

▶ AMI & Snapshot



Today's Takeaways

- ▶ Amazon Machine Image (AMI)
- ▶ Snapshot

1 Amazon Machine Image (AMI)

What is Amazon Machine Image (AMI) ?

AMI is a virtual image used to create a virtual machine within an EC2 instance. In other words, it is a virtual machine template containing predefined operating system and application files.

When creating a virtual machine, you will get an operating system and application list according to the features presented in that template by choosing which template to create this machine. All AMI provides a template for the root volume of an

instance. You can copy the AMI and create another instance also.

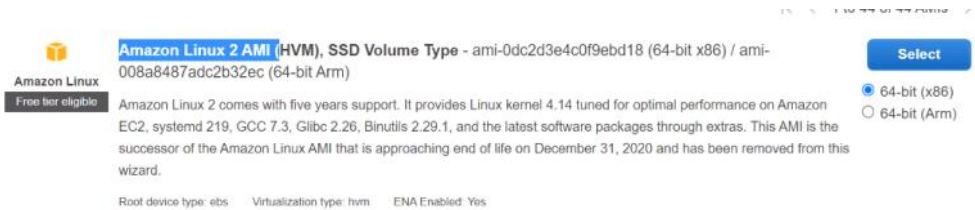
► Amazon Machine Image (AMI)

What is AMI?



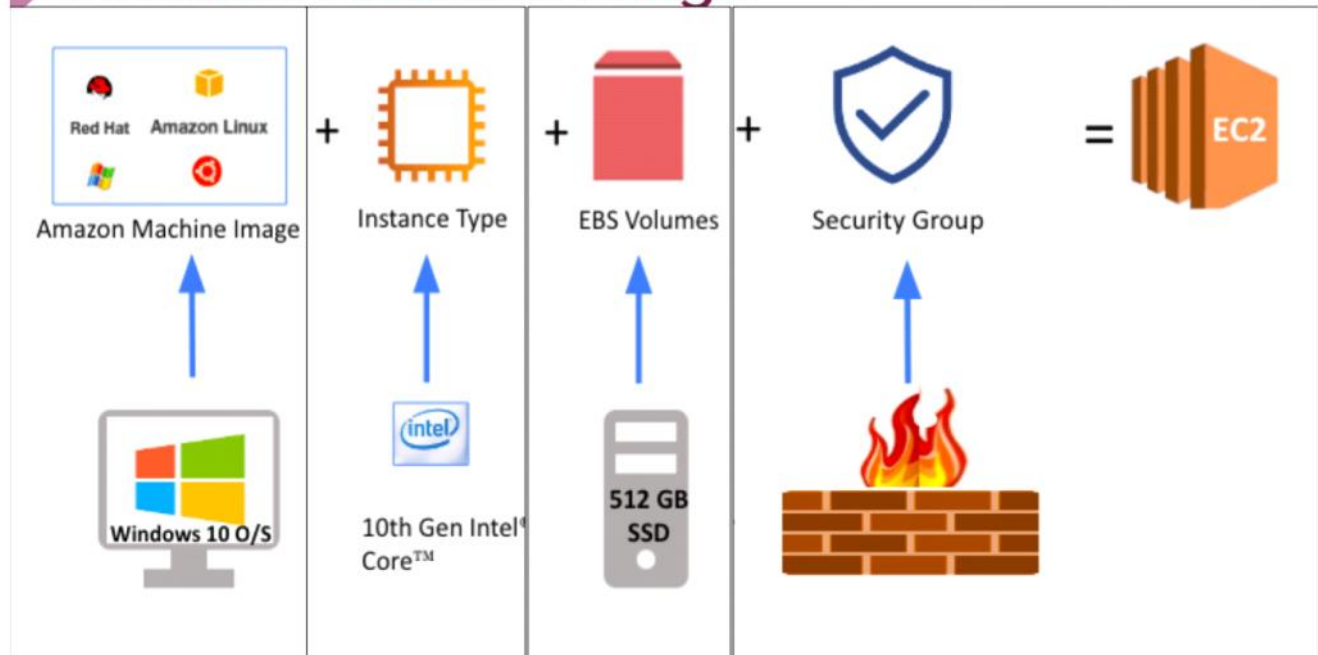
- An Amazon Machine Image (AMI) is used for the launching an virtual instances in the AWS environment.
- AMI are **like templates** that are configured with an **operating system and other software**, which determine the user's operating environment.
- You can copy an AMI . So you can launch **multiple instances** from a single AMI **with the same configuration**.

Evdeki pc lerde os, application var ve virtual instancede de ayni secenekler mevcut. Linux, windows vs secebiliyoruz. AMI template gibi dusunebiliriz. Istersek otomatik snapshot da alabiliriz.



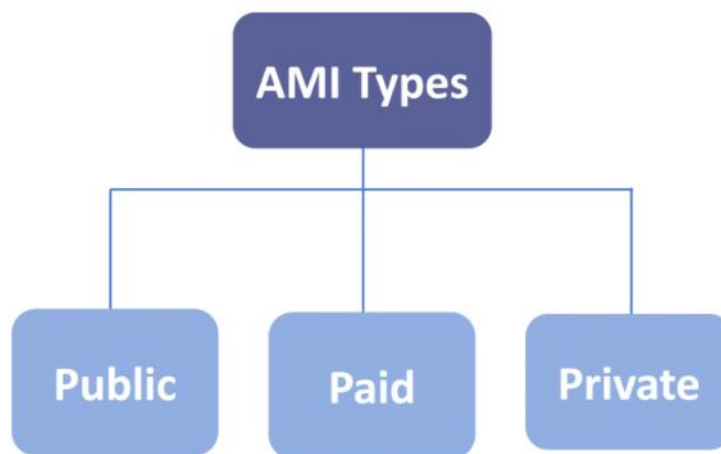


► Amazon Machine Image



► Amazon Machine Image (AMI)

Types of AMIs



CLARUSWAY
WAY TO REINVENT YOURSELF

Public:

These are the Public Shared Community AMIs and the AMIs managed by the Amazon itself. This package **covers common server features**. For example, UBUNTU, one of the most famous community-driven distributions in the Linux world, has its own AMIs and you get a server with UBUNTU installed.

And also The Amazon Linux AMI, which Amazon has prepared itself, and includes several AWS applications similar to AWS CLI, as well as the basic

Linux operating system. All of these and more are AMIs available to everyone.

Paid:

Another type of AMI is paid versions that we call Paid. These are ready-made packages **created by various companies or independent developers**, including various applications as well as the operating system.

For example, an application creator creates a Linux server image with its own application installed in the AWS store called Amazon Market Place and sets a price. You can buy it by accepting this price

Private:

There are also AMIs that we can create and manage with AWS Marketplace and Private Image BuildService. It's now in public beta and enables AWS customers to purchase your installable software products through AWS Marketplace. Then you can install those products and specify them with **Private Image Build Service** for your IT needs as you see in the picture above.



Instancelerin EBS lerin anlik kopyasini cikariyoruz ve S3 e atiyoruz.

► Snapshot

What is Snapshot?



