EC2 Instance Types - Mnemonic

- **F** - For FPGA

- **I** - For IOPS

- **G** - Graphics

- **H** - High Disk Throughput

- **T** - Cheap general purpose (think T2 Micro)

- **D** - For Density

- **R** - For RAM

- **M** - Main choice for general purpose apps

- **C** - For Compute

- **P** - Graphics (think Pics)

- **X** - Extreme Memory

- **Z** - Extreme Memory AND CPU

- **A** - Arm-based workloads

- **U** - Bare Metal

FIGHT DR MC PXZ AU (fight dr mc pxz australia)

No need to memorise

EC2 Exam Tips

If the Spot instance is terminated by Amazon EC2, you will not be charged for a partial hour of usage. However, if you terminate the instance yourself, you will be charged for any hour in which the instance ran.

Exam Tips

- Termination Protection is **turned off** by default, you must turn it on.
- On an EBS-backed instance, the **default action is for the root EBS volume to be deleted** when the instance is terminated.
- EBS Root Volumes of your DEFAULT AMI's **CAN** be encrypted. You can also use a third party tool (such as bit locker etc) to encrypt the root volume, or this can be done when creating AMI's (lab to follow) in the AWS console or using the API.
- Additional volumes can be encrypted.

Security Groups

SECURITY GROUPS
Exam Tips   A CLO

- All Inbound traffic is blocked by default.

- All Outbound traffic is allowed.

- Changes to Security Groups take effect immediately.

- You can have any number of EC2 instances within a security group.

- You can have multiple security groups attached to EC2 Instances.

SECURITY GROUPS
Exam Tips   A CLOUD GURU

- Security Groups are **STATEFUL.**

- If you create an inbound rule allowing traffic in, that traffic is automatically allowed back out again.

- You cannot block specific IP addresses using Security Groups, instead use Network Access Control Lists.

- You can specify allow rules, but not deny rules.

EBS volume

Amazon Elastic Block Store (EBS) provides persistent block storage volumes for use with Amazon EC2 instances in the AWS Cloud. Each Amazon EBS volume is automatically replicated within its Availability Zone to protect you from component failure, offering high availability and durability.
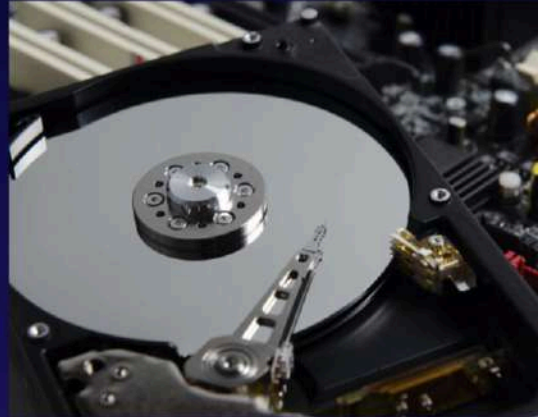
5 Different Types of EBS Storage;

- General Purpose (SSD)
- Provisioned IOPS (SSD)
- Throughput Optimised Hard Disk Drive
- Cold Hard Disk Drive
- Magnetic

EBS 101
Compare EBS Types

A CLOUD GURU

	Solid-State Drives (SSD)		Hard disk Drives (HDD)		
Volume Type	**General Purpose SSD**	**Provisioned IOPS SSD**	**Throughput Optimized HDD**	**Cold HDD**	**EBS Magnetic**
Description	General purpose SSD volume that balances price and performance for a wide variety of transactional workloads	Highest-performance SSD volume designed for mission-critical applications	Low cost HDD volume designed for frequently accessed, throughput-intensive workloads	Lowest cost HDD volume designed for less frequently accessed workloads	Previous generation HDD
Use Cases	**Most Work Loads**	**Databases**	**Big Data & Data Warehouses**	**File Servers**	**Workloads where data is infrequently accessed**
API Name	gp2	io1	st1	sc1	Standard
Volume Size	1 GiB - 16 TiB	4 GiB - 16 TiB	500 GiB - 16 TiB	500 GiB - 16 TiB	1 GiB-1 TiB
Max. IOPS**/ Volume	16,000	64,000	500	250	40-200

API name is important and asked in the exam

- Volumes exist on EBS. Think of EBS as a virtual hard disk

- Snapshots exist on S3. Think of snapshots as a photograph of the disk.

