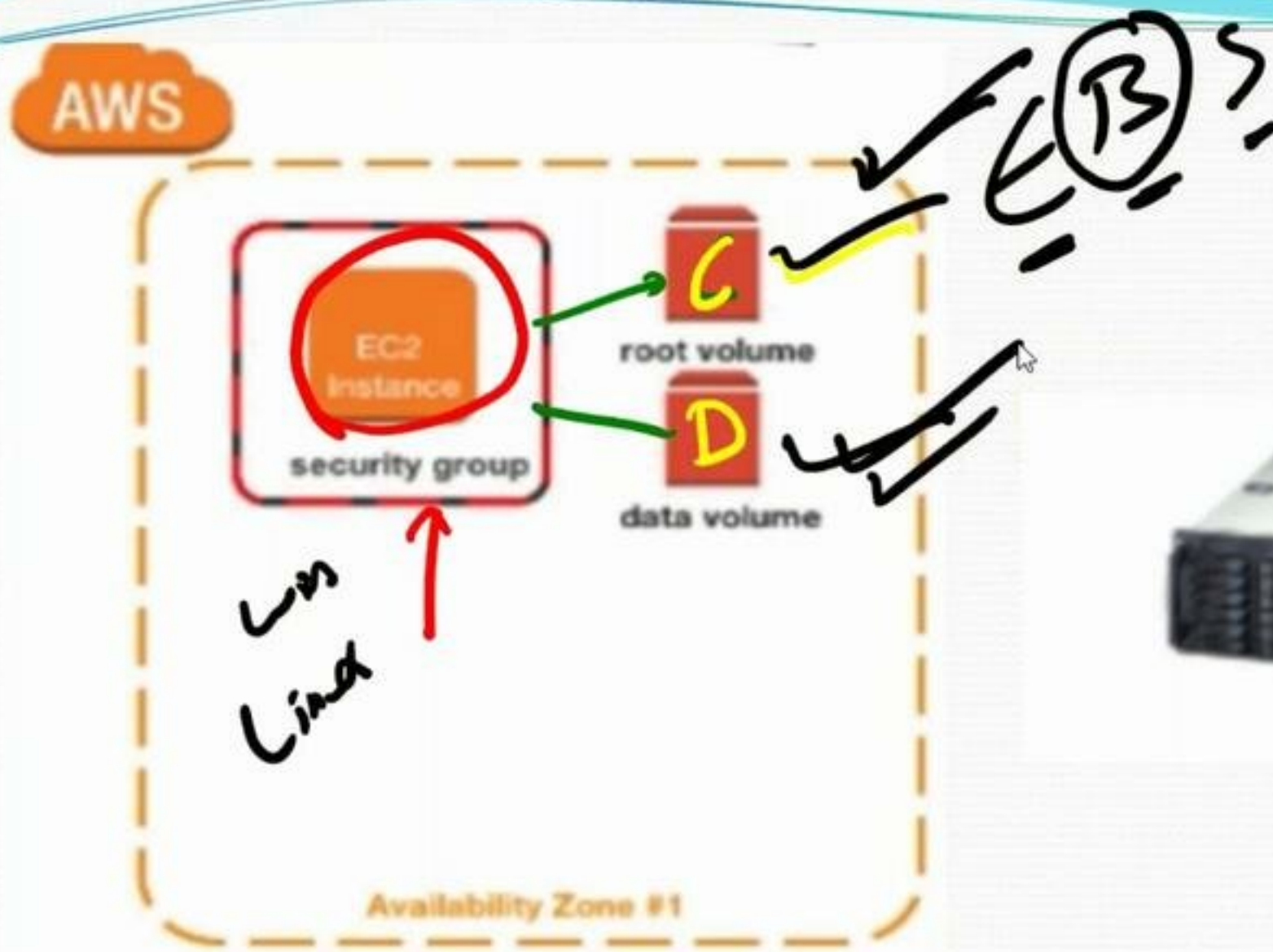


# Elastic Block Storage & Instance store





AWS



13hr

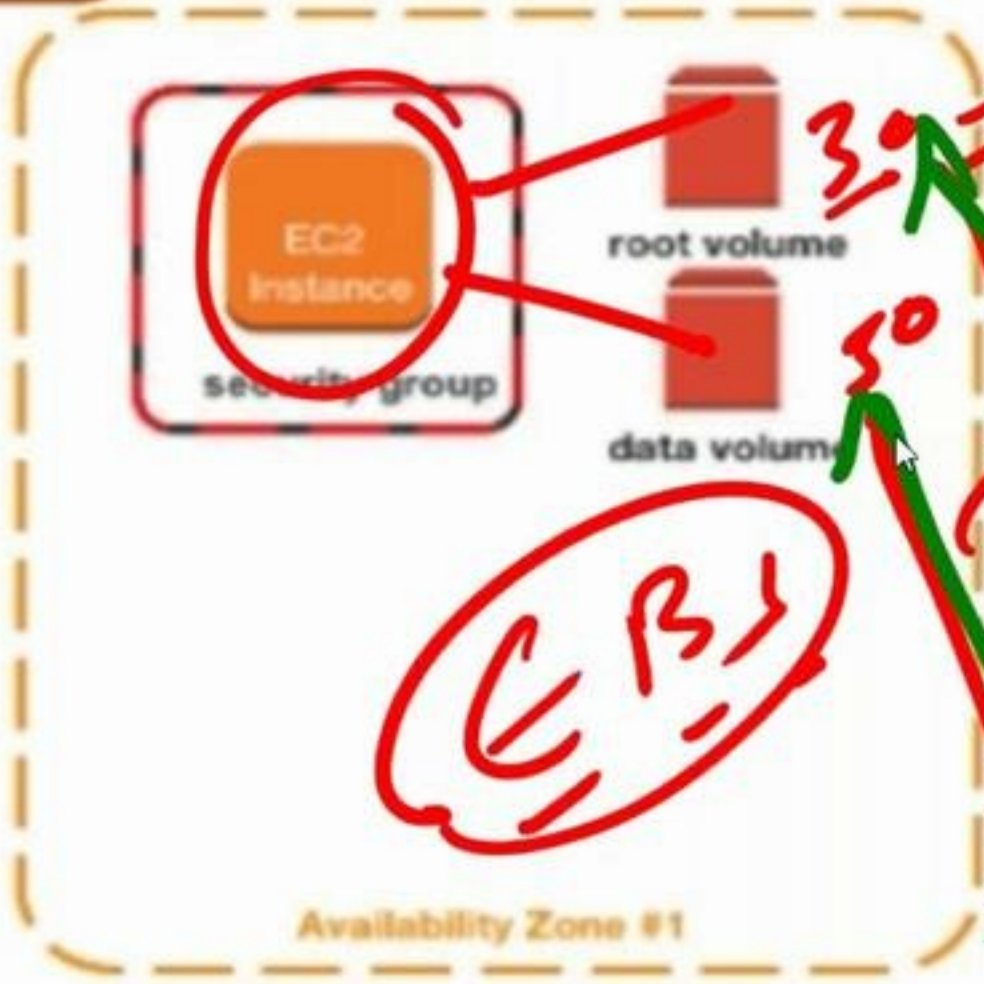
root volume  
data volume

Availability Zone #1