- It is a **point-in-time copy** of your Amazon EBS Volume/Instance
- Snapshots are used for the **purpose of**
 - Backup
 - Copying AMI for creating multiple instances with the same features.
 - Creating a new Volume

► Snapshot

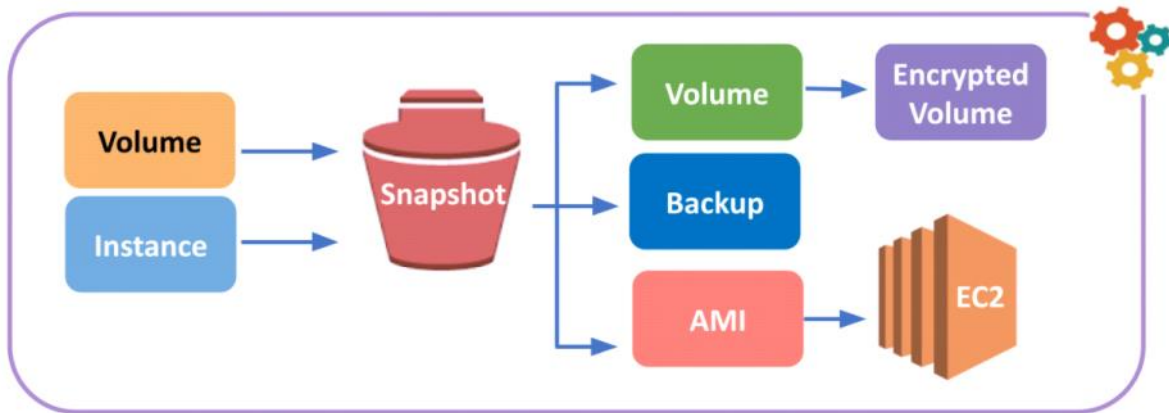
Features of the Snapshot



- Source from **Volume or Instance**
- Stored in **Amazon S3**
- **Incremental** storage
- **Data Lifecycle Manager (DLM)**

► Snapshot

Lifecycle of Snapshot



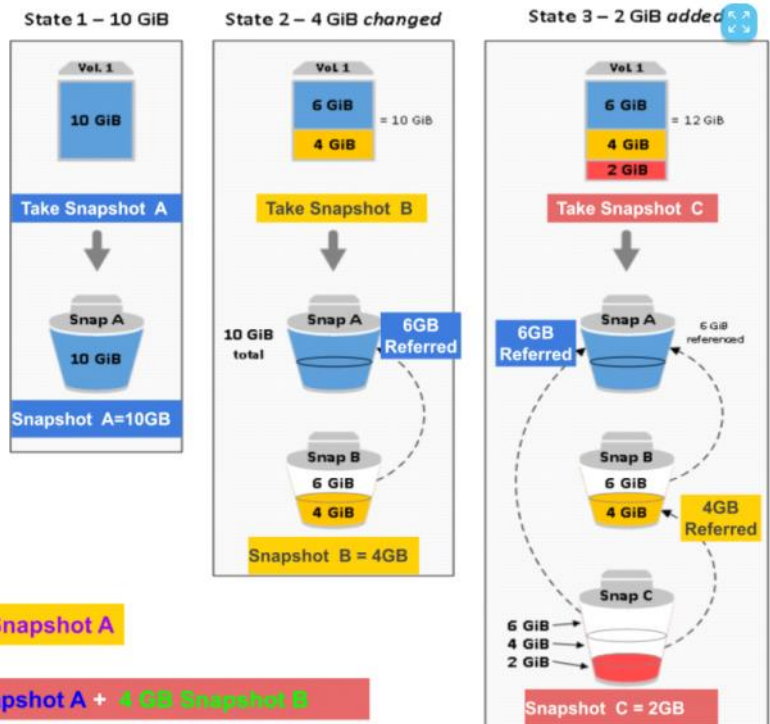
CLARIFICATION

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSSnapshots.html>

► Snapshot

Incremental Backups

32 GIB vs. 16 GIB

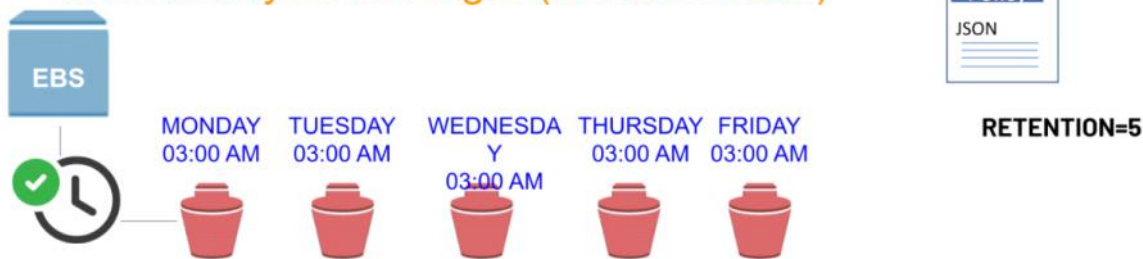


Snapshot A = 10 GB

Snapshot B = 4 GB Changed + Referred 6 GB Snapshot A

Snapshot C = 2 GB Added + Referred 6 GB Snapshot A + 4 GB Snapshot B

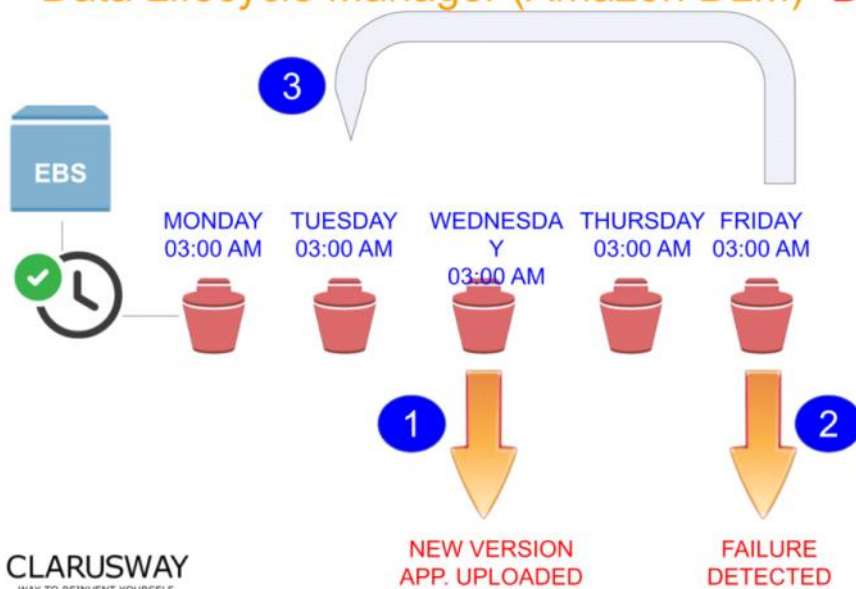
► Snapshot Data Lifecycle Manager (Amazon DLM)



► Snapshot Data Lifecycle Manager (Amazon DLM)



