**Topics**

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1) Status checks

2) Protecting instance with accidental termination?

3) Scale up / scale out

4) Creating our own AMI

5) Snapshot

Select Mumbai region

Launch instance ---> Amazon linux ---> Review and launch (Takes the default options)

Launch --> Create new keypair ---> View instance

Let’s name the instance as - test

Observe the status check - Initializing, 2/2 checks passed

In availability zone, we have physical hard disk.

On top of physical hard drive ---> we have virtualization software (Xen hypervisor)

On Virtualization software, we have Ec2 machine

What is the meaning of 2/2 check passed?

**check 1** - Instance status check

**check 2** - System status check

Let’s say we have status check as 1/2?

what does that mean?

It means instance status check is failed.

Let’s say we have status check as 0/2?

what does that mean?

It means system status check is failed.

When system status (hard ware) is failed, obviously instance will fail.

**Troubleshoot**

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For status check as 1/2?

Solution: Reboot the instance

When we reboot, OS will be reloaded.

For status check as 0/2?

Solution: Stop and start the instance

Ec2 machine will be migrated to another physical machine

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Select the instance---> Status check tab

We can see System status check and instance status check

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How can we protect the instance with accidental termination?

Go to actions ----> instance settings ---> change termination protection --> yes, Enable

Now, we cannot terminate the machine.

In case you want to terminate, just disable change termination protection

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**Understanding terminology**

1) scale up and scale down

2) scale out and scale in

**1) scale up and scale down --**

scale up: This is also called as vertical scaling

Let’s say I have one machine of 10gb hard disk.

Adding additional 10gb hard disk in the same machine is called scaleup.

**Scale out:** This is called horizontal scaling

Let’s say I have one machine of 10gb hard disk.

Adding additional machine with 10gb hard disk

**Note:** Auto scaling comes under scale out

**Does AWS support scaleup?**

Yes, Once the instance is created, we can increase and decrease the hardware (CPU, RAM, HDD)

How can we do that?

Observe the machine we have launched, instance type is t2.micro

t2.micro comes with 1 CPU core and 1 GB ram.

Can we increase?

First, we need to stop the machine.

then go to

Actions---> Instance settings ---> Change instance type

Now, we have multiple options, Lets select t2.medium --- Apply

Note: t2.medium comes with 2 CPU cores and 4 GB ram

Now, Let’s change the instance type to t2.micro --- Apply

**Can we increase the hard disk**

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TO increase the hard disk, we do not need to stop the machine.

Machine can be in running state.

Let’s start the machine

Go to volumes option in dashboard, Select the Volume

Actions ----> Modify Volume ---- Size - 10 (change to required size) --> Modify--> Yes --> Close

It will take time to reflect.

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**Attach / Detach Volume**

Launch instance --> Amazon Linux ---> Next -- Next -- Step 4: Add two new volume

Observer Delete on termination (only 1st volume is selected).

This means, when we terminate the machine, only C: Drive is terminated)

Now select 2nd and 3rd check box (now all volumes will be terminated)

Next ---> Add name tag -- sunil --> Next --- Next -- Launch -- Select existing key pair ---> Launch -- View Instance

Now, I want to detach one volume (not c drive) (from Sunil machine and add to another machine (demo)

Go to volume

Select the 1st volume --> Actions -- Detach volume-- Yes, detach

Status will be changed to available

Select the same volume --> Action -- Attach Volume -- Select demo instance --> Attach.

Now, If you want to attach or detach C: Drive (root)

We need to stop the machines

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