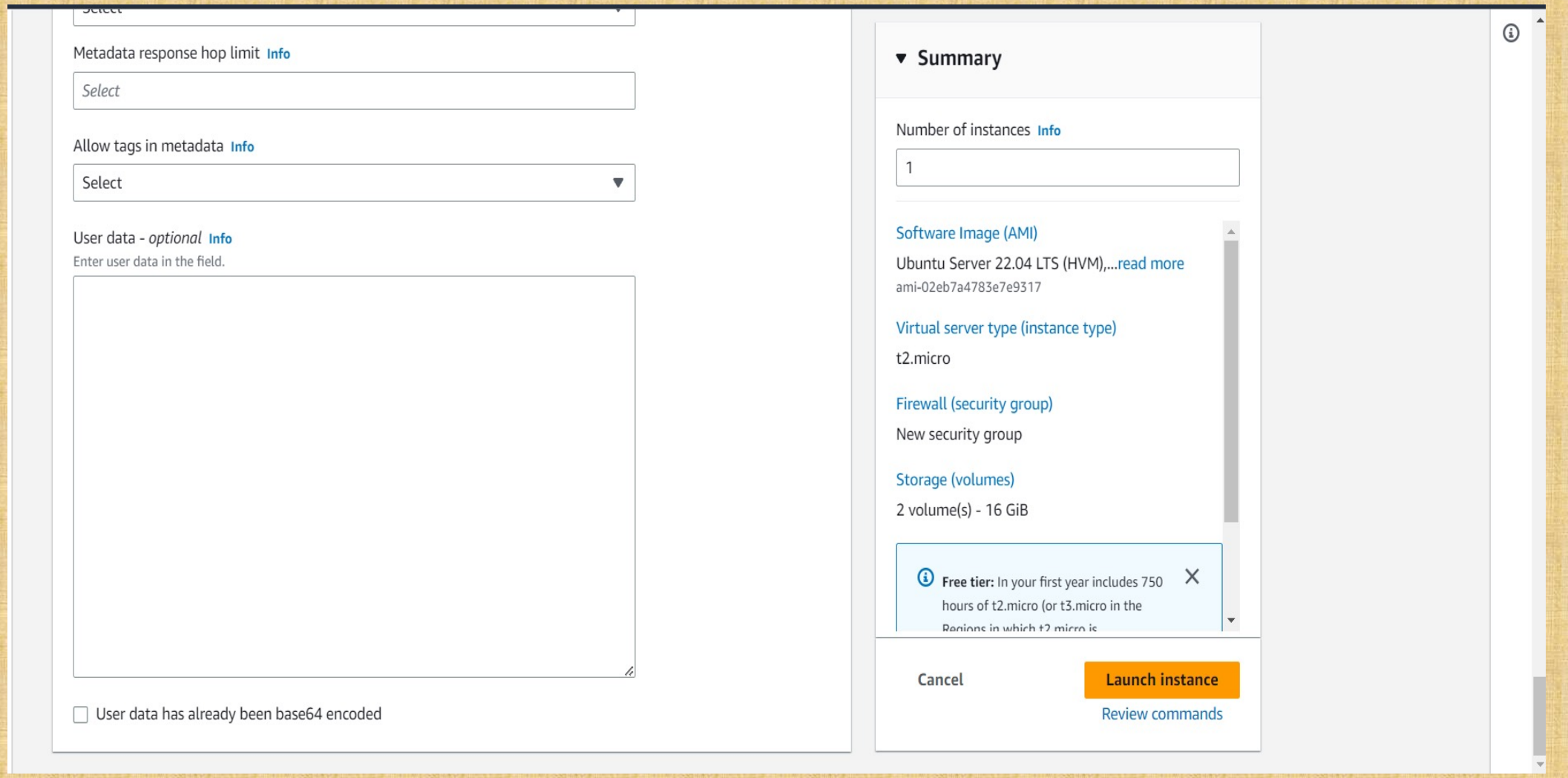
Advance Pre-configuration



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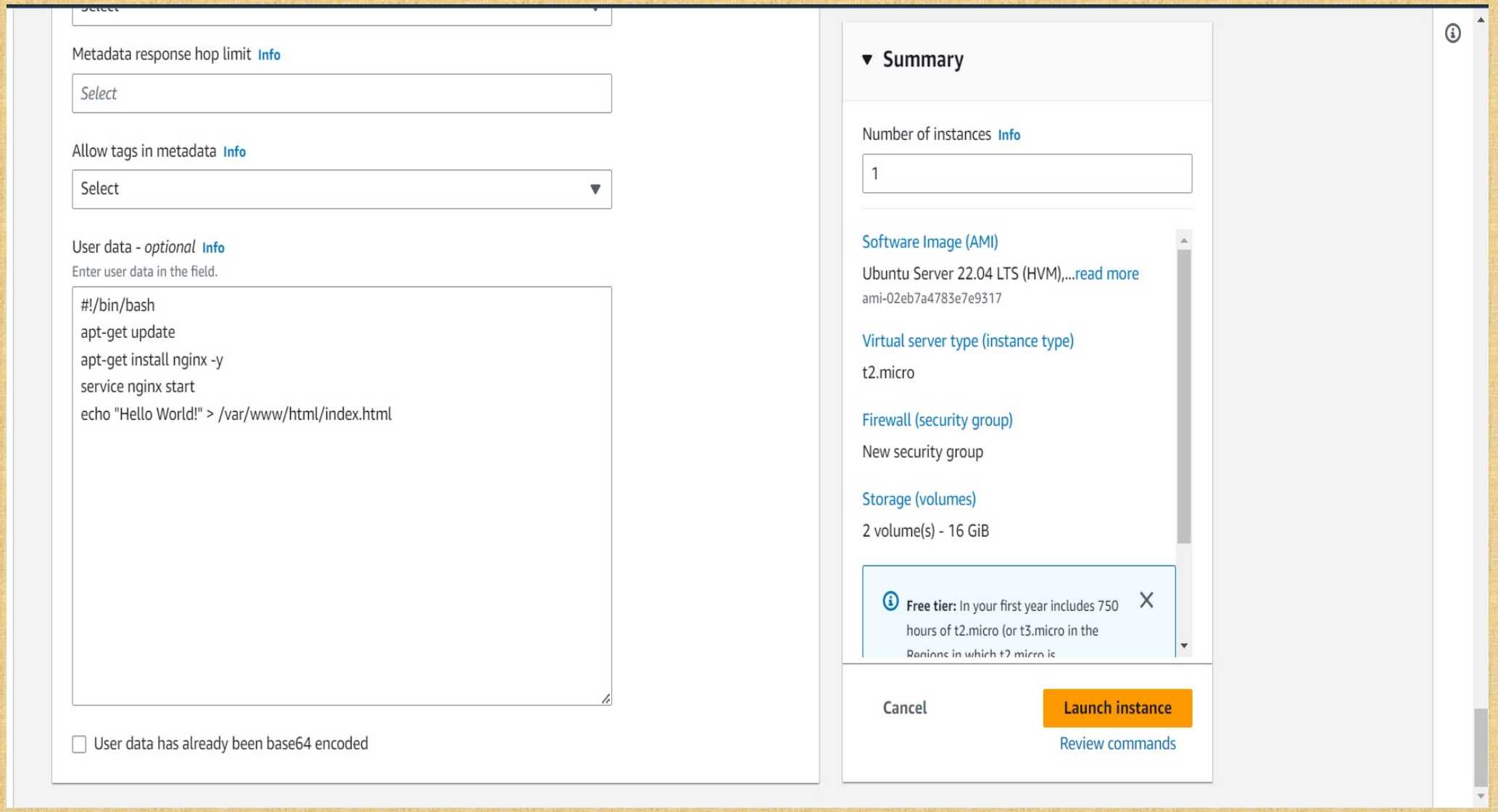
Bash Script(as Root user be careful)



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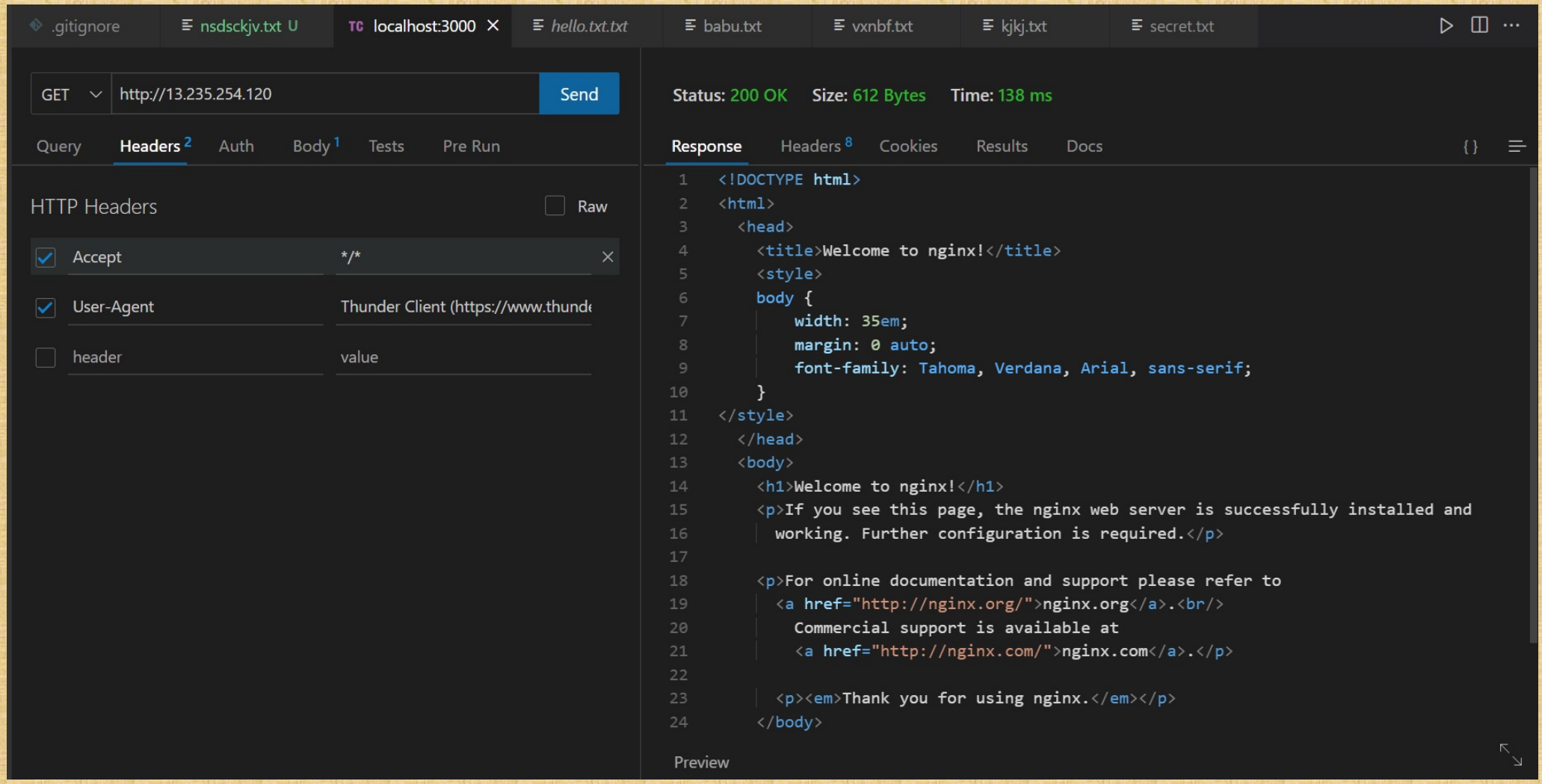
Response from EC2