► Snapshot Data Lifecycle Manager (Amazon DLM)- Backup and Restore





► Snapshot

Encryption of Root Device via Snapshot

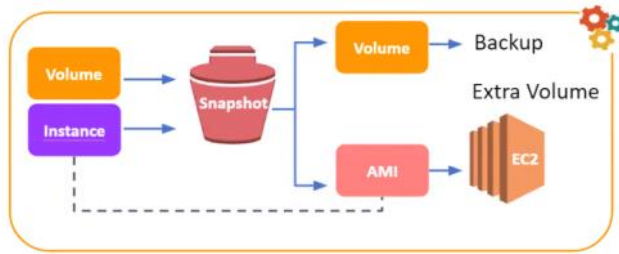
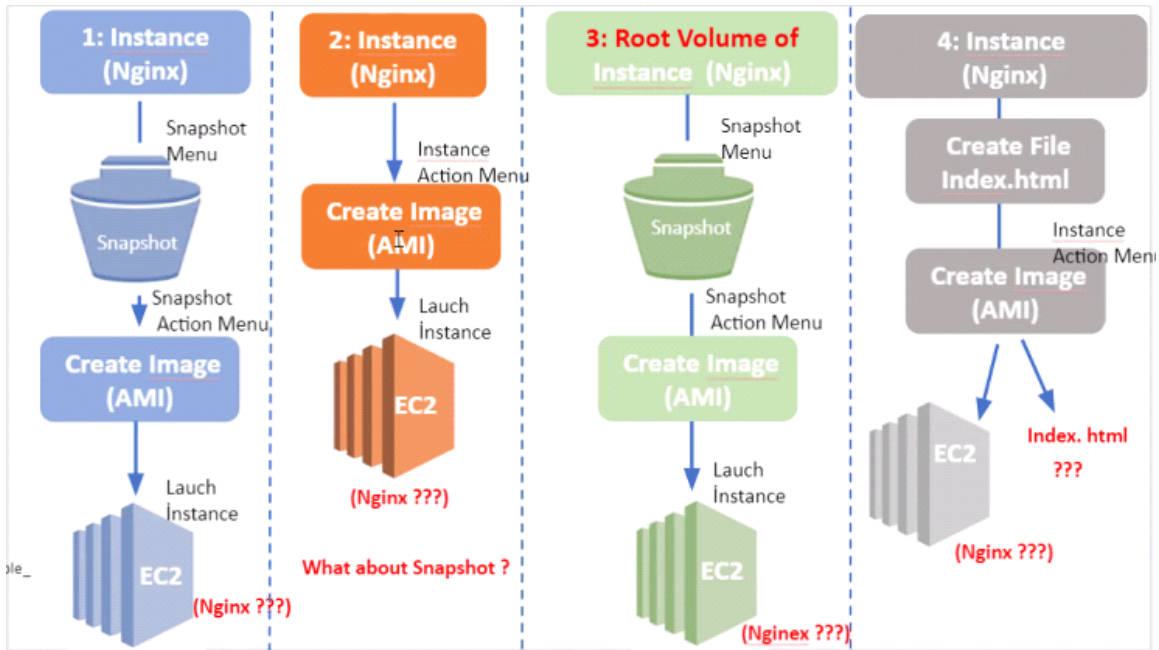


- Root device (volume) cannot be encrypted after creation. “How to encrypt unencrypted volume after creation” is a common question that can be asked in certification exams!
 - Take snapshot of unencrypted volume.
 - Copying the unencrypted Snapshot,
 - You are able to encrypt this Snapshot while coping
 - Create an encrypted volume from this copied Snapshot.

► Snapshot

Let's get our hands dirty!

- Create Snapshots
 - Make Public The Snapshot
 - Data Life Cycle Manager
 - Creating AMI from the Snapshot
 - Creating Volume from the Snapshot
 - Creating an Image from Instance
-
- Bu gun 4 ayri seneryo gerceklestirecegiz
 - AWS/hands-on icerisindeki AMI.md dosyasina gore ilerleyecegiz 'Hands-on EC2-05 : Working with EC2 Snapshots'



Lifecycle of Snapshot

- Oncelikle sample instance'yi olusturalim

Launch instance

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

[Launch instance](#)

Note: Your instances will launch in the US East (N. Virginia) Region

Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-0dc2d3e4c0f9ebd18 (64-bit x86) / ami-006a8487adc2b32ec (64-bit Arm)

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.28, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is approaching end of life on December 31, 2020 and has been removed from this wizard.

Root device type: sbs Virtualization type: hvm ENA Enabled: Yes

Select

64-bit (x86) 64-bit (Arm)

t2	t2.micro	1	1	EBS only	-	Low
----	----------	---	---	----------	---	-----

- User data ekleyecegiz.

```
#!/bin/bash
```

```
yum update -y
amazon-linux-extras install nginx1.12
yum install wget -y # amac github dan cekmek
cd /usr/share/nginx/html
chmod o+w /usr/share/nginx/html
rm index.html
wget https://raw.githubusercontent.com/awsdevopsteam/route-53/master/index.html
wget https://raw.githubusercontent.com/awsdevopsteam/route-53/master/ken.jpg
systemctl start nginx
systemctl enable nginx
```

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type ⁽¹⁾	Device ⁽¹⁾	Snapshot ⁽¹⁾	Size (GiB) ⁽¹⁾	Volume Type ⁽¹⁾	IOPS ⁽¹⁾	Throughput (MB/s) ⁽¹⁾	Delete on Termination ⁽¹⁾	Encryption ⁽¹⁾
Root	/dev/xvda	snap-053c42bdb1128764a	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted ⁽¹⁾
Add New Volume								

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key ^(128 characters maximum)	Value ^(256 characters maximum)	Instances ⁽¹⁾	Volumes ⁽¹⁾	Network Interfaces ⁽¹⁾
Name	Sample_Instance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Add another tag ^(Up to 50 tags maximum)				

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☐ Create a new security group

☒ Select an existing security group

Security Group ID	Name	Description	Actions
<input type="checkbox"/> sg-05c7odd7859c21ad0	ALBSEcGroup	ALB Security Group	Copy to new
<input type="checkbox"/> sg-0a33562c2971fa6ba	Cloudformation_sec_group	SSH_&_HTTP	Copy to new
<input type="checkbox"/> sg-f114b1e8	default	default VPC security group	Copy to new
<input type="checkbox"/> sg-05747b27e21c1aaba	ELB	ELB	Copy to new
<input checked="" type="checkbox"/> sg-065f093787f666e56	SSH_&_HTTP	SSH_&_HTTP	Copy to new

Inbound rules for sg-065f093787f666e56 (Selected security groups: sg-065f093787f666e56)

Type ⁽¹⁾	Protocol ⁽¹⁾	Port Range ⁽¹⁾	Source ⁽¹⁾	Description ⁽¹⁾
HTTP	TCP	80	0.0.0.0/0	
HTTP	TCP	80	:::0	
SSH	TCP	22	0.0.0.0/0	
SSH	TCP	22	:::0	

Select an existing key pair or create a new key pair

A key pair consists of a public key that AWS stores, and a private key file that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance. Amazon EC2 supports ED25519 and RSA key pair types. ED25519 keys are smaller and faster while offering the same level of security as RSA keys. Use ED25519 keys to improve the speed of authentication or if you have regulatory requirements that mandate the use of ED25519 keys.

Note: The selected key pair will be added to the set of keys authorized for this instance. [Learn more](#) about removing existing key pairs from a public AMI.

Choose an existing key pair

Select a key pair

☒ acknowledge that I have access to the selected private key file (EC2_key.pem), and that without this file, I won't be able to log into my instance.

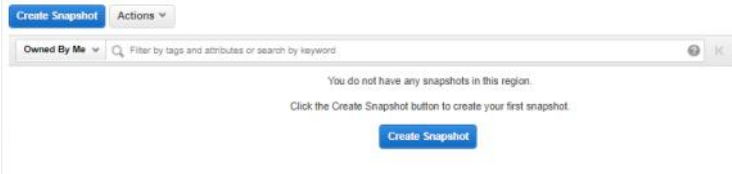
Cancel

Launch Instances

- DNS i actigimizda asagidaki gorseli alacagiz

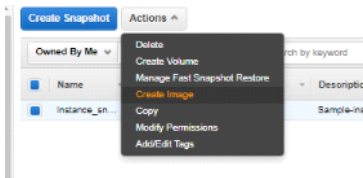


- AMI ve snapshots boardlarini iki ayri pencerede acalim.
- Kaynak olarak instance secip snapshot alacagiz.
- Create



Name	Snapshot ID	Size	Description	Status	Started
Instance_sn...	snap-07967bf9d55...	8 GiB	Sample-instance	pending	July 10, 2021 at 12:28:18 P...