- Snapshots are point in time copies of Volumes.

- Snapshots are incremental — this means that only the blocks that have changed since your last snapshot are moved to S3.

- If this is your first snapshot, it may take some time to create.

- To create a snapshot for Amazon EBS volumes that serve as root devices, you should stop the instance before taking the snapshot.

- However you can take a snap while the instance is running.

- You can create AMI's from both Volumes and Snapshots

- You can change EBS volume sizes on the fly, including changing the size and storage type.

- Volumes will ALWAYS be in the same availability zone as the EC2 instance.

- To move an EC2 volume from one AZ to another, take a snapshot of it, create an AMI from the snapshot and then use the AMI to launch the EC2 instance in a new AZ.

- To move an EC2 volume from one region to another, take a snapshot of it, create an AMI from the snapshot and then copy the AMI from one region to the other. Then use the copied AMI to launch the new EC2 instance in the new region.

AMI Types (EBS vs Instance Store)

AMI's

You can select your AMI based on:

- Region (see Regions and Availability Zones)

- Operating system

- Architecture (32-bit or 64-bit)

- Launch Permissions

- Storage for the Root Device (Root Device Volume

    Instance Store (**EPHEMERAL STORAGE**)

    EBS Backed Volumes

EBS vs Instance Store Volumes

All AMIs are categorized as either backed by Amazon EBS or backed by instance store.

For EBS Volumes: The root device for an instance launched from the AMI is an Amazon EBS volume created from an Amazon EBS snapshot.

For Instance Store Volumes: The root device for an instance launched from the AMI is an instance store volume created from a template stored in Amazon S3.

Exam Tips

AMI TYPES (EBS VS INSTANCE STORE)

- Instance Store Volumes are sometimes called Ephemeral Storage.

- Instance store volumes cannot be stopped. If the underlying host fails, you will lose your data.

- EBS backed instances can be stopped. You will not lose the data on this instance if it is stopped.

- You can reboot both, you will not lose your data.

- By default, both ROOT volumes will be deleted on termination. However, with EBS volumes, you can tell AWS to keep the root device volume.

Encrypted Root Device Volume and snapshots

- Snapshots of encrypted volumes are encrypted automatically.

- Volumes restored from encrypted snapshots are encrypted automatically.

- You can share snapshots, but only if they are unencrypted.

- These snapshots can be shared with other AWS accounts or made public.

- You can now encrypt root device volumes upon creation of the EC2 instance.

- Create a Snapshot of the unencrypted root device volume

- Create a copy of the Snapshot and select the encrypt option

- Create an AMI from the encrypted Snapshot

- Use that AMI to launch new encrypted instances

CloudWatch

What is CloudWatch?

Amazon CloudWatch is a monitoring service to monitor your AWS resources, as well as the applications that you run on AWS.

What can CloudWatch monitor?

CloudWatch can monitor things like

- Compute
  - EC2 Instances
  - Autoscaling Groups
  - Elastic Load Balancers
  - Route53 Health Checks
- Storage & Content Delivery
  - EBS Volumes
  - Storage Gateways
  - CloudFront

CloudWatch & EC2

Host Level Metrics Consist of:

- CPU
- Network
- Disk
- Status Check

What Is AWS Cloud Trail

A CLOUD GU

AWS CloudTrail increases visibility into your user and resource activity by recording AWS Management Console actions and API calls. You can identify which users and accounts called AWS, the source IP address from which the calls were made, and when the calls occurred.

CloudTrail vs CloudWatch

- CloudWatch monitors performance.
- CloudTrail monitors API calls in the AWS platform.

Exam Tips

Remember;

- CloudWatch is used for monitoring performance.
- CloudWatch can monitor most of AWS as well as your applications that run on AWS.
- CloudWatch with EC2 will monitor events every 5 minutes by default.
- You can have 1 minute intervals by turning on detailed monitoring.
- You can create CloudWatch alarms which trigger notifications.
- CloudWatch is all about performance. CloudTrail is all about auditing.

CLOUDWATCH

Exam Tips

- Standard Monitoring = 5 Minutes
- Detailed Monitoring = 1 Minute

CLOUDWATCH
Exam Tips   A CLOUD GUR

What Can I do With CloudWatch?