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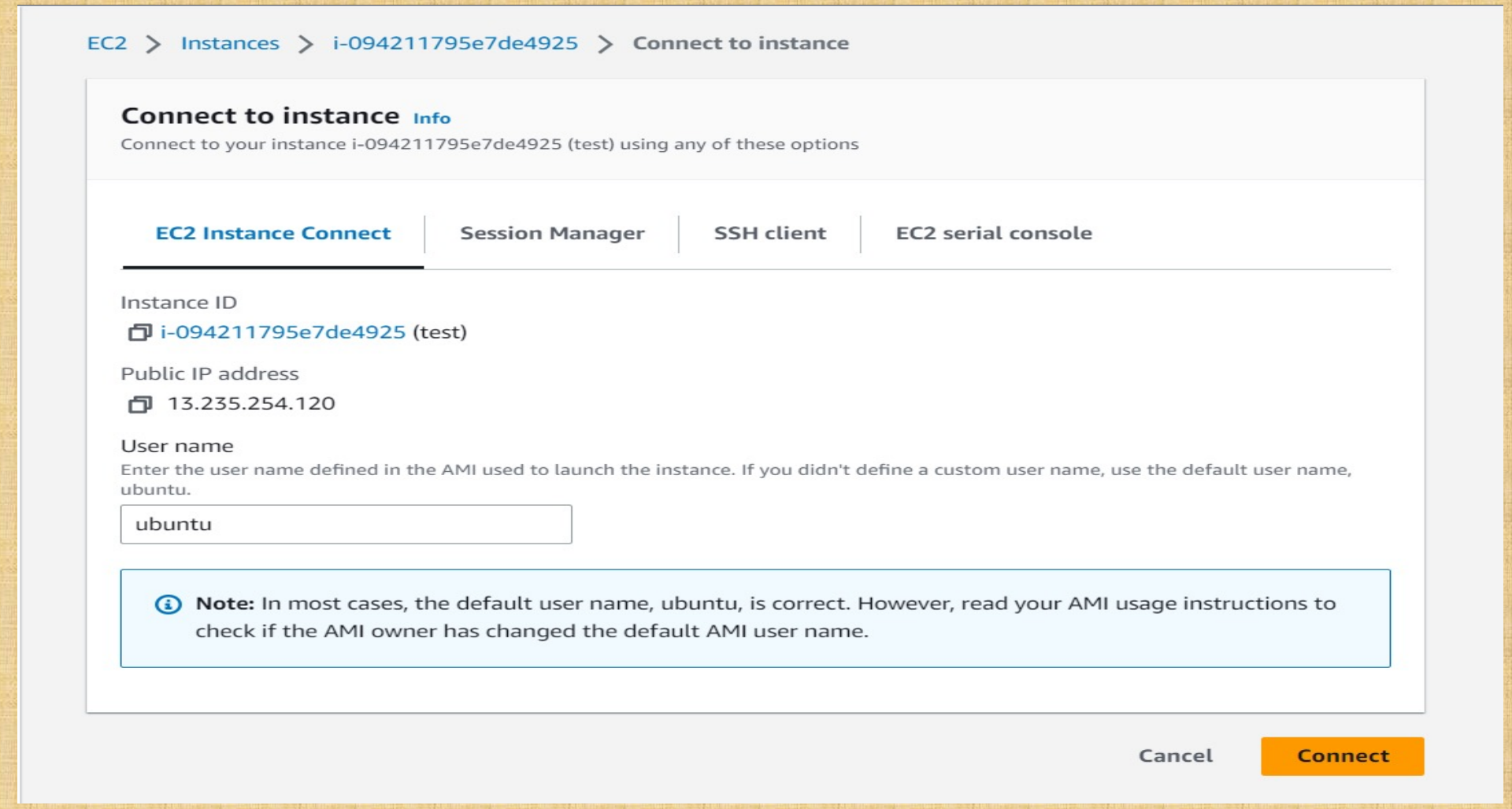
Ec2 Connection Method



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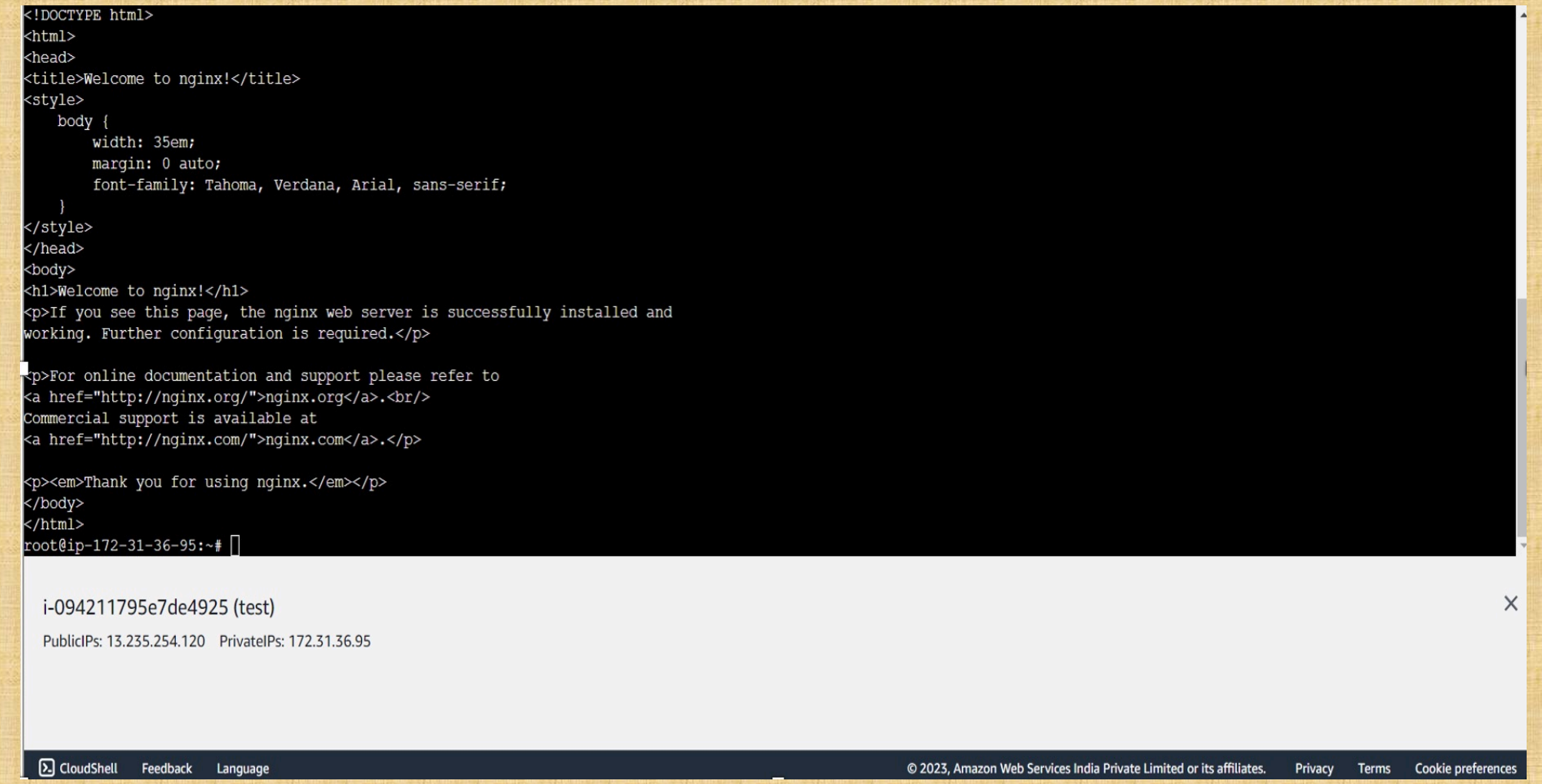
SSH connection from AWS Web