- snapshot dan AMI olusturacagiz



Create Image from EBS Snapshot

Name

Clarusway_AMI1

Description

Architecture

x86_64

Virtualization type

Hardware-assisted virtualization

Root device name

/dev/sda1

Kernel ID

Use default

RAM disk ID

Use default

Boot Mode

Use default

Block Device Mappings

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/sda1	snap-07967bf9d5537572	8	General Purpose	100 / 3000	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/> Not Encrypted

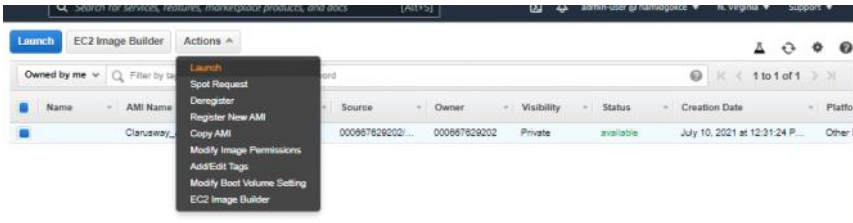
Add New Volume

Cancel Create

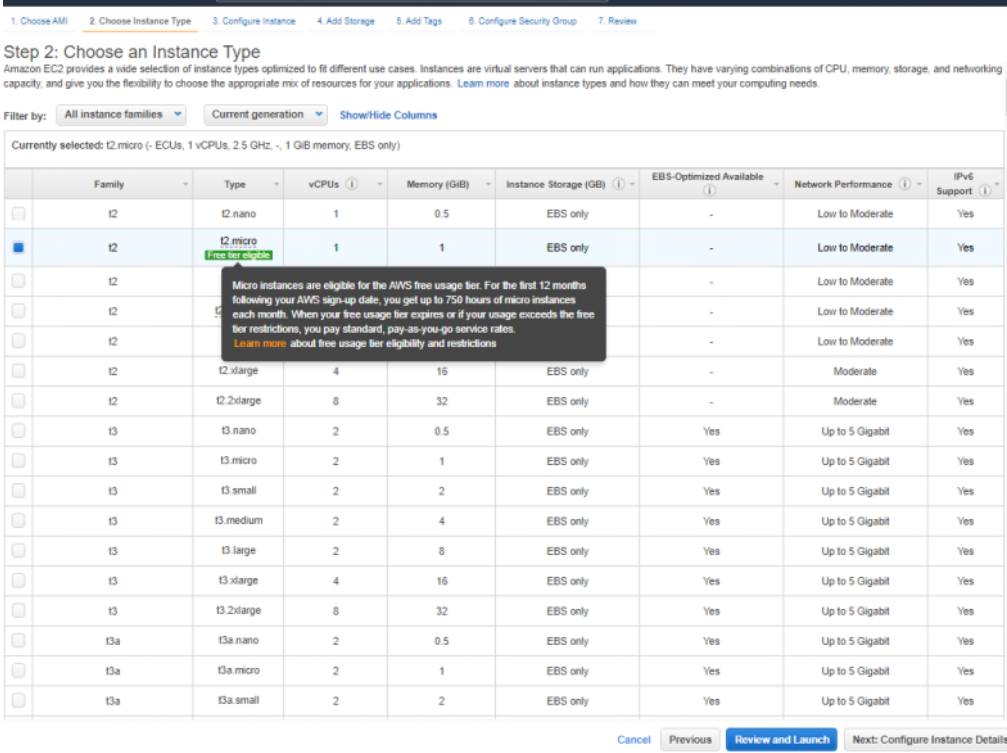
- AMI sayfasinda gorseli alacagiz

Name	AMI Name	AMI ID	Source	Owner	Visibility	Status	Creation Date	Platform
	Clarusway_AMI1	ami-0337670577a26e84	000867629202/...	000867629202/...	Private	available	July 10, 2021 at 12:31:24 P...	Other

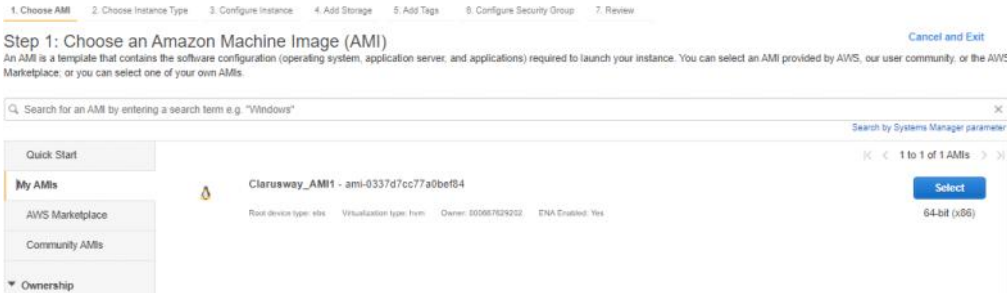
- Simdi EC2 olusturacagiz AMI den



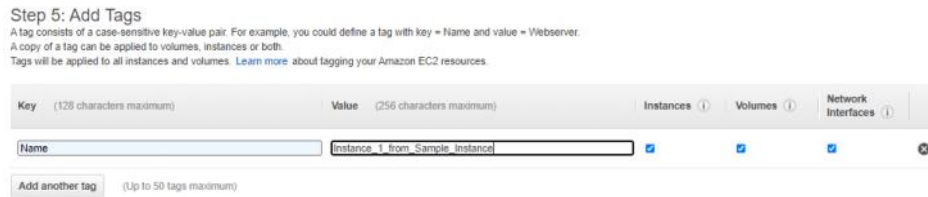
- Otomatik olarak ikinci sayfadan baslatacak



- Launch instance den direk bu sayfaya da gelebiliriz



- User data kısmı olmayacak ama arka planda hazır olduğunu bilelim
- Tag atayalım ve 22/80 portları olacak



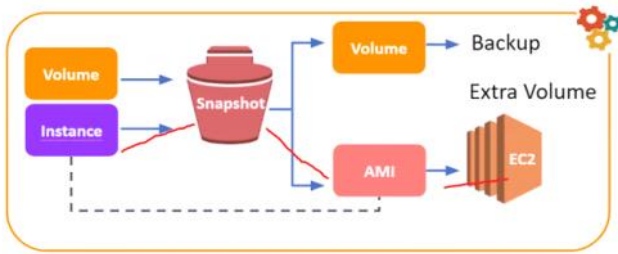
- Oluşturduğumuz diğer instance de çalışır hale geldi ve dns i kopyalarip görüntüyü alacağız

<input type="checkbox"/>	Sample_Instance	i-082383c4e42fb8ae6	Running	@	t2.micro	2/2 checks passed	No s...
<input checked="" type="checkbox"/>	Instance_1_fro...	i-04a1ca6b0e52bc338	Running	@	t2.micro	Initializing	No s...

Street Fighter - Winner

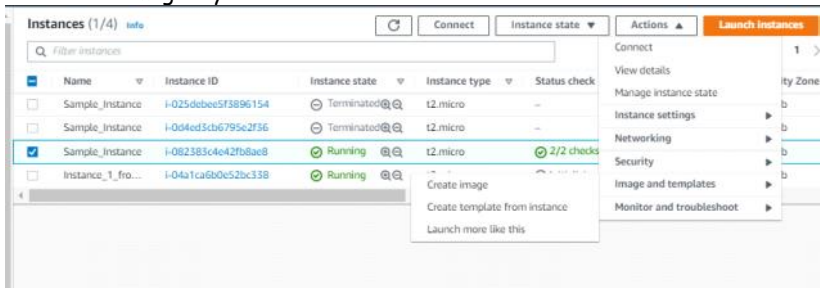


Gorselde kirmizi cizgili senaryoyu tamamladik



Lifecycle of Snapshot

- Create image diyoruz



- Image name ve description verecegiz.