AWS



30 → 16 TB

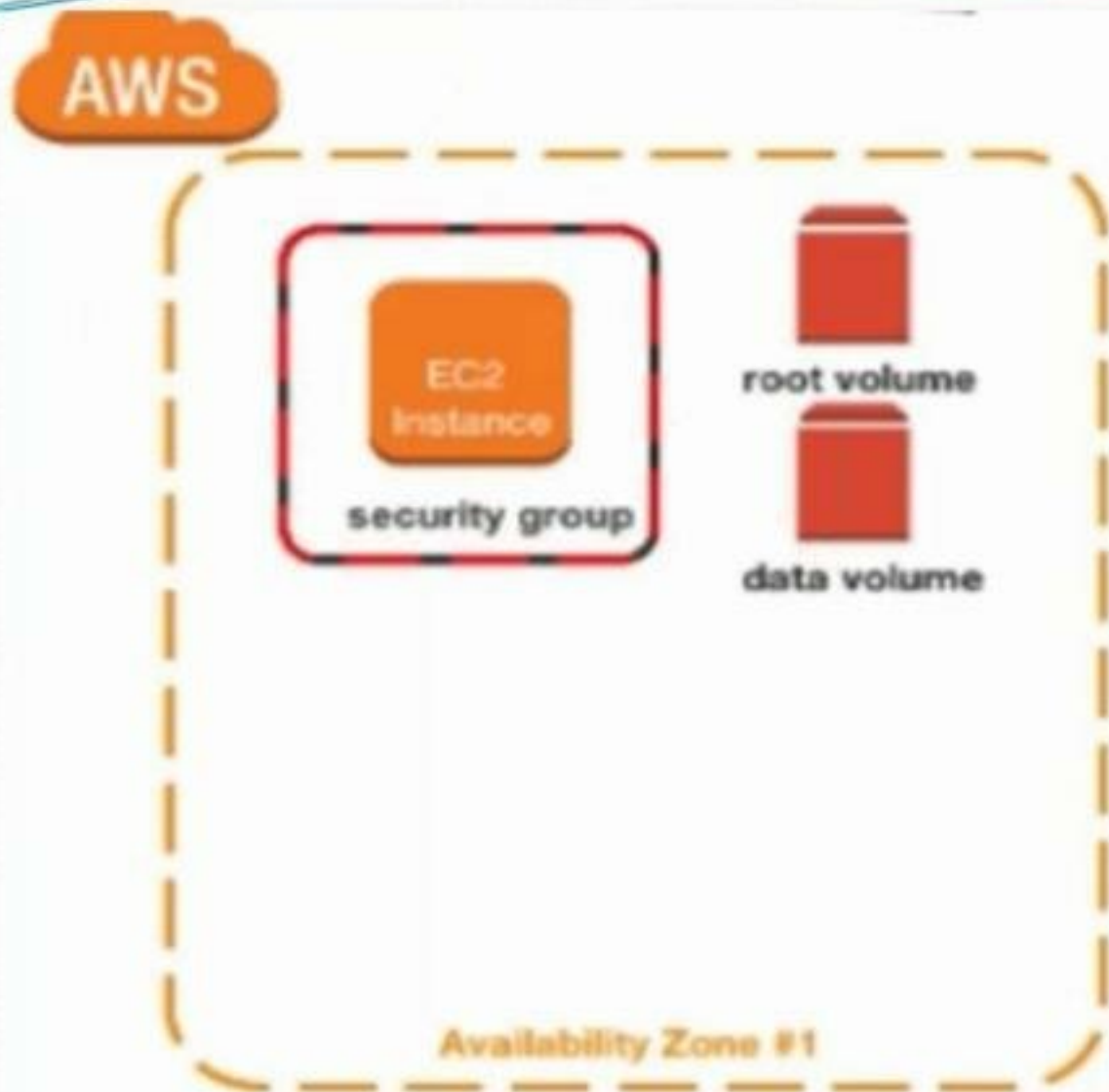
30

16 TB

400 TB

Storage





128TB



AWS



EB3

1TB

500



128TB



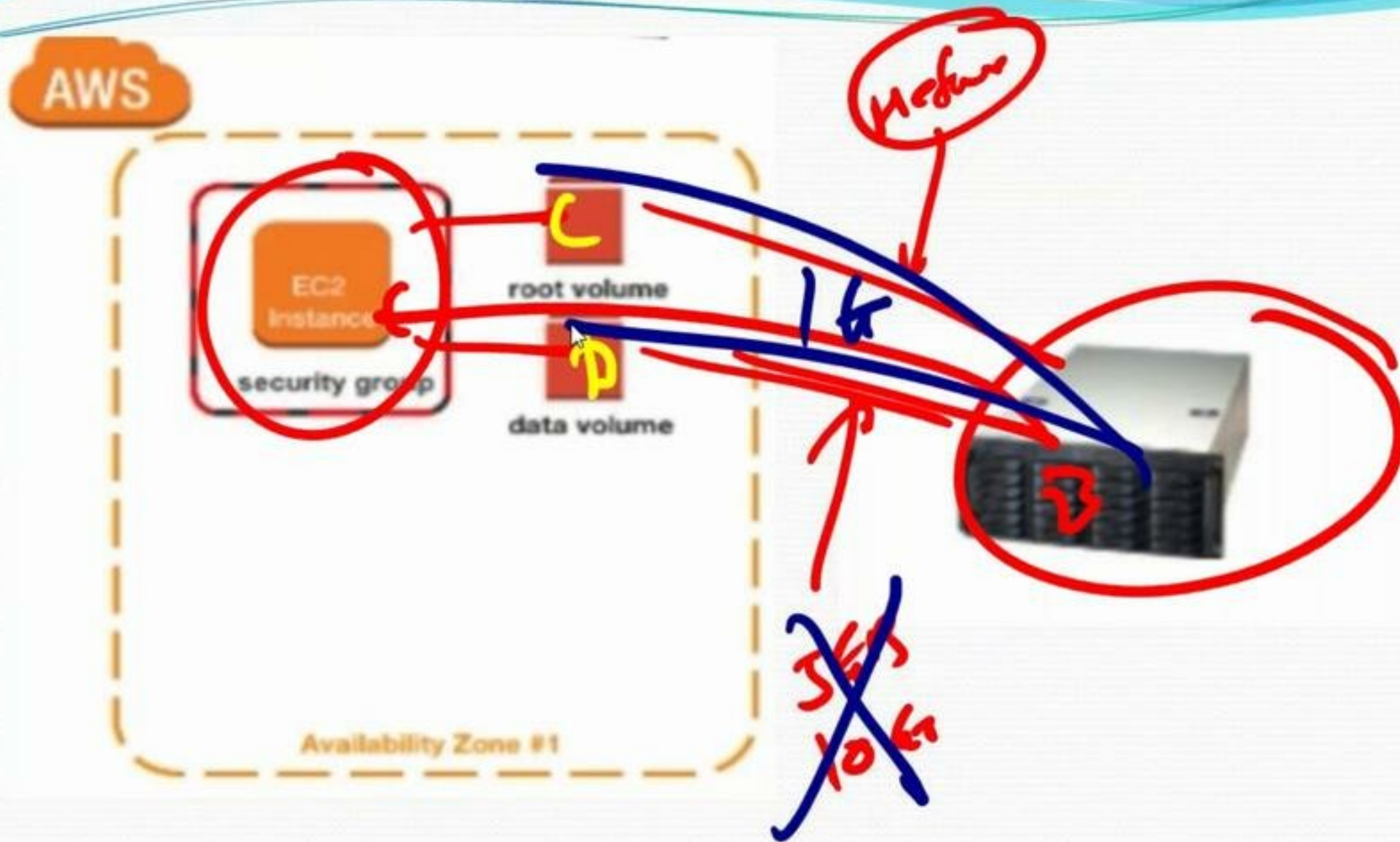
- 1 Elastic Block Storage & Instance store
- 2 Elastic Block Storage (EBS)
- 3 Elastic Block Storage (EBS)
- 4 Elastic Compute Cloud (EC2)
- 5 Elastic Compute Cloud (EC2)
- 6 Elastic Block Storage (EBS)