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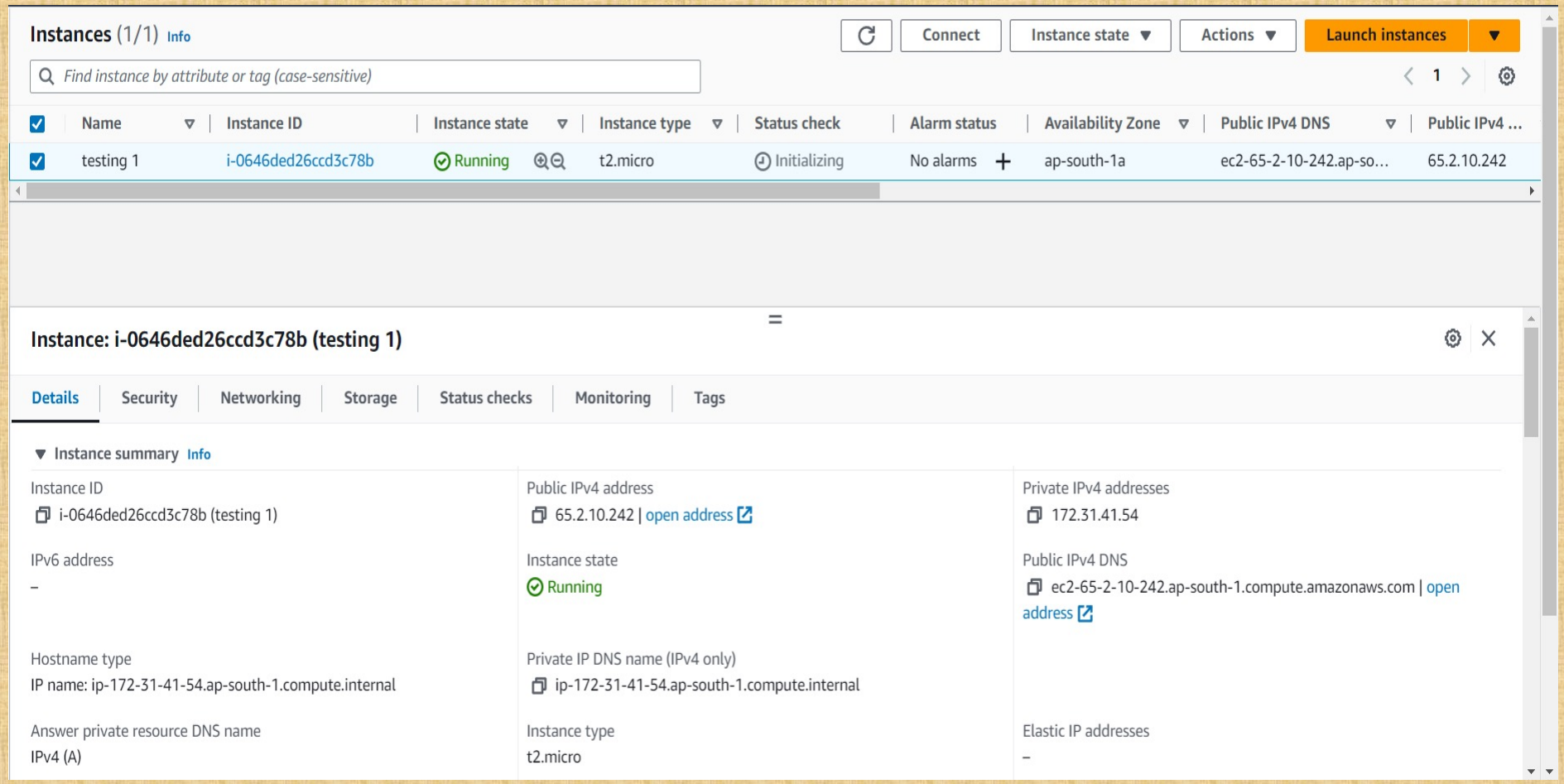
IP Address



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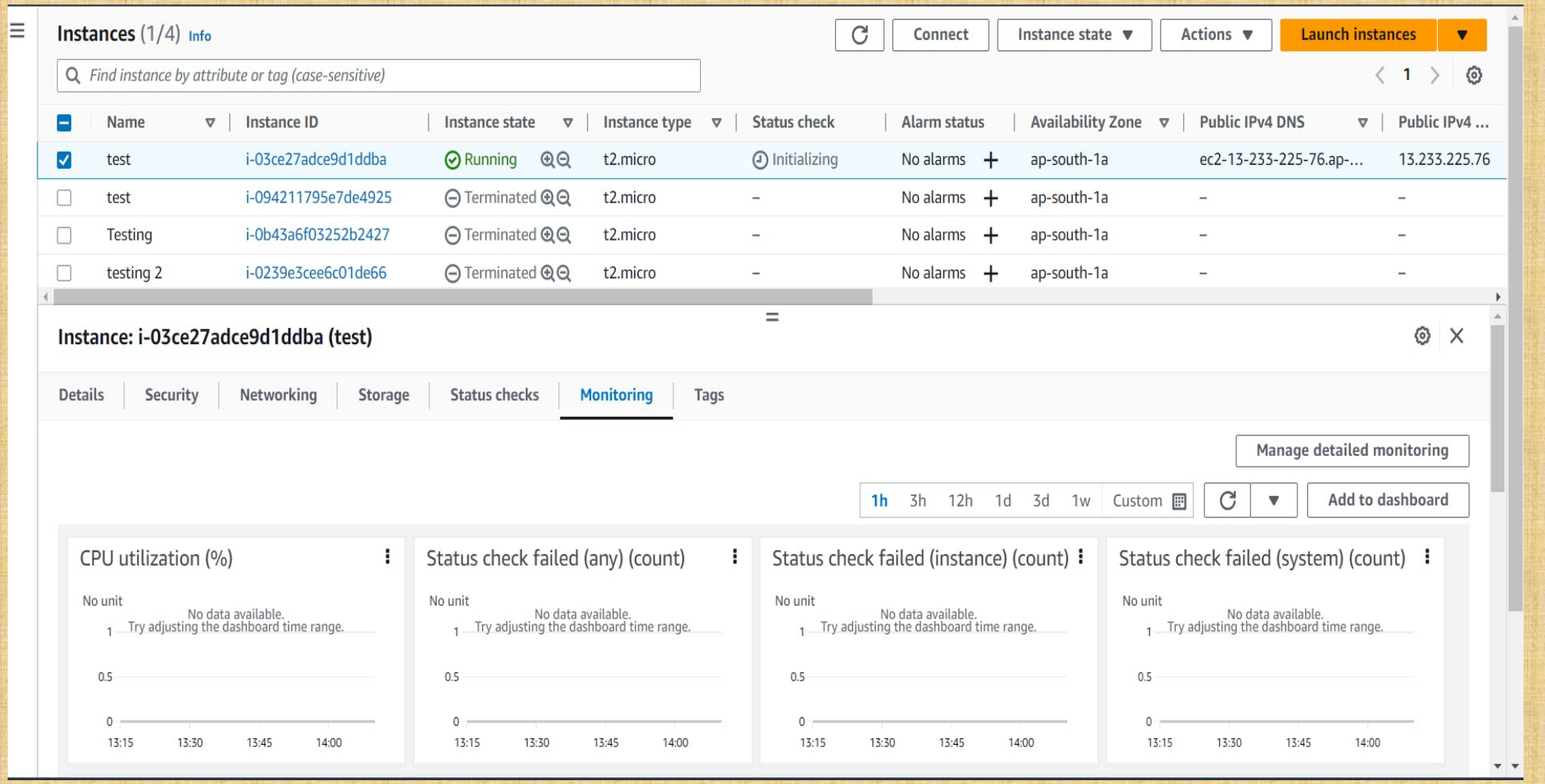
Resource Monitor



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EBS Types

	General Purpose SSD volumes		Provisioned IOPS SSD volumes		
Volume type	gp3	gp2	io2 Block Express ‡	io2	io1
Durability	99.8% - 99.9% durability (0.1% - 0.2% annual failure rate)		99.999% durability (0.001% annual failure rate)		99.8% - 99.9% durability (0.1% - 0.2% annual failure rate)
Use cases	• Transactional workloads • Virtual desktops • Medium-sized, single-instance databases • Low-latency interactive applications • Boot volumes • Development and test environments		Workloads that require: • Sub-millisecond latency • Sustained IOPS performance • More than 64,000 IOPS or 1,000 MiB/s of throughput		• Workloads that require sustained IOPS performance or more than 16,000 IOPS • I/O-intensive database workloads
Volume size	1 GiB - 16 TiB		4 GiB - 64 TiB		4 GiB - 16 TiB
Max IOPS per volume (16 KiB I/O)	16,000		256,000		64,000 †
Max throughput per volume	1,000 MiB/s	250 MiB/s *	4,000 MiB/s		1,000 MiB/s †
Amazon EBS Multi-attach	Not supported		Supported		
Boot volume	Supported				

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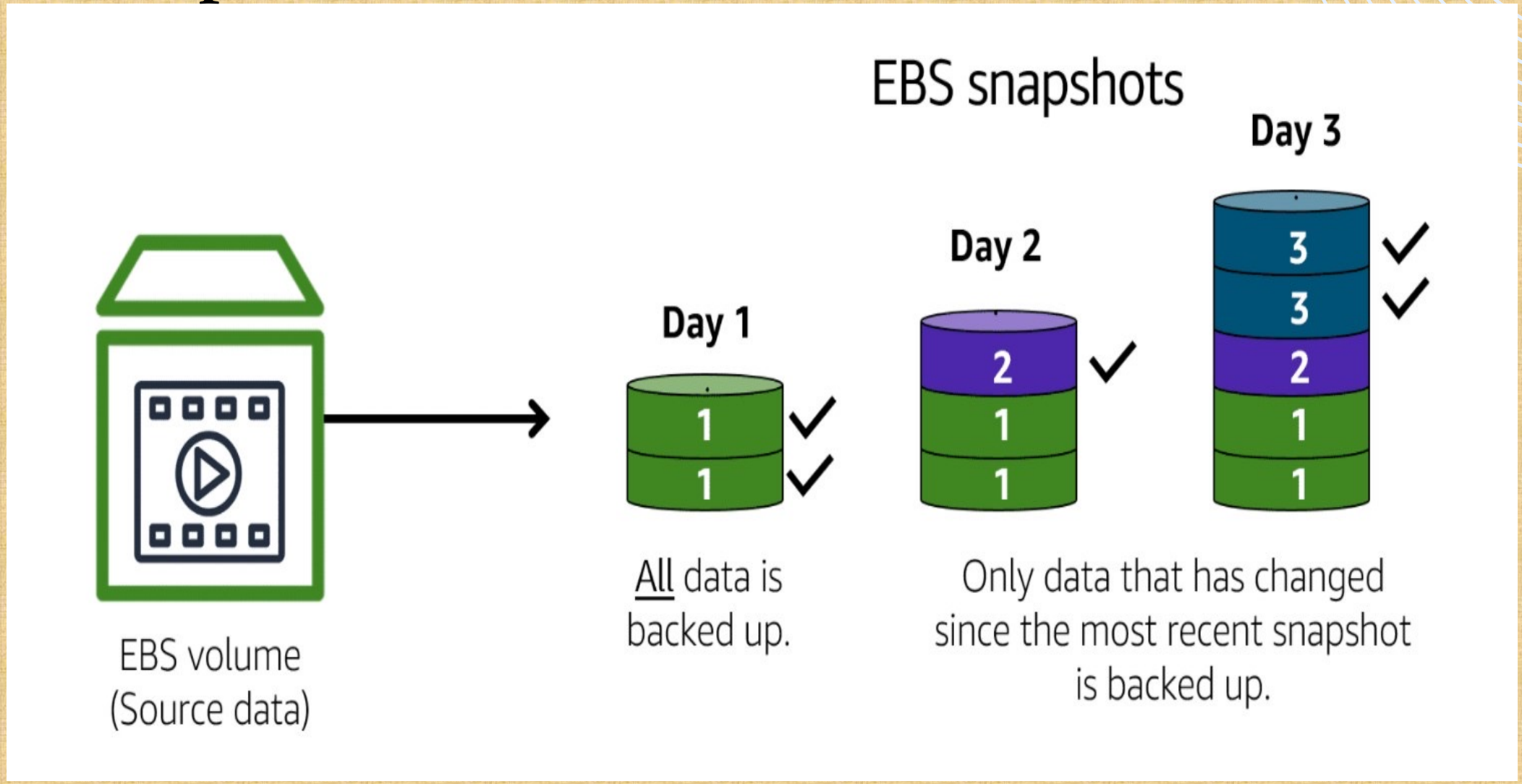
EBS Snapshots