Instance ID
i-082383c4e42fb8ae8 (Sample_Instance)

Image name
Clarusway_AMI_2
Maximum 127 characters. Can't be modified after creation.

Image description - optional
Clarusway_AMI_2
Maximum 255 characters

No reboot

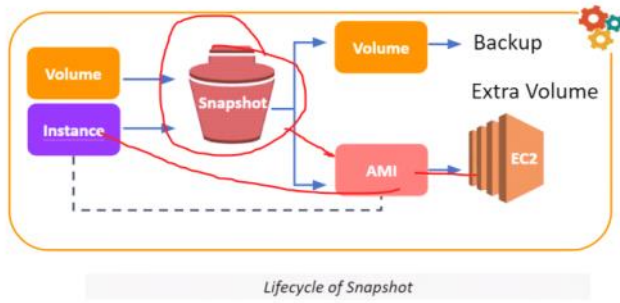
Cancel Create Image

- Olusturdugumuz AMI_2 pending asamasinda AMIs sayfasinda

Launch EC2 Image Builder Actions

Owned by me Filter by tags and attributes or search by keyword

Name	AMI Name	AMI ID	Source	Owner	Visibility	Status	Creation
Clarusway_AMI1	ami-0337d70c77a0be94	000667629202...	000667629202...	000667629202...	Private	available	July 10, 2021
Clarusway_AMI_2	ami-0a50e779e1f10ec7	000667629202...	000667629202...	000667629202...	Private	pending	July 10, 2021



- Gorseline ulasacagiz

Create Snapshot Actions					
Owned By Me Filter by tags and attributes or search by keyword					
<input type="checkbox"/> Name	<input type="checkbox"/> Snapshot ID	<input type="checkbox"/> Size	<input type="checkbox"/> Description	<input type="checkbox"/> Status	<input type="checkbox"/> Start
<input type="checkbox"/>	snap-061040e592...	8 GiB	Created by CreateImage(i-08238304e42f5bae8) for ami-0a50e...	completed	July 11
<input type="checkbox"/>	Instance_snapshot_first	snap-07867cf39d55...	Sample-instance	completed	July 11

- Gorseldeki tag i veriyoruz

Create Snapshot Actions					
Owned By Me Filter by tags and attributes or search by keyword					
<input type="checkbox"/> Name	<input type="checkbox"/> Snapshot ID	<input type="checkbox"/> Size	<input type="checkbox"/> Description	<input type="checkbox"/> Status	<input type="checkbox"/> Start
<input checked="" type="checkbox"/>	Snapshot_Second_Auto	8 GiB	Created by CreateImage(i-08238304e4...		
<input type="checkbox"/>	20/256	8 GiB	Sample-instance		

<input type="checkbox"/> Name	<input type="checkbox"/> Snapshot ID
<input checked="" type="checkbox"/> Snapshot_Second_Auto	snap
<input type="checkbox"/> Instance_snapshot_first	snap

2. Yi sececegiz

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Search for an AMI by entering a search term e.g. "Windows"					
Quick Start					
My AMIs					
AWS Marketplace					
Community AMIs					
Ownership					
<input checked="" type="checkbox"/> Owned by me					
<input type="checkbox"/> Shared with me					
Architecture					
<input type="checkbox"/> 32-bit (x86)					
<input type="checkbox"/> 64-bit (x86)					
<input type="checkbox"/> 64-bit (ARM)					
<input type="checkbox"/> 64-bit (Mac)					
Clarusway_AMI1 - ami-0337d7cc77a0bef84					
Root device type: sbs Virtualization type: hvm Owner: 000667629252 EBS Enabled: Yes					
Clarusway_AMI_2 - ami-0a5ce779eff1c9cc7					
Root device type: sbs Virtualization type: hvm Owner: 000667629252 EBS Enabled: Yes					

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both.

Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum)	Value (256 characters maximum)	Instances	Volumes	Network Interfaces
Name	Instance_2_from_Sample_Instance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Add another tag (Up to 50 tags maximum)				

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☐ Create a new security group ☒ Select an existing security group

Security Group ID	Name	Description	Actions
sg-05c7cdd7859c21ad0	ALBSEcGroup	ALB Security Group	Copy to new
sg-0a33562c2971fa6ba	Cloudformation_sec_group	SSH_&_HTTP	Copy to new
sg-1114b1e8	default	default VPC security group	Copy to new
sg-05747627e21c1aaba	ELB	ELB	Copy to new
sg-065f093787f66e56	SSH_&_HTTP	SSH_&_HTTP	Copy to new

Inbound rules for sg-065f093787f66e56 (Selected security groups: sg-065f093787f66e56)

Type	Protocol	Port Range	Source	Description
HTTP	TCP	80	0.0.0.0/0	
HTTP	TCP	80	:::0	
SSH	TCP	22	0.0.0.0/0	
SSH	TCP	22	:::0	

Apps Services Search for services, features, marketplace products, and docs [Alt+S] admin-user@hamidgolce N. Virginia Support

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click Launch to assign a key pair to your instance and complete the launch process.

Improve your instances' security. Your security group, SSH_&_HTTP, is open to the world.

Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

Clarusway_AMI_2 - ami-0a5ce779eff1c9cc7
Clarusway_AMI_2
Root Device Type: ebs Virtualization type: hvm

Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	-	1	1	EBS only	-	Low to Moderate

Security Groups [Edit security groups](#)

Security Group ID	Name	Description
sg-065f093787f66e56	SSH_&_HTTP	SSH_&_HTTP

All selected security groups inbound rules

Type	Protocol	Port Range	Source	Description
HTTP	TCP	80	0.0.0.0/0	
HTTP	TCP	80	:::0	
SSH	TCP	22	0.0.0.0/0	
SSH	TCP	22	:::0	

Instance Details [Edit instance details](#)

Storage [Edit storage](#)

Tags [Edit tags](#)

[Cancel](#) [Previous](#) [Launch](#)

- AMI den olusturdugumuz instancenin acilmasini bekliyoruz

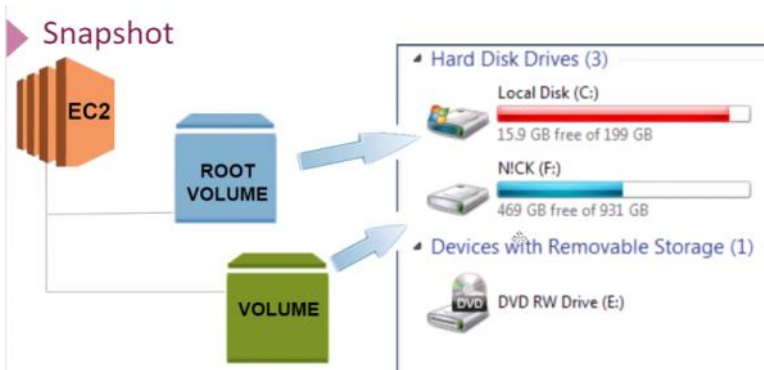
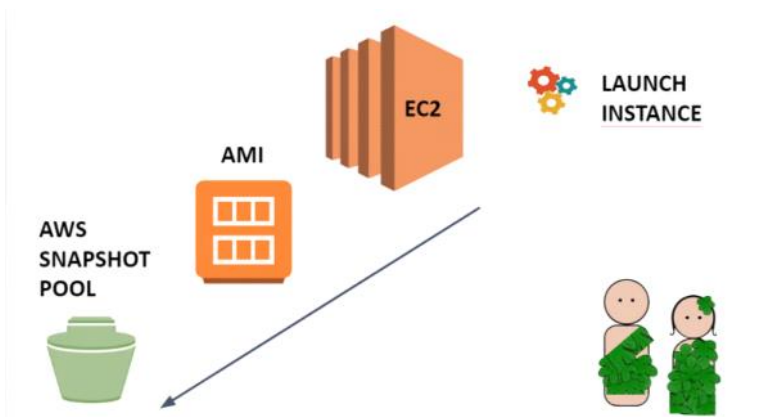
Instances (1/5) info [Refresh](#) [Connect](#) [Instance state](#) [Actions](#) [Launch](#)