Slide Show Resume Slide Show

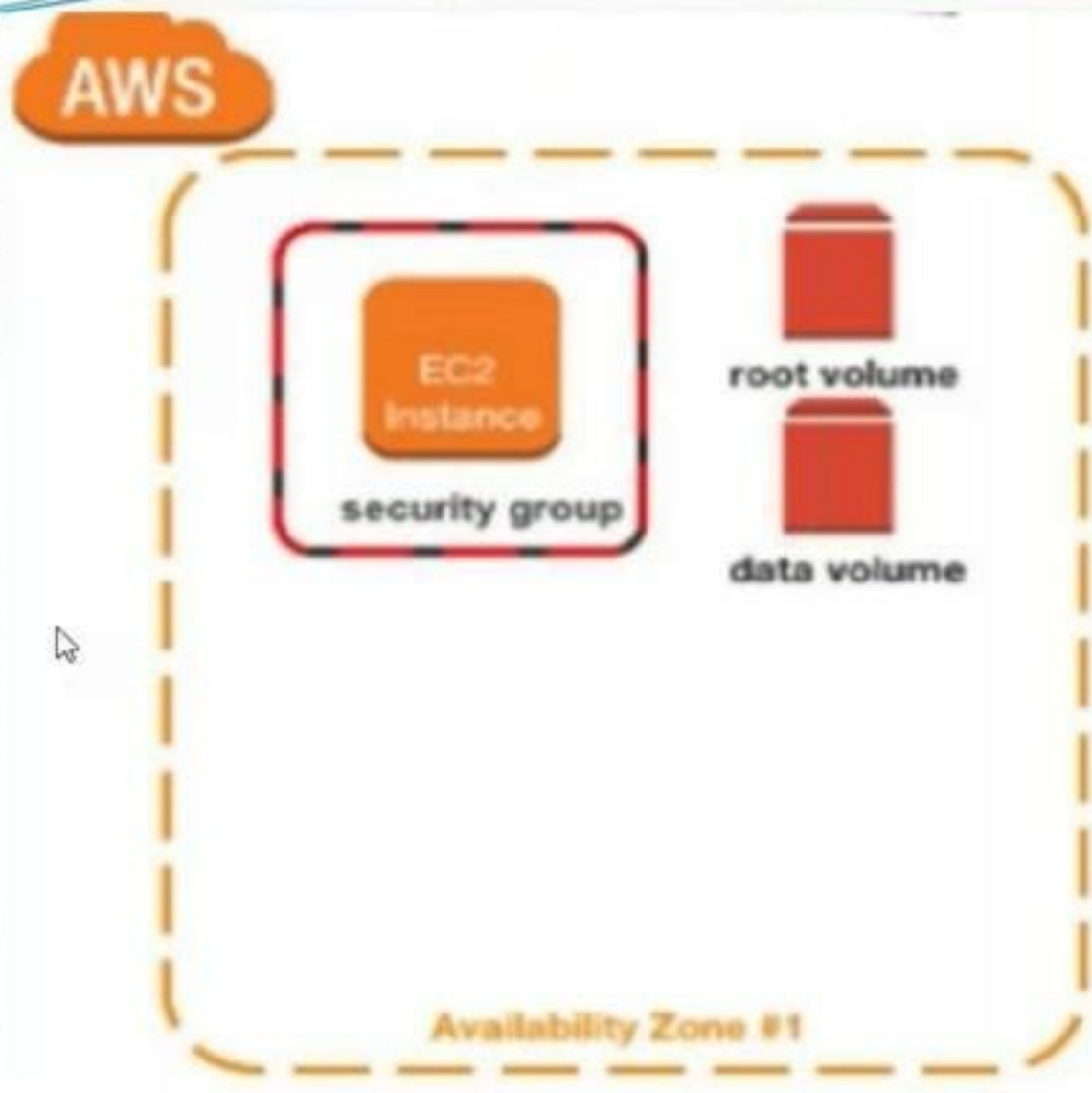


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# Elastic Block Storage (EBS)

## EBS optimized instances

- EBS optimized EC2 instances enable the full use of an EBS volume's provisioned IOPS
- They deliver dedicated performance between EC2 instances and their attached EBS volumes



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EBS optimized instances

EC2-2/5

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5-10-20

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# Elastic Compute Cloud (EC2)

Two types of Block store devices are supported

- ☐ Elastic Block Storage

Its Persistent

- ☐ Instance Store

Non-Persistent

(Virtual disk allocated to EC2 instance, root instance store can be max 10GB)

C -> SSD

D -> SSD  
x1a

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Slides Outline

1 Elastic Block Storage & Instance store

Elastic Block Storage (EBS)

EBS optimized instances

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4 Elastic Compute Cloud (EC2)

Two types of block store devices are supported

- ☒ **Block Block Storage**  
Persistent
- ☐ **Instance Store**  
Non-Persistent  
(Virtual disk allocated to EC2 instance, must instance store can be used as OS)