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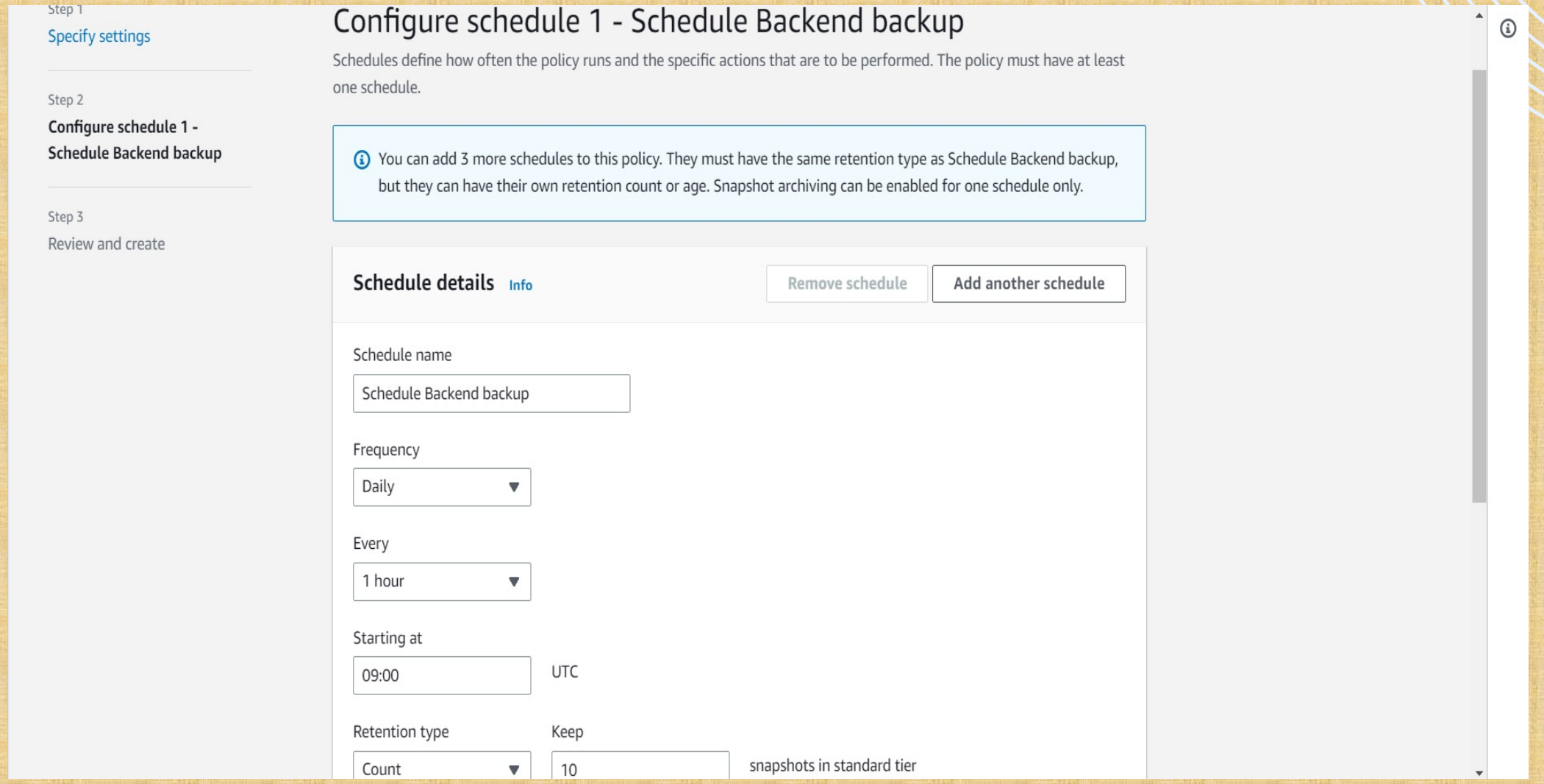
Schedule Backup



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Security Practice

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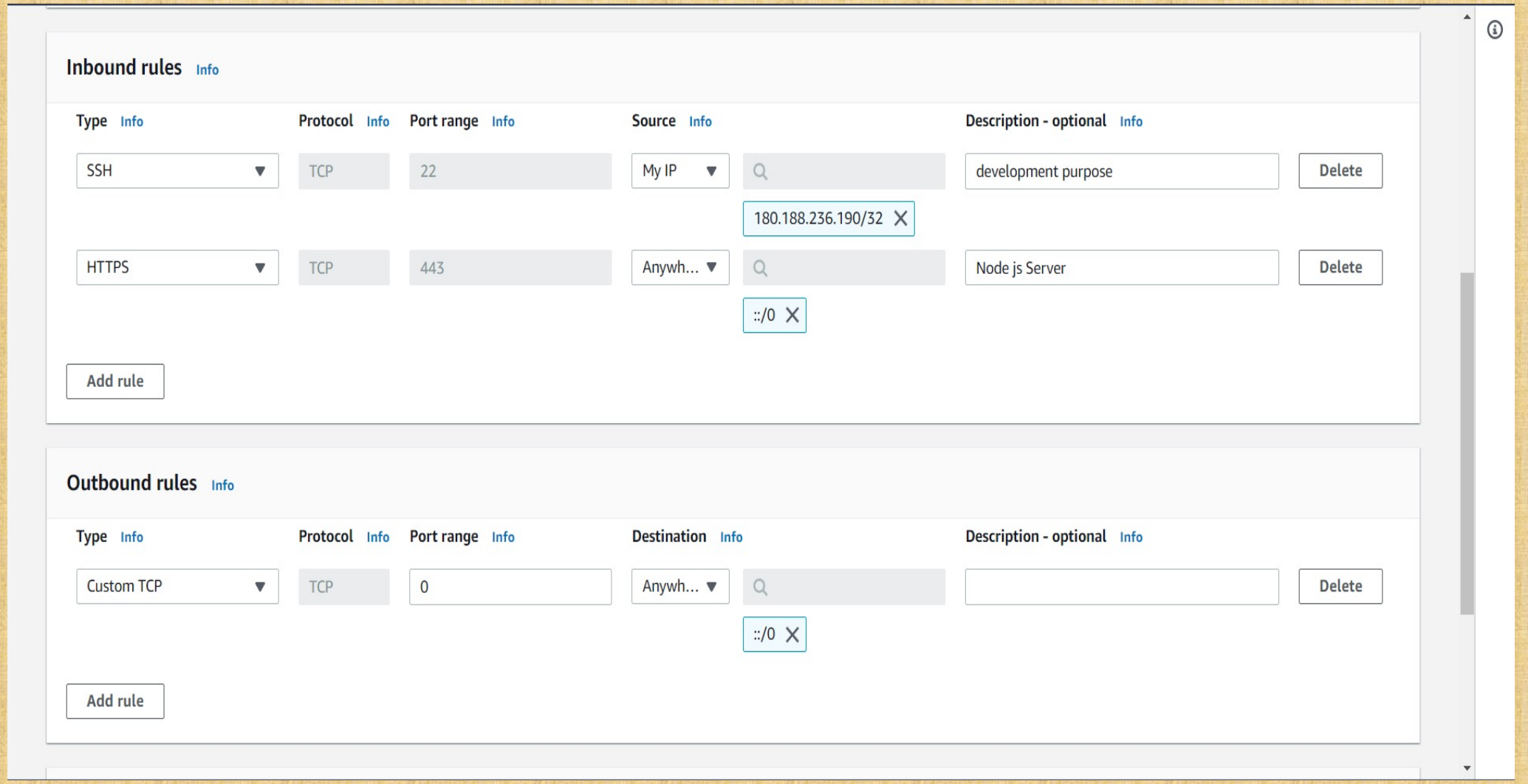
Security Groups



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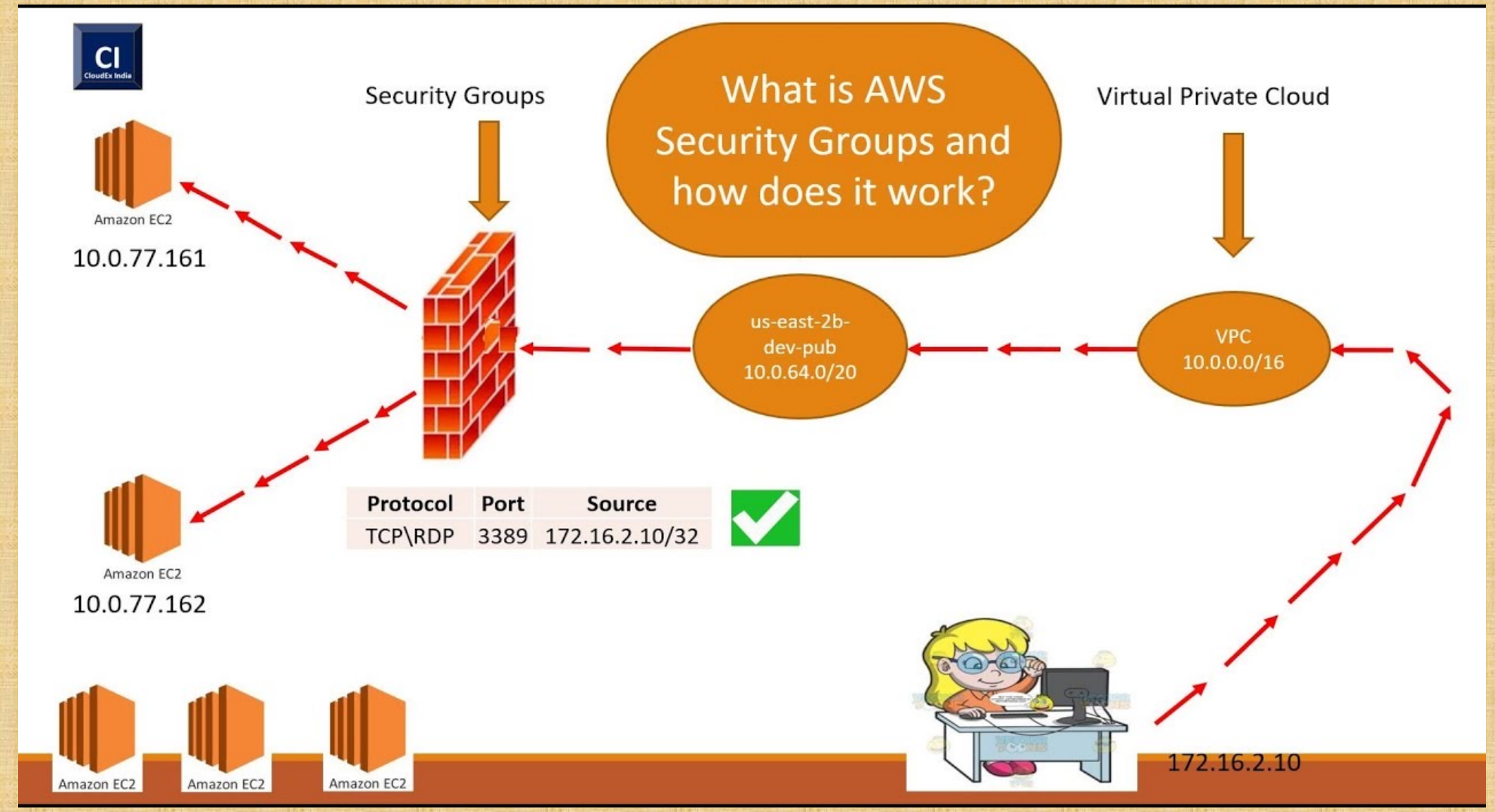
SECURITY GROUPS VISUAL VIEW