Filter instances

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
Sample_Instance	i-025debec5f3896154	Terminated @	t2.micro	-	No alarms +
Sample_Instance	i-0d4ed3cb6795e2f36	Terminated @	t2.micro	-	No alarms +
Sample_Instance	i-082383c4e42fb8ae8	Running @	t2.micro	2/2 checks passed	No alarms +
Instance_1_fro...	i-04a1ca60e52bc338	Running @	t2.micro	2/2 checks passed	No alarms +
Instance_2_fro...	i-04fbcc69c4e89d9b4	Pending @	t2.micro	-	No alarms +

- Ucuncu instanceden de görüntüyü alacagiz DNS yardimiyla

Street Fighter - Winner



- Aciyoruz life sycle

- ▼ Elastic Block Store
 - Volumes
 - Snapshots
 - Lifecycle Manager

Welcome to Data Lifecycle Manager



Schedule and manage the creation and deletion of EBS snapshots

Create Lifecycle Policy

Asagidaki gorseli volume olarak yaptik :(

Policies > Create Lifecycle Policy

Create Lifecycle Policy

Data Lifecycle Manager enables you to automate the creation, retention, copy and deletion of EBS snapshots and EBS-backed AMIs. It also enables you to automate cross-account snapshot copy actions for snapshots that are shared with you, based on Amazon CloudWatch events.

Policy type ☒ EBS snapshot policy
☐ EBS-backed AMI policy
☐ Cross-account copy event policy

Select resource type ☐ Volume
☒ Instance

Description* EBC snapshot policy ⓘ

Target with these tags This policy will apply to instances that have any of the following tags.

* Name : Sample_Instance ⓘ

Policy Tags

Key	Value
This resource currently has no tags	

Add Tag 50 remaining (Up to 50 tags maximum)

- 3 saat simdiki saatten geri yaz instance olusum saatinden
Vermis oldugumuz verilere gore her gun snapshot al diyoruz

Policy Schedule 1

Schedules define how often the policy is triggered, and the specific actions that are to be performed. The policy must have at least one schedule. This schedule is mandatory, while schedules 2, 3, and 4 are optional.

Schedule name* Schedule 1 ⓘ

Frequency Daily ⓘ

Every 24 Hours

Starting at 10:30 UTC

Retention type* Count ⓘ

Retain* 5 ⓘ

Snapshot destination AWS Region

Attributes 1, 2, 3, and 4 are optional.

Schedule name* Schedule 1 ⓘ

Frequency Daily ⓘ

Snapshots or AMIs start being created within one hour of the specified start time.

Policy Summary

Policy Summary

This policy will create consistent set of snapshots of tagged instances based on the following 1 schedule(s):

Schedule 1:

Every 24 hours starting at 10:45 UTC. A maximum of 5 snapshots will be retained of a target instance. The oldest snapshot retained will be <= 5 days old.

Cancel Create Policy

Filter by attributes or search by keyword			
Policy ID	Description	Policy Type	State
policy-053be0e73ab0f06...	EBC snapshot policy	EBS snapshot policy	ENABLED

- Sanpshot alani

Create Snapshot				
Owned By Me				
Name	Snapshot ID	Size	Description	
Snapshot_Second_Auto	snap-061049e592...	8 GiB	Created by CreateImage	
Instance_snapshot_first	snap-07887b99d55...	8 GiB	Sample-instance	

vol-0c3521207fa7863ac Sample_Instance

Create Snapshot

Select resource type ☒ Volume
☐ Instance

Volume* vol-0c3521207fa7863ac

Description Snapshot_Third

Encrypted ☐ Not Encrypted ☒

Key (128 characters maximum)

Value (256 characters maximum)

Name

Snapshot_Third

Add Tag 49 remaining (Up to 50 tags maximum)

* Required

Cancel Create Snapshot

Snapshot_Third snap-023579a45b6... 8 GiB Snapshot_Third pending July 10, 202

- Snapshot dan AMI yapacagiz

Create Snapshot				
Owned By Me				
Name	Snapshot ID	Size	Description	
Snapshot_Third	snap-023579a45b6...	8 GiB	Snapshot_T	
Snapshot_Second	snap-061049e592...	8 GiB	Created by C	
Instance_snap...	snap-07887b99d55...	8 GiB	Sample-inst	

Create Image from EBS Snapshot

Name Clarusway AMI_3

Description

Architecture x86_64

Virtualization type Hardware-assisted virtualization

Root device name /dev/sda1

Kernel ID Use default

RAM disk ID Use default

Boot Mode Use default

Block Device Mappings

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted	
Root	/dev/sda1	snap-023579a45b6bca69	8	General Purpose	100 / 3000	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Encrypted

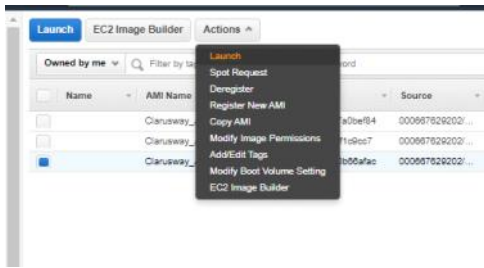
Add New Volume

Cancel Create

- 3. yu gorecegiz

Launch EC2 Image Builder					
Owned by me					
Name	AMI Name	AMI ID	Source	Owner	
	Clarusway_AMI_1	ami-0337d7c77a0be94	000667629202/...	000667629202/...	
	Clarusway_AMI_2	ami-0a5ce779ef1a9c7	000667629202/...	000667629202/...	
	Clarusway_AMI_3	ami-088827c010b6afac	000667629202/...	000667629202/...	

- Yeni instance olusturacagiz AMI_3 den



- 22 ve 80 de aciyoruz

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum) Value (256 characters maximum) Instances (1) Volumes (1)

Name Instance_3_from_Sample_Instance

Add another tag (Up to 50 tags maximum)

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click Launch to assign a key pair to your instance and complete the launch process.

Improve your instances' security. Your security group, SSH_&_HTTP, is open to the world.
Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

Clarusway_AMI_3 - ami-088627c010b66afac
Root Device Type: ebs Virtualization type: hvm

Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	-	1	1	EBS only	-	Low to Moderate

Security Groups [Edit security groups](#)

Security Group ID: sg-069f93767666e56 Name: SSH_&_HTTP Description: SSH_&_HTTP

All selected security groups inbound rules

The type of protocol, for example TCP or UDP. Provides an additional selection for ICMP.