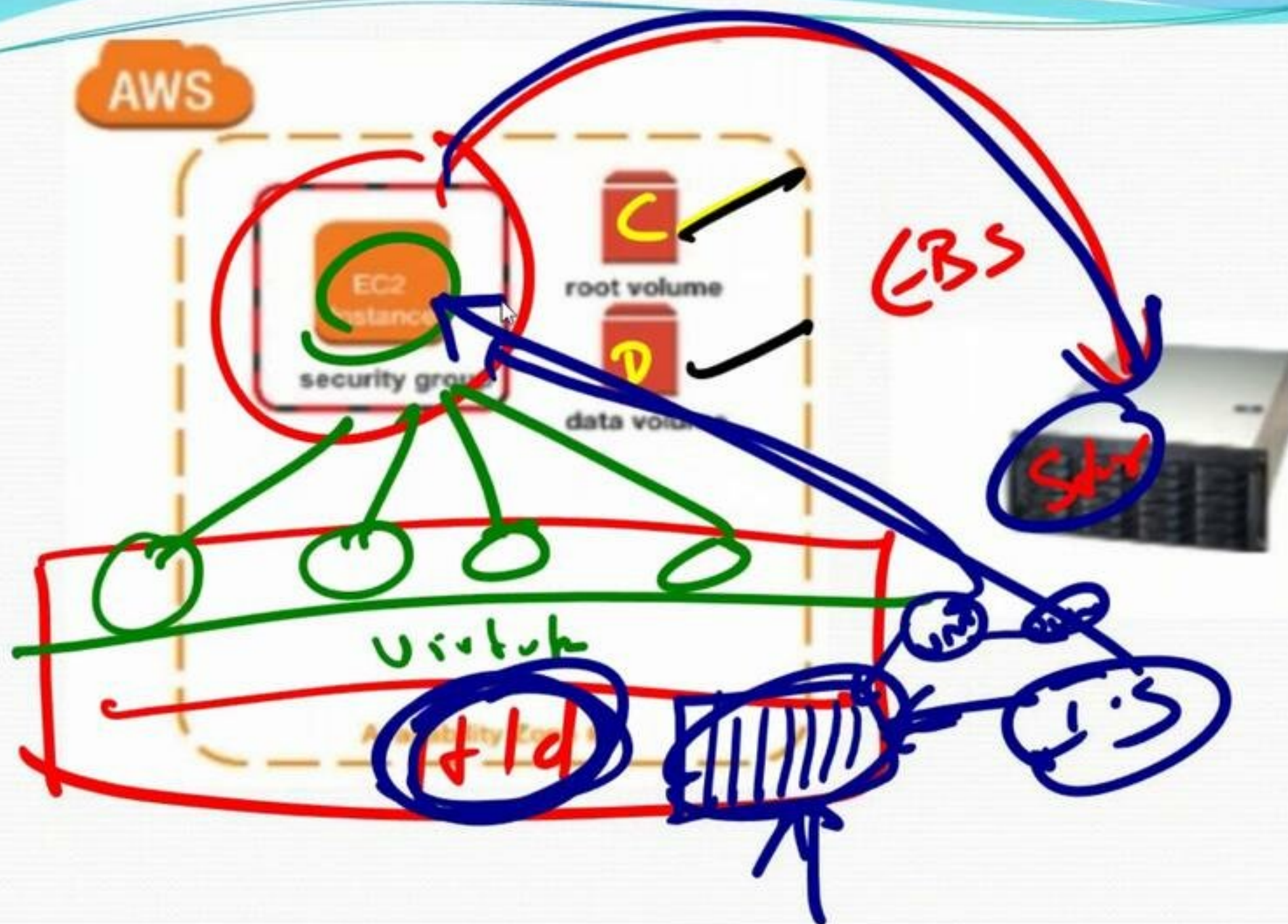
5 Elastic Compute Cloud (EC2)

- EBS-backed EC2 instances means root volume type is EBS
- Instance Store-backed EC2 instances means root volume type is Instance store