Security Groups Overview



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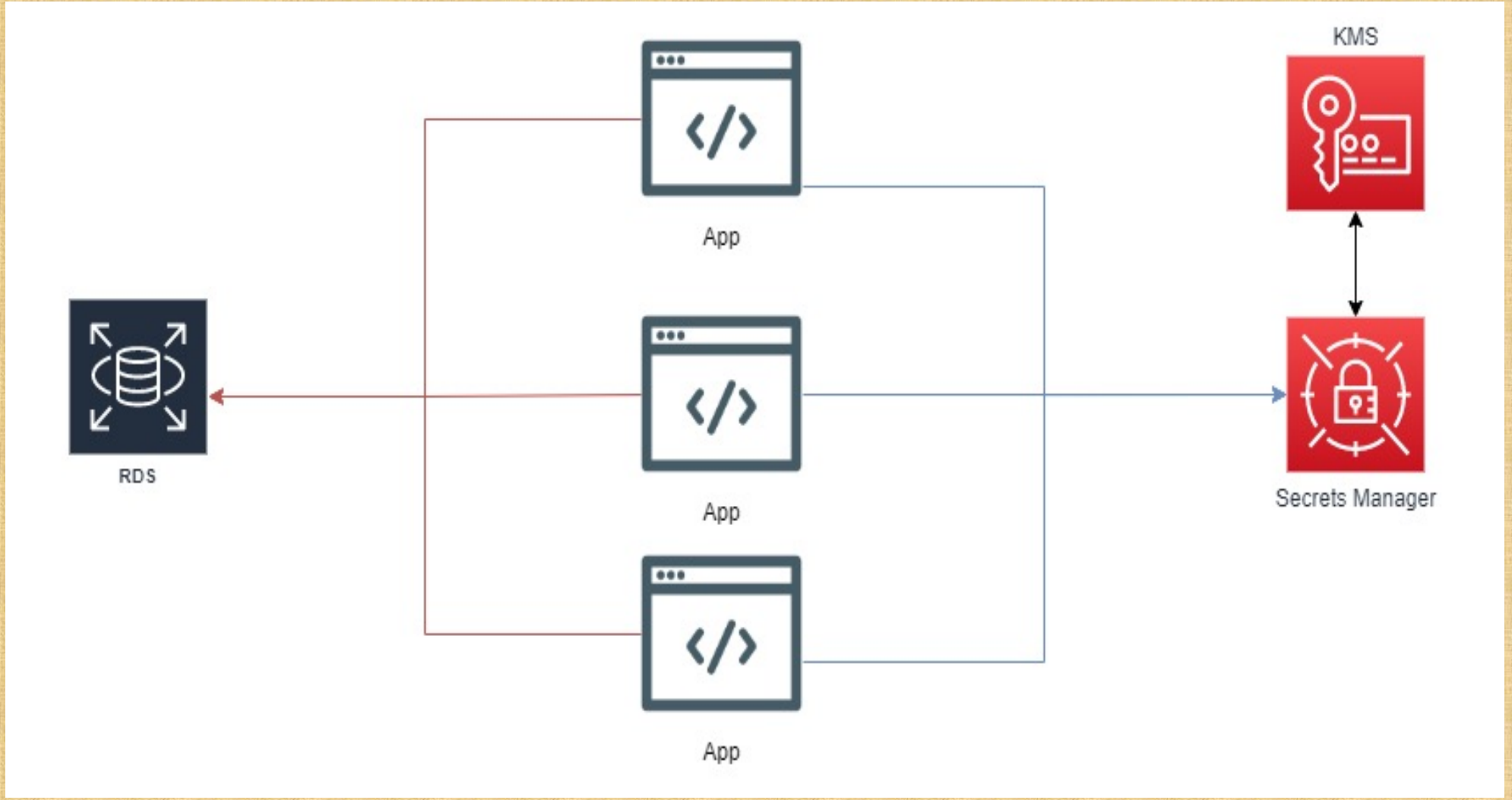
Security Groups Next



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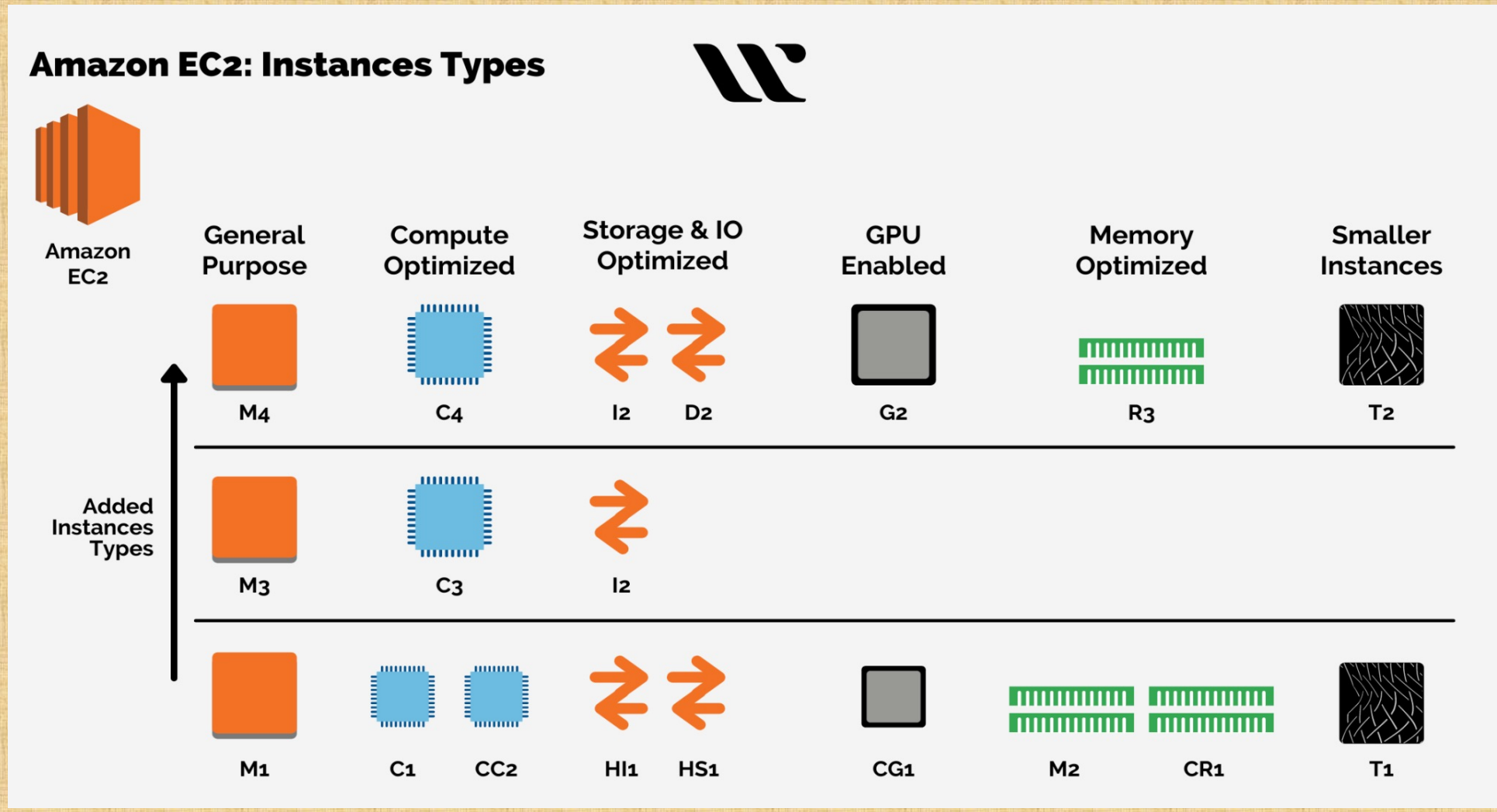
Price Optimization

EC2 Instances Types



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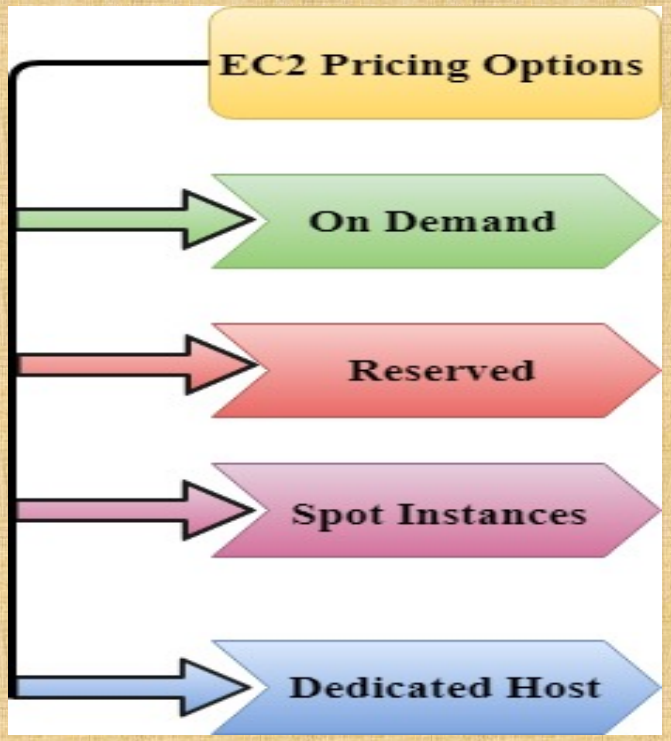
EC2 Instances Types