- Dashboards – Creates awesome dashboards to see what is happening with your AWS environment.
- Alarms – Allows you to set Alarms that notify you when particular thresholds are hit.
- Events – CloudWatch Events helps you to respond to state changes in your AWS resources.
- Logs – CloudWatch Logs helps you to aggregate, monitor, and store logs.

The AWS CLI

Exam Tips ☁ A CLOUD GURU

- You can interact with AWS from anywhere in the world just by using the command line (CLI).

- You will need to set up access in IAM

- Commands themselves are not in the exam, but some basic commands will be useful to know for real life.

IAM Roles

Exam Tips ☁ A CLOUD GU

- Roles are more secure than storing your access key and secret access key on individual EC2 instances.

- Roles are easier to manage.

- Roles can be assigned to an EC2 instance after it is created using both the console & command line.

- Roles are universal — you can use them in any region.

Using BootStrap Scripts

EC2 instance metadata

Exam Tips ☁ A CLOUD

- Used to get information about an instance (such as public ip)
- curl http://169.254.169.254/latest/meta-data/
- curl http://169.254.169.254/latest/user-data/

Elastic File System(EFS)

What Is EFS
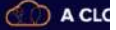
Amazon Elastic File System (Amazon EFS) is a file storage service for Amazon Elastic Compute Cloud (Amazon EC2) instances. Amazon EFS is easy to use and provides a simple interface that allows you to create and configure file systems quickly and easily. With Amazon EFS, storage capacity is elastic, growing and shrinking automatically as you add and remove files, so your applications have the storage they need, when they need it.

https://help.acloud.guru/hc/en-us/articles/115002011194

Exam Tips

- Supports the Network File System version 4 (NFSv4) protocol
- You only pay for the storage you use (no pre-provisioning required.)
- Can scale up to the petabytes
- Can support thousands of concurrent NFS connections
- Data is stored across multiple AZ's within a region
- Read After Write Consistency

EC2 Placement Groups

EC2 Placement Groups

Three Types of Placement Groups;

- Clustered Placement Group
- Spread Placement Group
- Partitioned
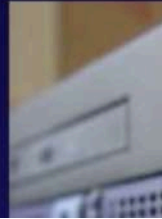
Clustered Placement Group

A cluster placement group is a grouping of instances within a single Availability Zone. Placement groups are recommended for applications that need low network latency, high network throughput, or both.

Only certain instances can be launched in to a Clustered Placement Group.

Spread Placement Group

A CLOUD GU

A spread placement group is a group of instances that are each placed on distinct underlying hardware.

Spread placement groups are recommended for applications that have a small number of critical instances that should be kept separate from each other.
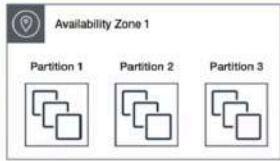
THINK INDIVIDUAL INSTANCES

Availability Zone 1
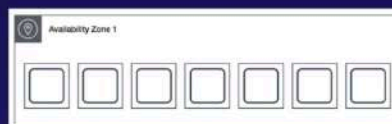
Partitioned Placement Group

When using partition placement groups, Amazon EC2 divides each group into logical segments called partitions. Amazon EC2 ensures that each partition within a placement group has its own set of racks. Each rack has its own network and power source. No two partitions within a placement group share the same racks, allowing you to isolate the impact of hardware failure within your application.

THINK MULTIPLE INSTANCES

Availability Zone 1

Partition 1   Partition 2   Partition 3

EC2 Placement Groups

Three Types of Placement Groups;

- Clustered Placement Group
  - Low Network Latency / High Network Throughput
- Spread Placement Group
  - Individual Critical EC2 instances
- Partitioned
  - Multiple EC2 instances HDFS, HBase, and Cassandra

Placement Groups Exam Tips

- A clustered placement group can't span multiple Availability Zones.
- A spread placement and partitioned group can.
- The name you specify for a placement group must be unique within your AWS account.
- Only certain types of instances can be launched in a placement group (Compute Optimized, GPU, Memory Optimized, Storage Optimized)
- AWS recommend homogenous instances within clustered placement groups.
- You can't merge placement groups.
- You can't move an existing instance into a placement group. You can create an AMI from your existing instance, and then launch a new instance from the AMI into a placement group.

EC2 summary

EC2 Exam Tips

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. Amazon EC2 reduces the time required to obtain and boot new server instances to minutes, allowing you to quickly scale capacity, both up and down, as your computing requirements change.