6 Elastic Block Storage (EBS)

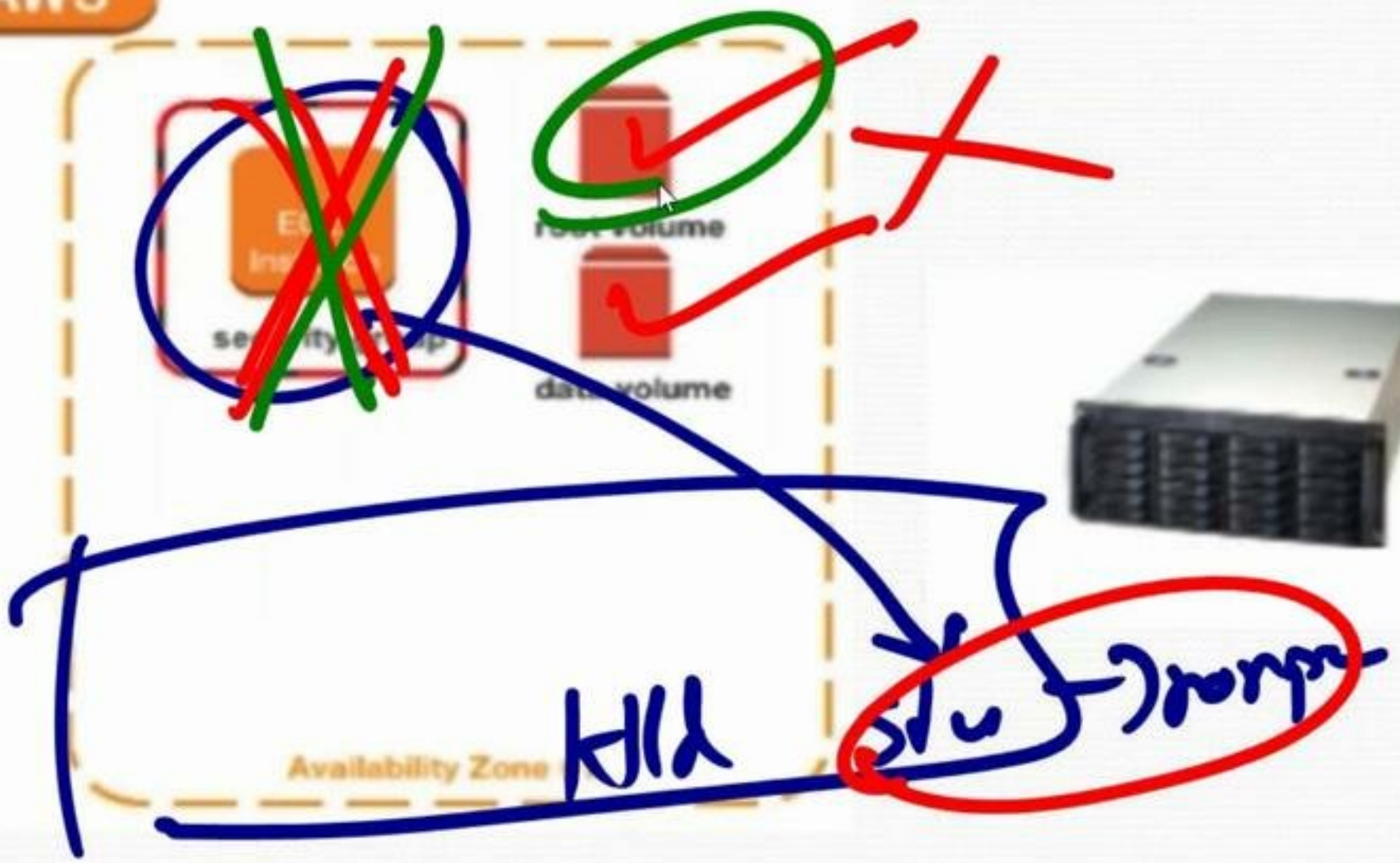


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AWS



AWS



security group



root volume



data volume

First Step

Availability Zone #1





AWS

EC2  
Instance

security group

root volume

data volume

Availability Zone #1



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AWS I4.2 EBS Types done - Microsoft PowerPoint

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Slides Outline

1 Elastic Block Storage & Instance store

2

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6 Elastic Block Storage (EBS)

Click to add notes

Slide 4 of 8 "Flow" English (India)

80%

ENG



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- ☐ Instance Store

Non-Persistent

(Virtual disk allocated to EC2 instance, root instance store can be max 10GB)

AUS (✓)

Root Instn

Root G

# Elastic Compute Cloud (EC2)



- EBS **backed** EC2 Instance means root  
volume type is EBS
- Instance Store **backed** EC2 means **root**  
volume type is **Instance store**



# Elastic Compute Cloud (EC2)

- EBS backed EC2 Instance means **root** volume type is EBS
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# Elastic Block Storage (EBS)

Amazon EBS volumes types fall into two categories

## SSD-backed volumes

- Optimized for transactional workloads involving frequent read/write operations, High IOPS and low latency
- Can be used as boot volumes



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10/5

15  
1000s

# Elastic Block Storage (EBS)

HDD-backed volumes