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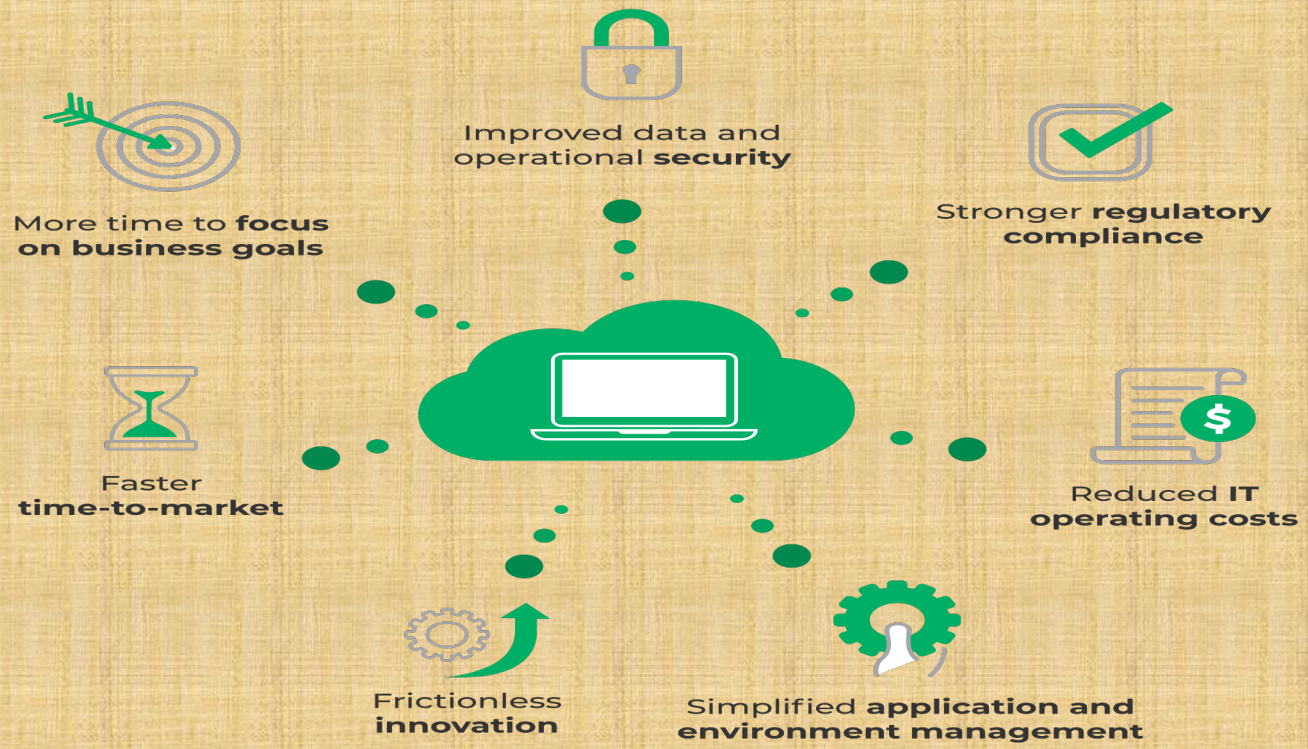
AWS Managed Services



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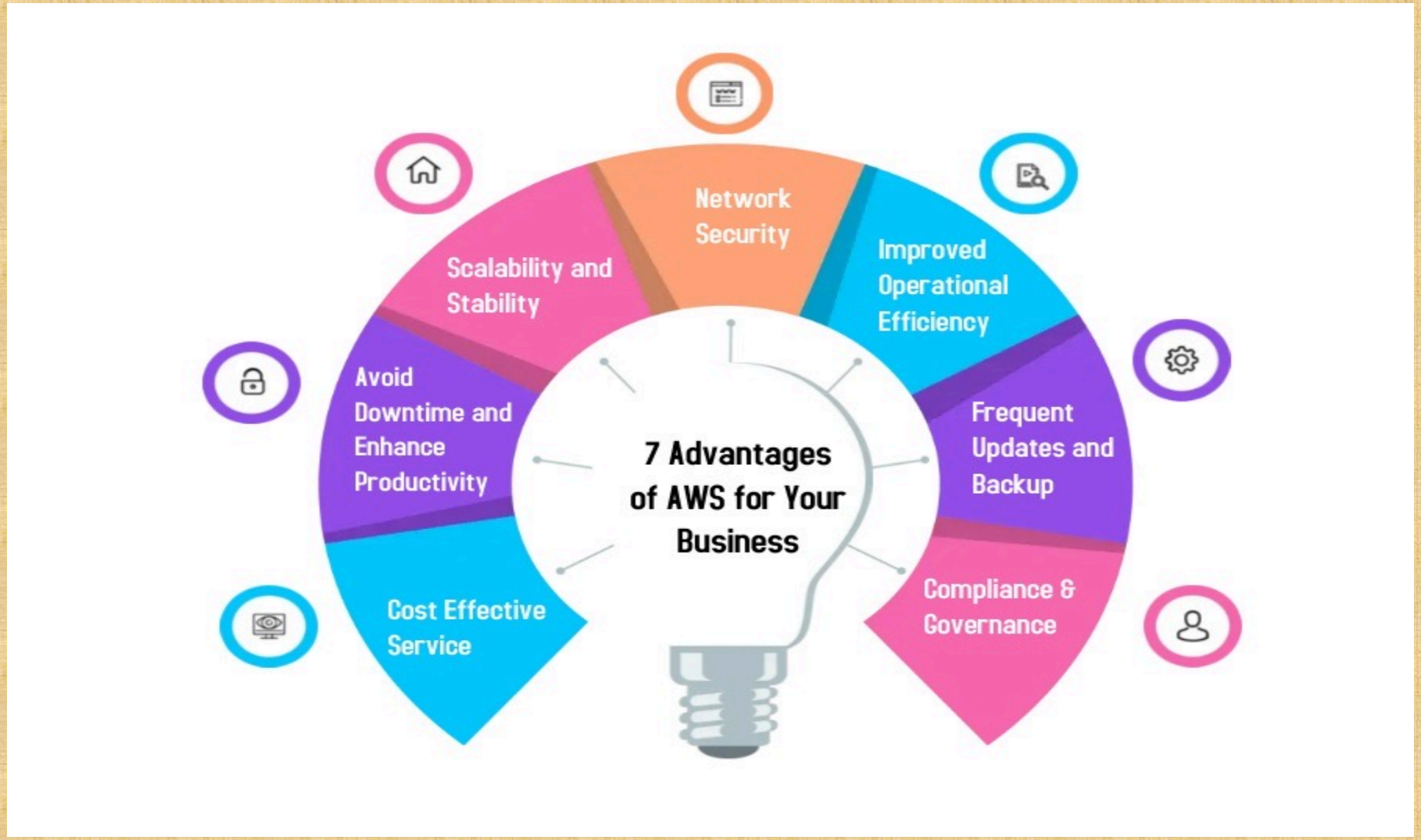
AWS Managed Services Benefit



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DEVELOPMENT & HOST

ARCHITECTURE & CI-CD SETUP

First define the architecture of project may be monolithic or micro-service

DEVELOPMENT

Now choose any asynchronous framework and do development

TESTING

Now test on the local system and build the production file

GIT-HUB

Now push development build file on the git repo

LAUNCH

From git-hub you can set direct AWS pipeline to deploy production server

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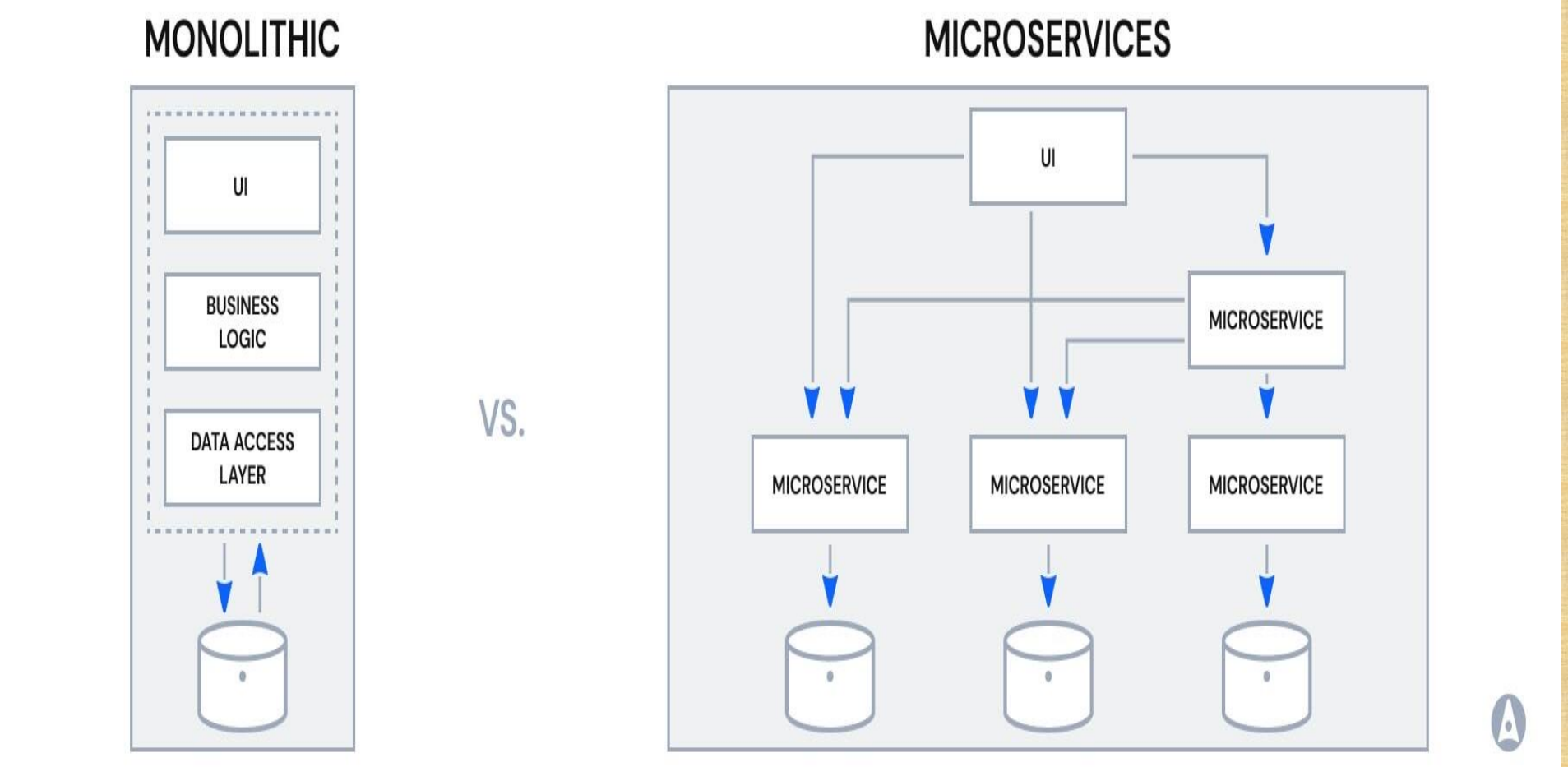
Application Architecture