Type	Protocol	Port Range	Source	Description
HTTP	TCP	80	0.0.0.0/0	
HTTP	TCP	80	0.0.0.0/0	
SSH	TCP	22	0.0.0.0/0	
SSH	TCP	22	0.0.0.0/0	

Instance Details [Edit instance details](#)

Storage [Edit storage](#)

Tags [Edit tags](#)

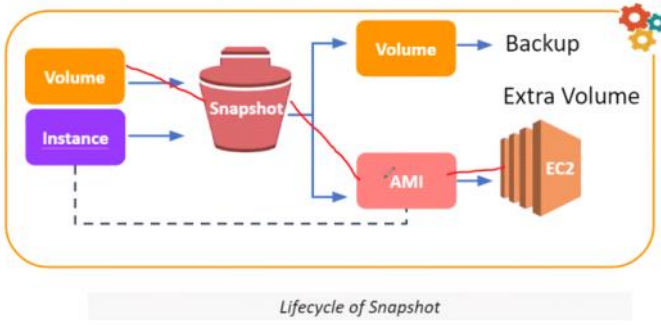
Cancel Previous **Launch**

Instances (4) [Info](#) [Connect](#) [Instance state](#) [Actions](#) [Launch instances](#)

Filter instances

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Sample_Instance	i-082383c4e42fb8ae8	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a
Instance_1_from_Sample_Instance	i-04a1ca6b0e52bc338	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a
Instance_2_from_Sample_Instance	i-04fbcc69c4e89d9b4	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a
Instance_3_from_Sample_Instance	i-01729b3ce6d8a9556	Pending	t2.micro	-	No alarms	us-east-1a

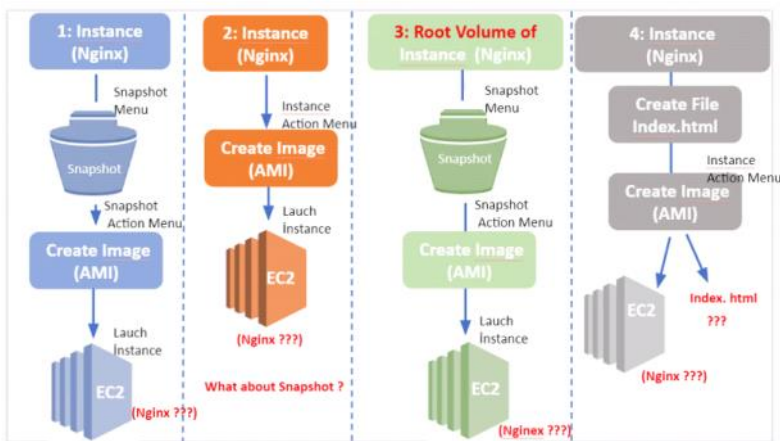
3. Instance root volume den geldik



- DNS KEN i gorelim. Bir AMI ile birden fazla instance olusturabiliyoruz



Street Fighter - Winner

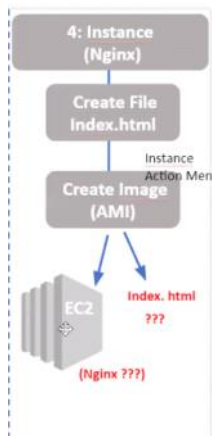
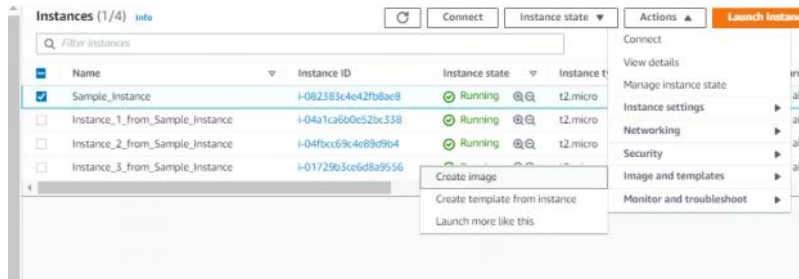


- VS cod ile instance ye baglanalim
 - Sample instance den baglanalim
- Ssh root user ile baglanmaya calisacak ve basarisiz olacak

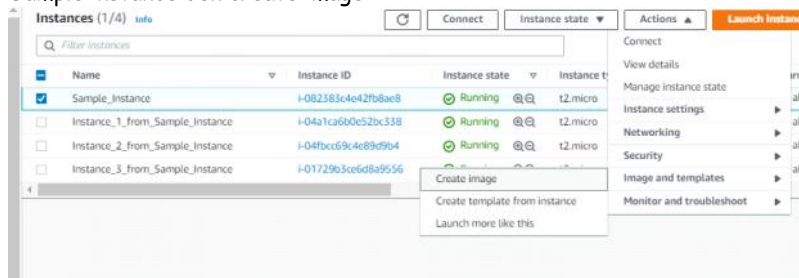
- VS codda bir gorseli olusturalim

```
[ec2-user@ip-172-31-10-4 ~]$ mkdir Hamid
[ec2-user@ip-172-31-10-4 ~]$ touch gokce.txt
[ec2-user@ip-172-31-10-4 ~]$ nano gokce.txt
[ec2-user@ip-172-31-10-4 ~]$ cat gokce.txt
hello world
[ec2-user@ip-172-31-10-4 ~]$ ls
gokce.txt Hamid
[ec2-user@ip-172-31-10-4 ~]$
```

Amac ami olusturdugumuzda yukarida kileri de gorecegiz



Sample instance den create image



- Name ve aciklama yaziyoruz. Amac instance nin AMI sini alma

Create image [Info](#)

An image (also referred to as an AMI) defines the programs and settings that are applied when you launch an EC2 instance. You can create an image from the configuration of an existing instance.

Instance ID
i-062383c4e42fb8ac8 (Sample_Instance)

Image name
ClaruswayAMI_4-customize

Maximum 127 characters. Can't be modified after creation.

Image description - optional
ClaruswayAMI_4-customize

Maximum 255 characters

No reboot
☐ Enable

Instance volumes

Volume type	Device	Snapshot	Size	Volume type	IOPS	Throughput	Delete on termination	Encrypted
EBS	/dev/x...	Create new snapshot fr...	8	EBS General Purpose S...	100		<input checked="" type="checkbox"/> Enable	<input type="checkbox"/> Enable

[Add volume](#)

During the image creation process, Amazon EC2 creates a snapshot of each of the above volumes.

Tags - optional
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

☒ Tag image and snapshots together
Tag the image and the snapshots with the same tag.

☐ Tag image and snapshots separately
Tag the image and the snapshots with different tags.

No tags associated with the resource.

[Add tag](#)

You can add 50 more tags.

[Cancel](#) [Create image](#)

- AMI olusmaya calistigini gorecegiz

Name	AMI Name	AMI ID	Source	Owner
Clarusway_AMI1	ami-0337d7cc77a0be84	000667629202/...	000667629202/...	F
Clarusway_AMI_2	ami-0a50e779eff1c0cc7	000667629202/...	000667629202/...	F
Clarusway_AMI_3	ami-08827d010b68efac	000667629202/...	000667629202/...	F
ClaruswayAMI_4-custo...	ami-058aa3be45da7a74	000667629202/...	000667629202/...	F

- Pending statusunde AMI miz

Name	AMI Name	AMI ID	Source	Owner	State	Expiration	Very. Inc. An
ClaruswayAMI_4-custo...	ami-058aa3be45da7a74	000667629202/...	000667629202/...	Private	pending	July 10, 2021 at 12:31:24 P...	