- Optimized for large streaming workloads, big data, log processing
- Cannot be used as boot volumes



# Elastic Block Storage (EBS)

## HDD-backed volumes

JB  
What  
is  
it?

- Optimized for large streaming workloads, big data, log processing →
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Disk Management

File Action View Help

Volume	Layout	Type	File System	Status	Capacity	Free Spa...	% Free
(C:)	Simple	Basic	NTFS	Healthy (S...	30.00 GB	14.58 GB	49 %
New Volume (D:)	Simple	Basic	NTFS	Healthy (P...	2.00 GB	1.98 GB	99 %

Disk 0: Basic, 30.00 GB, Online

Disk 1: Basic, 2.00 GB, Online

2.00 GB NTFS  
Healthy (Primary Partition)

■ Unallocated ■ Primary partition

Hostname: EC2AMAZ-60R4VE2  
Instance ID: i-0b90574e1a4a55cdc  
Public IP Address: 3.34.182.81  
Private IP Address: 172.31.14.208  
Instance Size: t2.micro  
Availability Zone: ap-northeast-2a  
Architecture: AMD64  
Total Memory: 1024 MB  
Network Performance: Low to Moderate

# Elastic Block Storage (EBS)

- You can Add Volume, Modify volume Size & volume Type
- You cannot decrease EBS volume Size
- For Running EC2 Instance you cannot detach/re-attach EBS root volume
- EBS has 99.999 availability





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AWS I4.2 EBS Types done - Microsoft PowerPoint

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Slides Outline

4 Elastic Compute Cloud (EC2)  
Two types of Block storage devices are supported  
• Elastic Block Storage  
• Instance Store  
Virtual disk allocated to EC2 instance, must be attached to instance when it starts