1 On Demand

Allows you to pay a fixed rate by the hour (or by the second) with no commitment.

2 Reserved

Provides you with a capacity reservation, and offer a significant discount on the hourly charge for an instance. Contract Terms are 1 Year or 3 Year Terms.

3 Spot

Enables you to bid whatever price you want for instance capacity, providing for even greater savings if your applications have flexible start and end times.

4 Dedicated Hosts

Physical EC2 server dedicated for your use. Dedicated Hosts can help you reduce costs by allowing you to use your existing server-bound software licenses.

EC2 Exam Tips

If the Spot instance is terminated by Amazon EC2, you will not be charged for a partial hour of usage. However, if you terminate the instance yourself, you will be charged for any hour in which the instance ran.

EC2 Instance Types

A CLOUD GURU

- **F** - For FPGA
- **I** - For IOPS
- **G** - Graphics
- **H** - High Disk Throughput
- **T** - Cheap general purpose (think T2 Micro)
- **D** - For Density
- **R** - For RAM
- **M** - Main choice for general purpose apps
- **C** - For Compute
- **P** - Graphics (think Pics)
- **X** - Extreme Memory
- **Z** - Extreme Memory AND CPU
- **A** - Arm-based workloads
- **U** - Bare Metal

EBS

A CLOUD GURU

- Termination Protection is **turned off** by default, you must turn it on.
- On an EBS-backed instance, the **default action is for the root EBS volume to be deleted** when the instance is terminated.
- EBS Root Volumes of your DEFAULT AMI's **CAN** be encrypted. You can also use a third party tool (such as bit locker etc) to encrypt the root volume, or this can be done when creating AMI's (remember the lab) in the AWS console or using the API.
- Additional volumes can be encrypted.

EC2 SUMMARY

Security Groups

A C

- All Inbound traffic is blocked by default.
- All Outbound traffic is allowed.
- Changes to Security Groups take effect immediately.
- You can have any number of EC2 instances within a security group.
- You can have multiple security groups attached to EC2 Instances.

EC2 SUMMARY

Security Groups

A CLOUD GURU

- Security Groups are **STATEFUL.**
- If you create an inbound rule allowing traffic in, that traffic is automatically allowed back out again.
- You cannot block specific IP addresses using Security Groups, instead use Network Access Control Lists.
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EC2 SUMMARY

Compare EBS Types

A CLOUD GURU

	Solid-State Drives (SSD)		Hard disk Drives (HDD)		
Volume Type	General Purpose SSD	Provisioned IOPS SSD	Throughput Optimized HDD	Cold HDD	EBS Magnetic
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Use Cases	**Most Work Loads**	**Databases**	**Big Data & Data Wharehouses**	**File Servers**	**Workloads where data is infrequently accessed**
API Name	gp2	io1	st1	sc1	Standard
Volume Size	1 GiB - 16 TiB	4 GiB - 16 TiB	500 GiB - 16 TiB	500 GiB - 16 TiB	1 GiB-1 TiB
Max. IOPS**/ Volume	16,000	64,000	500	250	40-200

EBS Snapshots

- To create a snapshot for Amazon EBS volumes that serve as root devices, you should stop the instance before taking the snapshot.

- However you can take a snap while the instance is running.

- You can create AMI's from both Volumes and Snapshots

- You can change EBS volume sizes on the fly, including changing the size and storage type.

- Volumes will ALWAYS be in the same availability zone as the EC2 instance.

Migrating EBS

- To move an EC2 volume from one AZ to another, take a snapshot of it, create an AMI from the snapshot and then use the AMI to launch the EC2 instance in a new AZ.

- To move an EC2 volume from one region to another, take a snapshot of it, create an AMI from the snapshot and then copy the AMI from one region to the other. Then use the copied AMI to launch the new EC2 instance in the new region.

EBS Encryption

- Snapshots of encrypted volumes are encrypted automatically.

- Volumes restored from encrypted snapshots are encrypted automatically.

- You can share snapshots, but only if they are unencrypted.

- These snapshots can be shared with other AWS accounts or made public.