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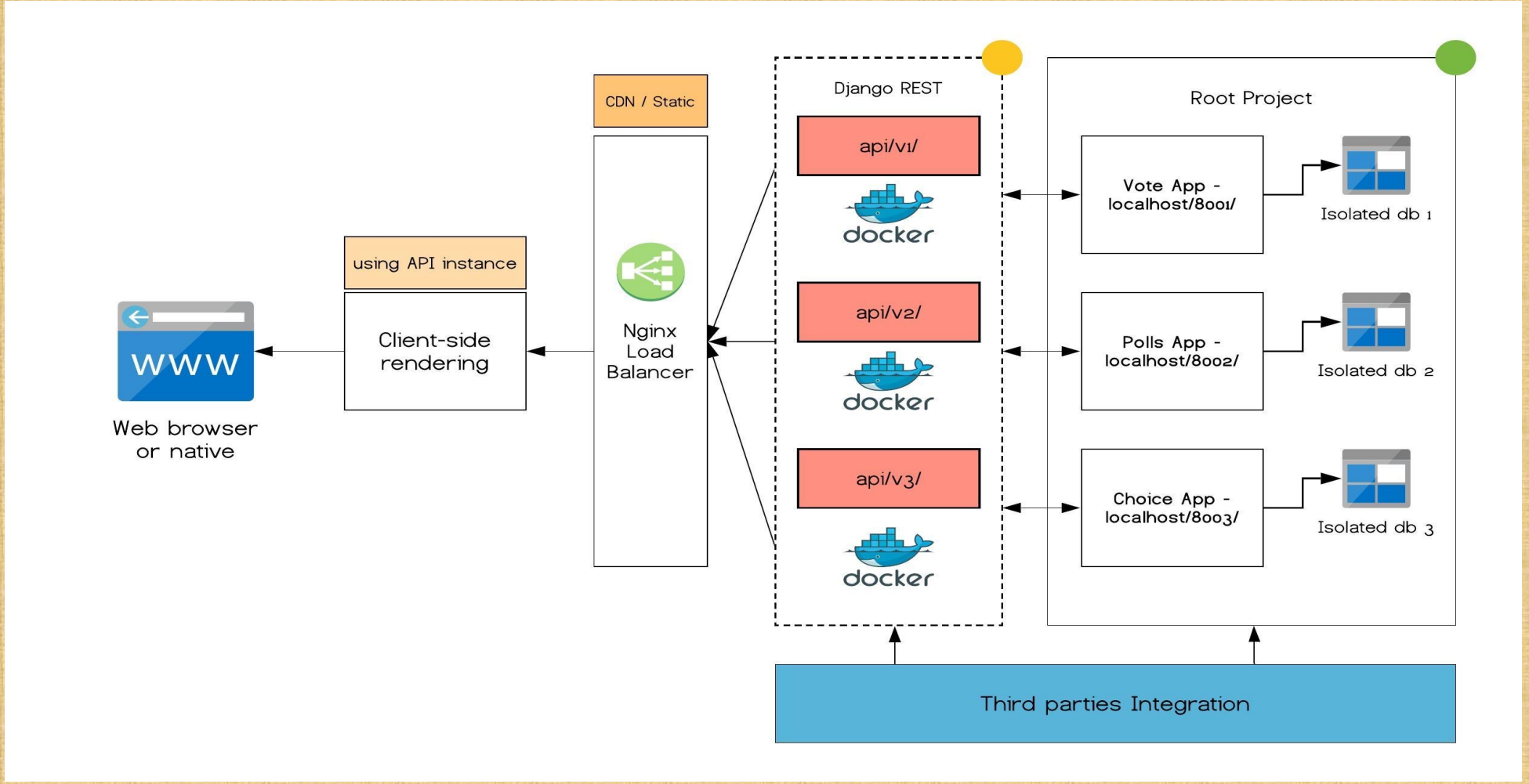
Example



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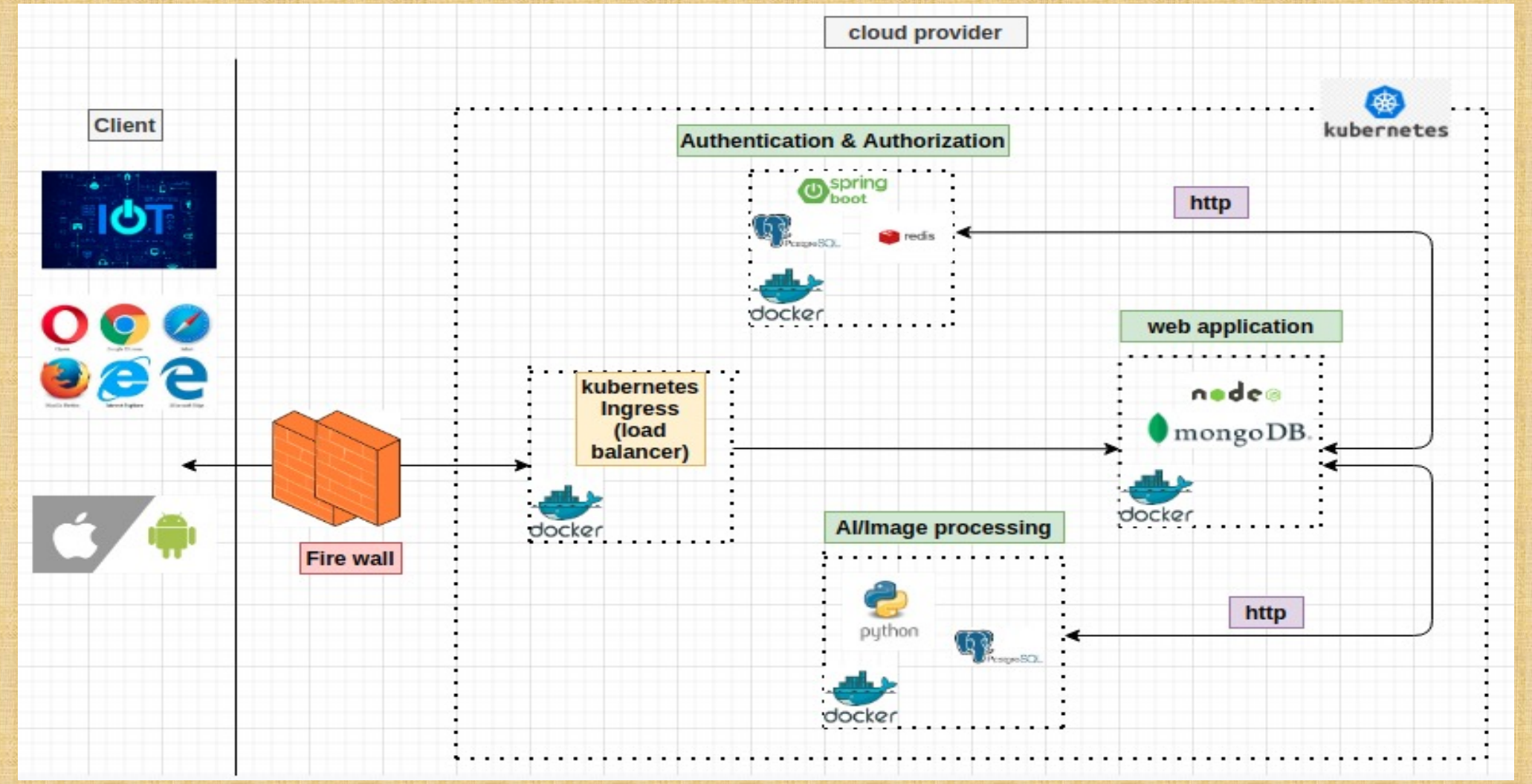