- Ve geldi AMI

Name	AMI Name	AMI ID	Source	Owner	State	Expiration	Very. Inc. An
Clarusway_AMI1	ami-0337d7cc77a0be84	000667629202/...	000667629202/...	Private	available	July 10, 2021 at 12:31:24 P...	
Clarusway_AMI_2	ami-0a50e779eff1c0cc7	000667629202/...	000667629202/...	Private	available	July 10, 2021 at 12:41:37 P...	
Clarusway_AMI_3	ami-08827d010b68efac	000667629202/...	000667629202/...	Private	available	July 10, 2021 at 1:18:02 PM ...	
ClaruswayAMI_4-custo...	ami-058aa3be45da7a74	000667629202/...	000667629202/...	Private	available	July 10, 2021 at 1:28:39 PM ...	

- Otomatik snapshot gelecek asagidaki gorsele

Name	Snapshot ID	Size	Description	Status
Snapshot_Third	snap-023579a45b6...	8 GiB	Snapshot_Third	completed
Snapshot_Second_Auto	snap-0517a335b49...	8 GiB	Created by CreateImage(i-062383c4e42fb8ac8) for ami-058aa...	completed
Instance_snapshot_first	snap-07867bf09d55...	8 GiB	Sample-instance	completed

AMI olustuktan sonra snapshot gelecek- Tag siz olan

Name	Snapshot ID	Size	Description	Status	Started
Snapshot_Third	snap-023579a45b6...	8 GiB	Snapshot_Third	completed	July 10, 2021
Snapshot_Second_Auto	snap-0517a335b49...	8 GiB	Created by CreateImage(i-062383c4e42fb8ac8) for ami-058aa...	completed	July 10, 2021
Instance_snapshot_first	snap-07867bf09d55...	8 GiB	Sample-instance	completed	July 10, 2021

- Baglandigimiz instance den dusecegiz ve tekrar girelim

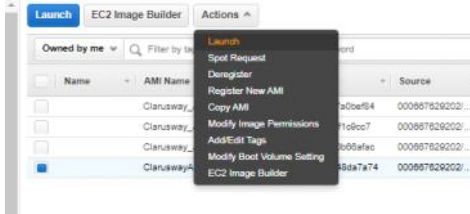
```
[ec2-user@ip-172-31-10-4 ~]$ mkdir Hamid
[ec2-user@ip-172-31-10-4 ~]$ touch gokce.txt
[ec2-user@ip-172-31-10-4 ~]$ nano gokce.txt
[ec2-user@ip-172-31-10-4 ~]$ cat gokce.txt
hello world
[ec2-user@ip-172-31-10-4 ~]$ ls
gokce.txt Hamid
[ec2-user@ip-172-31-10-4 ~]$ ^C
[ec2-user@ip-172-31-10-4 ~]$ Connection to ec2-44-193-219-157.compute-1.amazonaws.com closed by remote host.
Connection to ec2-44-193-219-157.compute-1.amazonaws.com closed.

hamid@LAPTOP-U8P0504G MINGW64 ~/ssh
$ ssh -i "EC2_key.pem" ec2-user@ec2-44-193-219-157.compute-1.amazonaws.com
Last login: Sat Jul 10 10:24:46 2021 from 87-95-119-66.bb.dnainternet.fi

 _ _ _ _ _
| | | | |
|_|_|_|_|_| Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-10-4 ~]$
```

- Ami den EC2 olusturalim



- Tag verelim / 80 ve 22 den acalim

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum)	Value (256 characters maximum)	Instances	Volumes	Network Interfaces
Name	custom-instance-from-AMI-4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add another tag (Up to 50 tags maximum)

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click Launch to assign a key pair to your instance and complete the launch process.

Improve your instances' security. Your security group, SSH_&_HTTP, is open to the world.
 Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details

ClaruswayAMI_4-customize - ami-058a3be48da7a74

ClaruswayAMI_4-customize

Root Device Type: sbs Virtualization type: hvm

Instance Type

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	-	1	1	EBS only	-	Low to Moderate

Security Groups

Security Group ID	Name	Description
sg-065093787666e56	SSH_&_HTTP	SSH_&_HTTP

All selected security groups inbound rules

Type	Protocol	Port Range	Source	Description
HTTP	TCP	80	0.0.0.0/0	
HTTP	TCP	80	0.0.0.0/0	
SSH	TCP	22	0.0.0.0/0	
SSH	TCP	22	0.0.0.0/0	

Instance Details

Storage

Taints

Cancel

Previous

Launch

- Ken i tekrar gormeye calisalim son instance den

Instances (1/5) info					
Filter instances					
	Name	Instance ID	Instance state	Instance type	Status check
<input type="checkbox"/>	Sample_Instance	i-082383c4e42fb8ae8	Running	t2.micro	2/2 checks passed
<input type="checkbox"/>	Instance_1_from_Sample_Instance	i-04a1ca6b0c52bc338	Running	t2.micro	2/2 checks passed
<input type="checkbox"/>	Instance_2_from_Sample_Instance	i-04fbcc69c4e89d9b4	Running	t2.micro	2/2 checks passed
<input type="checkbox"/>	Instance_3_from_Sample_Instance	i-01729b3ce6d8a9556	Running	t2.micro	2/2 checks passed
<input checked="" type="checkbox"/>	custom-instance-from-AMI-4	i-0486d4e8aaf73e4ba	Running	t2.micro	-

Olusan instance nin icerisne girelim SSH ile

Root olarak kaldigi icin giremeyecegiz

```
hamid@LAPTOP-U8P0504G MINGW64 ~/.ssh
$ ssh -i "EC2_key.pem" root@ec2-44-193-79-112.compute-1.amazonaws.com
The authenticity of host 'ec2-44-193-79-112.compute-1.amazonaws.com (44.193.79.112)' can't be established.
ED25519 key fingerprint is SHA256:HgpTbbGJkUZ03jnmGgouXIKUNqteoogaFWTKTJ9EnE.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-44-193-79-112.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
Please login as the user "ec2-user" rather than the user "root".
```

Root kismına ec2-user yaz

Yukarida olusturdugumuz dosyalarida bu instance de de gorecegiz

```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-6-200 ~]$ ls
gokce.txt hamid
[ec2-user@ip-172-31-6-200 ~]$
```

- Baskasinin AMI sini gormeye calisacagiz. Ama AMI private oldugu icin goremiyoruz edit kismindan public yapalim. Ve ami yi baskasina gonderim onun AMI sina giremeye calisalim

=> permissions / edit

Image: ami-058aae3be48da7a74

Details Permissions Tags

This image is currently Private.

AWS Account Number

This image currently has no permissions

Edit

Modify Image Permissions

This image is currently: ☐ Public ☒ Private

AWS Account Number

This image currently has no permissions

AWS Account Number Add Permission

☐ Add "create volume" permissions to the following associated snapshots when creating permissions:

- snap-0517d336b493f6188

Cancel Save

Modify Image Permissions

This image is currently: ☒ Public ☐ Private

Cancel Save

- Ami public olarak gorunecektir

Owned by me							
Filter by tags and attributes or search by keyword							
	Name	AMI Name	AMI ID	Source	Owner	Visibility	Status
<input type="checkbox"/>		Clarusway_AMI1	ami-0337c70c77a0be964	000067629202/...	000067629202	Private	available
<input type="checkbox"/>		Clarusway_AMI_2	ami-0a5ce779ef10bc07	000067629202/...	000067629202	Private	available
<input type="checkbox"/>		Clarusway_AMI_3	ami-089827cd10c09afac	000067629202/...	000067629202	Private	available
<input type="checkbox"/>		ClaruswayAMI_4-custom...	ami-058aee30e48d7a74	000067629202/...	000067629202	Public	available