Exam Tips

Root Device Volumes Can Now Be Encrypted. If you have an unencrypted root device volume that needs to be encrypted do the following;

- Create a Snapshot of the unencrypted root device volume
- Create a copy of the Snapshot and select the encrypt option
- Create an AMI from the encrypted Snapshot
- Use that AMI to launch new encrypted instances

EBS vs Instance Store

- Instance Store Volumes are sometimes called Ephemeral Storage.
- Instance store volumes cannot be stopped. If the underlying host fails, you will lose your data.
- EBS backed instances can be stopped. You will not lose the data on this instance if it is stopped.
- You can reboot both, you will not lose your data.
- By default, both ROOT volumes will be deleted on termination. However, with EBS volumes, you can tell AWS to keep the root device volume.

Encrypting Root Device Volumes

- Create a Snapshot of the unencrypted root device volume
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CloudWatch

A CLOUD

Remember;

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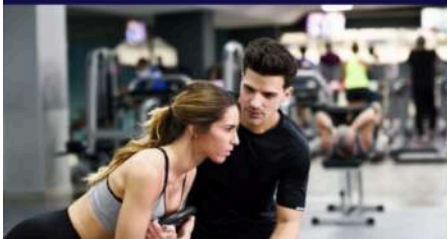
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Roles

- Roles are more secure than storing your access key and secret access key on individual EC2 instances.

- Roles are easier to manage.

- Roles can be assigned to an EC2 instance after it is created using both the console & command line.

- Roles are universal — you can use them in any region.

BootStrap Scripts

- Bootstrap scripts run when an EC2 instance first boots.

- Can be a powerful way of automating software installs and updates.

Instance Meta Data & User Data

- Used to get information about an instance (such as public ip)
- curl http://169.254.169.254/latest/meta-data/
- curl http://169.254.169.254/latest/user-data/

EFS

- Supports the Network File System version 4 (NFSv4) protocol

- You only pay for the storage you use (no pre-provisioning required.)

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EC2 Placement Groups

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- You can't merge placement groups.

- You can't move an existing instance into a placement group. You can create an AMI from your existing instance, and then launch a new instance from the AMI into a placement group.

EC2 Quiz

Question 1:

Can Spread Placement Groups be deployed across multiple Availability Zones?

🔘 Yes.

⚪ Only in Us-East-1.

⚪ Yes, but only using the AWS API.

⚪ No.

Question 2:

When creating a new security group, all inbound traffic is allowed by default.

⚪ TRUE

🔘 FALSE

Question 3:

To help you manage your Amazon EC2 instances, you can assign your own metadata in the form of _____.

○ Wildcards

○ Certificates

● Tags

○ Notes

Question 4:

Which of the following features only relate to Spread Placement Groups?

⚪ Instances must be deployed in a single Availability Zone.

⚪ The name of your placement group must be unique within your AWS Account.

🔵 The placement group can only have 7 running instances per Availability Zone.

⚪ There is no charge for creating a placement group.

Question 5:

In order to enable encryption at rest using EC2 and Elastic Block Store, you must _____.

🔵 Configure encryption when creating the EBS volume

⚪ Configure encryption using the appropriate Operating Systems file system

⚪ Configure encryption using X.509 certificates

⚪ Mount the EBS volume in to S3 and then encrypt the bucket using a bucket policy

Question 6:

Can I move a reserved instance from one region to another?

○ Yes.

● No.

○ It depends on the region.

○ Only in the US.

Question 7:

You need to know both the private IP address and public IP address of your EC2 instance. You should _____.

○ Run IPCONFIG (Windows) or IFCONFIG (Linux)

● Retrieve the instance Metadata from http://169.254.169.254/latest/meta-data/

○ Retrieve the instance User Data from http://169.254.169.254/latest/meta-data/

○ Use the following command: AWS EC2 DisplayIP

Question 8:

Amazon's EBS volumes are _____.

⚪ Object-based storage

🔵 Block-based storage

⚪ Encrypted by default

⚪ Not suitable for databases

Question 9:

If an Amazon EBS volume is an additional partition (not the root volume), can I detach it without stopping the instance?

🔵 Yes, although it may take some time.

⚪ No, you will need to stop the instance.

Question 10:

You can add multiple volumes to an EC2 instance and then create your own RAID 5/RAID 10/RAID 0 configurations using those volumes.

🔵 TRUE

⚪ FALSE

Question 11:

Individual instances are provisioned _____.

⚪ In Regions

🔵 In Availability Zones

⚪ Globally

Question 12:

Spread Placement Groups can be deployed across multiple Availability Zones

O TRUE

◯ FALSE

Question 13:

Is it possible to perform actions on an existing Amazon EBS Snapshot?