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EBS-backed EC2 instance means root volume type is EBS  
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Amazon EBS volumes types fall into two categories  
IO-optimized volumes  
• Optimized for transactional workloads involving frequent read/write operations, High IOPS and low latency  
• Can be used as boot volumes

7 Elastic Block Storage (EBS)  
Throughput-optimized volumes  
• Optimized for large sequential workloads by data, log processing  
• Cannot be used as boot volumes

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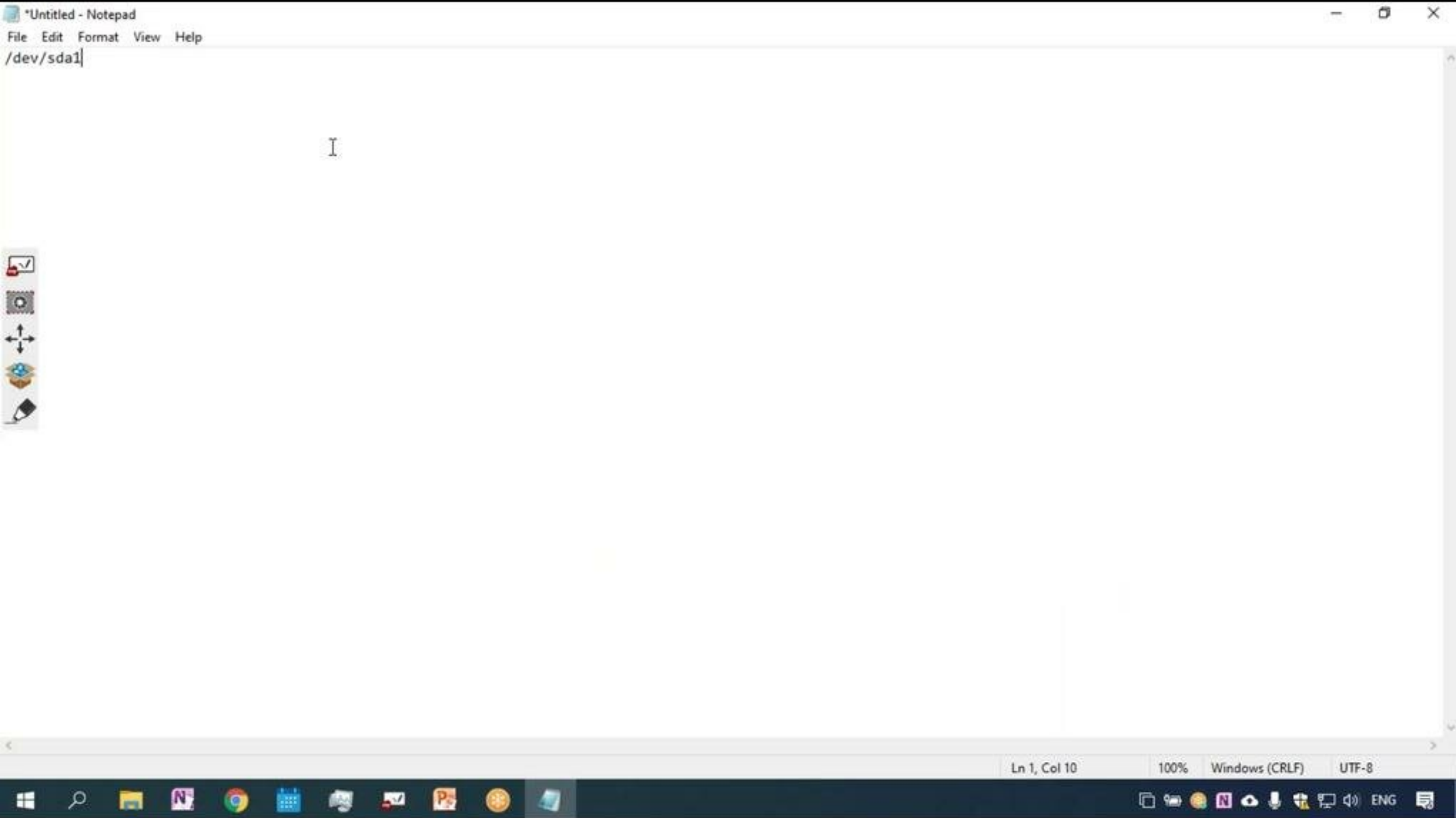
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EC2 → 99.95%  
49.999

99.999  
99.999  
99.999  
99.999  
99.999



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