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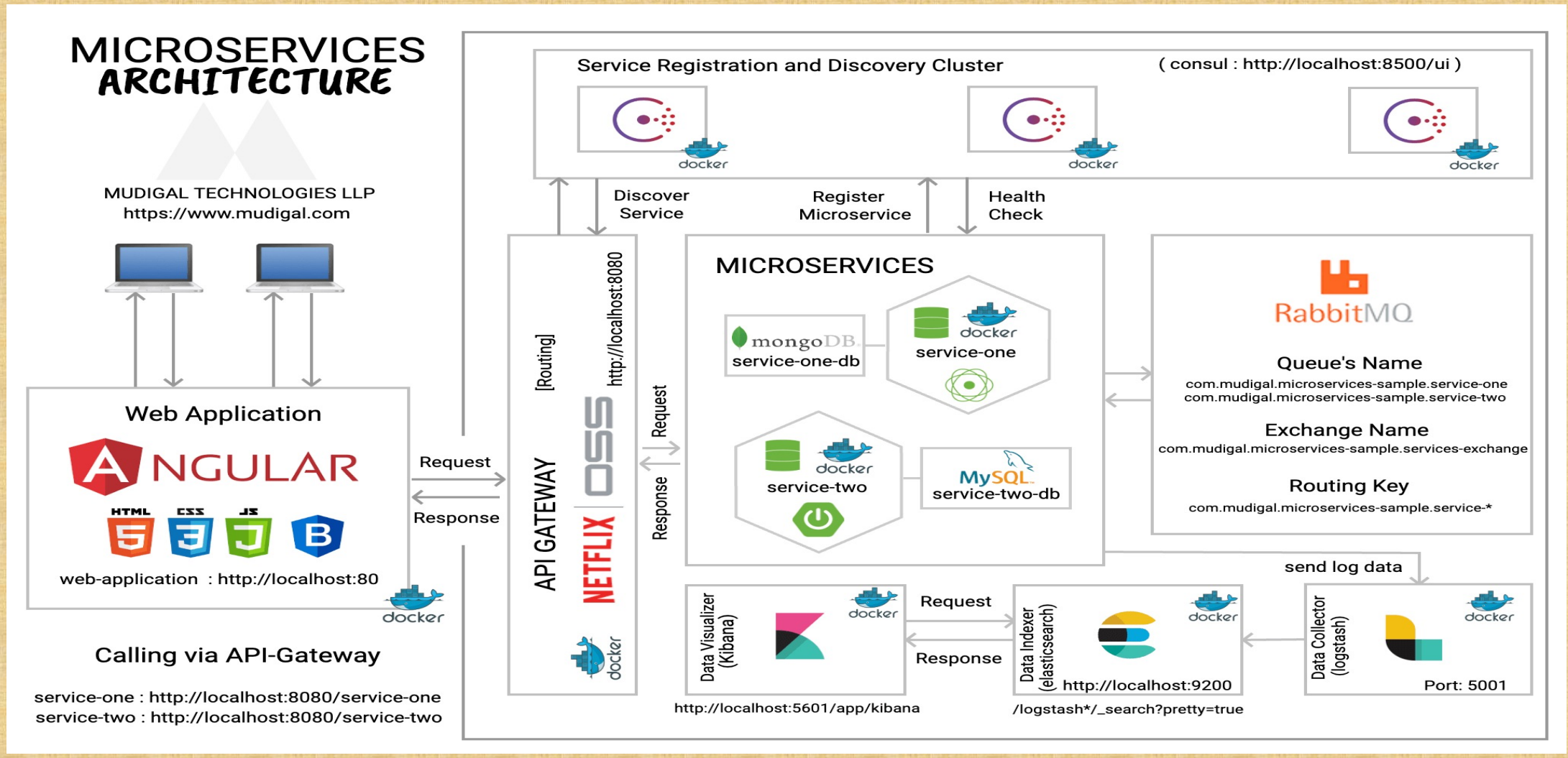
Microservices Architecture Overview



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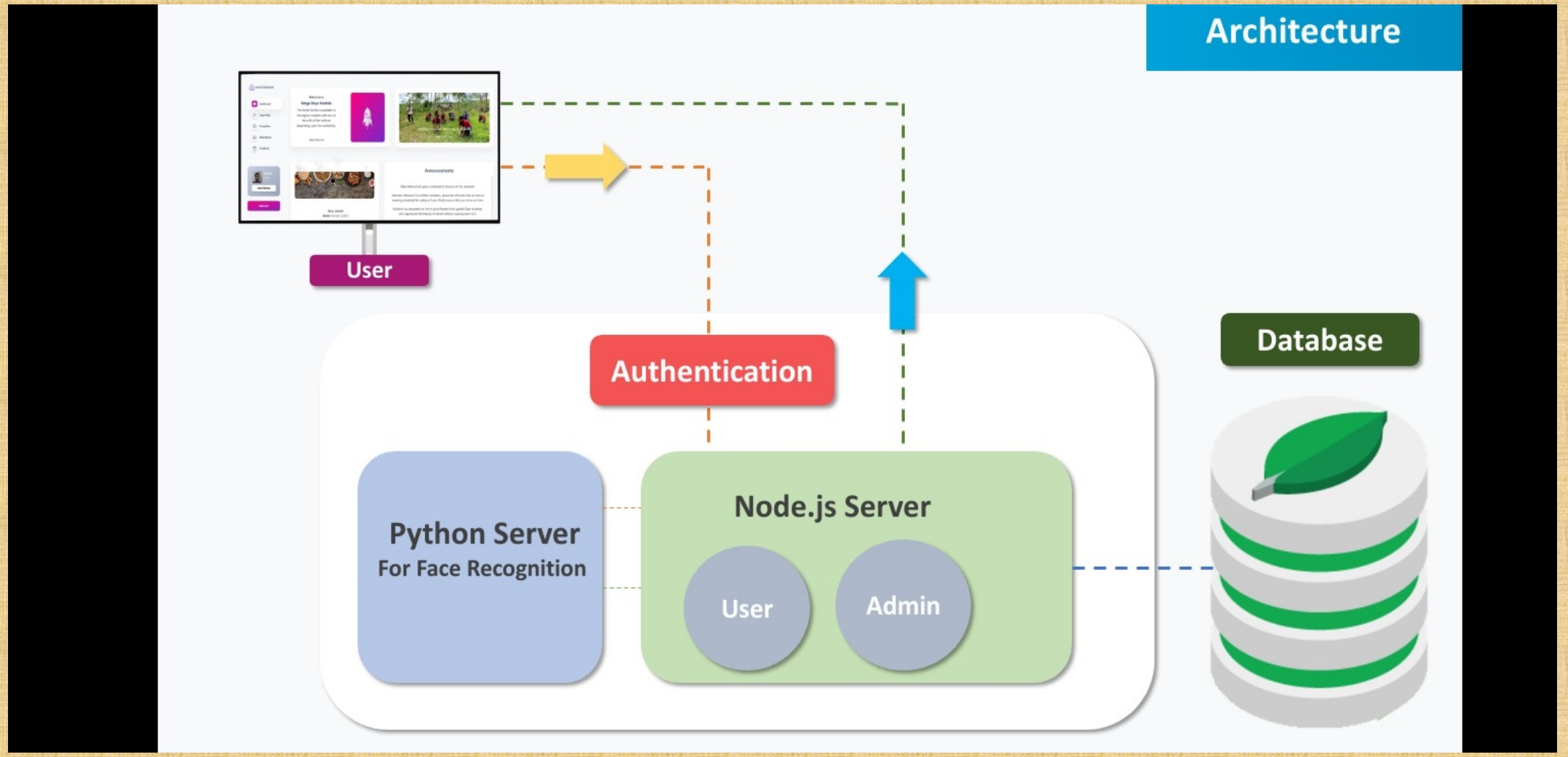
Authemtication Overview



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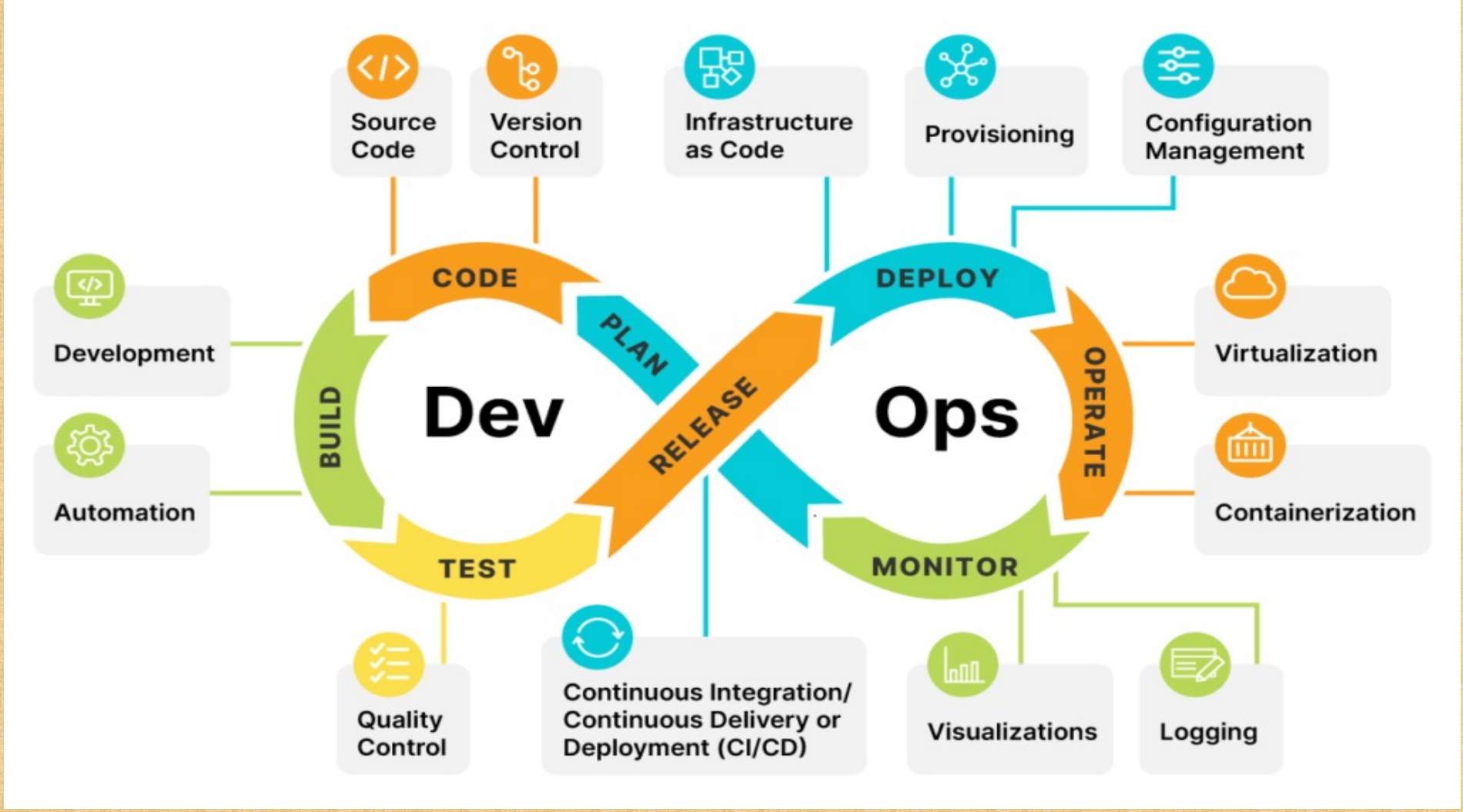
Work Flow in DevOps Overview



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ROAD MAP FOR DEVOPS

MEDIUM LEVEL

- Linux
- Networking
- Security
- CI/CD
- AWS
- Infrastructure as code
- Programming

ADVANCE LEVEL

- Containers
- Kubernetes

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THANK YOU

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