O Yes, through the AWS APIs, CLI, and AWS Console.

◯ No.

◯ It depends on the region.

◯ EBS does not have snapshot functionality.

Question 14:

You have developed a new web application in the US-West-2 Region that requires six Amazon Elastic Compute Cloud (EC2) instances to be running at all times. US-West-2 comprises three Availability Zones (us-west-2a, us-west-2b, and us-west-2c). You need 100 percent fault tolerance: should any single Availability Zone in us-west-2 become unavailable, the application must continue to run. How would you make sure 6 servers are ALWAYS available? NOTE: each answer has 2 possible deployment configurations. Select the answer that gives TWO satisfactory solutions to this scenario.

○ Solution 1: us-west-2a with two EC2 instances, us-west-2b with two EC2 instances, and us-west-2c with two EC2 instances. Solution 2: us-west-2a with six EC2 instances, us-west-2b with six EC2 instances, and us-west-2c with no EC2 instances.

🔘 Solution 1: us-west-2a with six EC2 instances, us-west-2b with six EC2 instances, and us-west-2c with no EC2 instances. Solution 2: us-west-2a with three EC2 instances, us-west-2b with three EC2 instances, and us-west-2c with three EC2 instances.

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Question 15:

The use of a cluster placement group is ideal _____.

⚪ When you need to distribute content on a CDN network

⚪ When you need to deploy EC2 instances that require high disk IO

⚪ Your fleet of EC2 Instances requires low latency and high network throughput across multiple availability zones

🔘 Your fleet of EC2 instances requires high network throughput and low latency within a single availability zone

✅ Good job!

Question 16:

EBS Snapshots are backed up to S3 in what manner?

🔵 Incrementally

⚪ Exponentially

⚪ Decreasingly

⚪ EBS snapshots are not stored on S3.

Question 17:

Can I delete a snapshot of an EBS Volume that is used as the root device of a registered AMI?

🔘 No.

⚪ Yes.

⚪ Only via the Command Line.

⚪ Only using the AWS API.

Question 18:

Which AWS CLI command should I use to create a snapshot of an EBS volume?

🔘 aws ec2 create-snapshot

⚪ aws ec2 fresh-snapshot

⚪ aws ec2 deploy-snapshot

⚪ aws ec2 new-snapshot

Question 19:

I can change the permissions of a role, even if that role is already assigned to an existing EC2 instance, and these changes will take effect immediately.

- 🔘 TRUE

- ⚪ FALSE

Question 20:

To retrieve instance metadata or user data you will need to use the following IP Address:

- ⚪ http://127.0.0.1

- ⚪ http://192.168.0.254

- ⚪ http://10.0.0.1

- 🔘 http://169.254.169.254

Question 21:

Will an Amazon **EBS root volume persist independently** from the life of the terminated EC2 instance to which it was previously attached? In **other words, if I terminated an EC2 instance, would that EBS root volume persist?**

○ Yes.

○ No.

🔘 Only if I specify (using either the AWS Console or the CLI) that it should do so.

○ It depends on the region in which the EC2 instance is provisioned.

Question 22:

I can use the AWS Console to add a role to an EC2 instance after that instance has been created and powered-up.

🔘 TRUE

○ FALSE

✅ Good job!

Question 23:

Can you attach an EBS volume to more than one EC2 instance at the same time?

⚪ Yes.

🔵 No.

⚪ If that EC2 volume is part of an AMI.

⚪ Depends on which region.
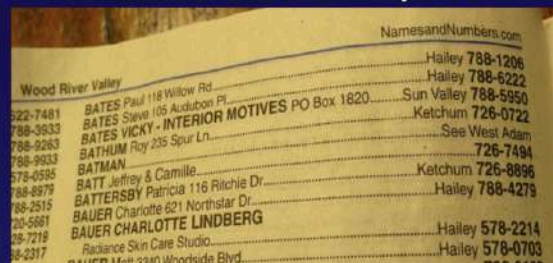
DNS

Top Level domains

If we look at common domain names such as google.com, bbc.co.uk. acloud.guru etc., you will notice a string of characters separated by dots (periods). The last word in a domain name represents the "top level domain". The second word in a domain name is known as a second level domain name (this is optional though and depends on the domain name).

.com
.edu
.gov
.co.uk
.gov.uk
.com.au
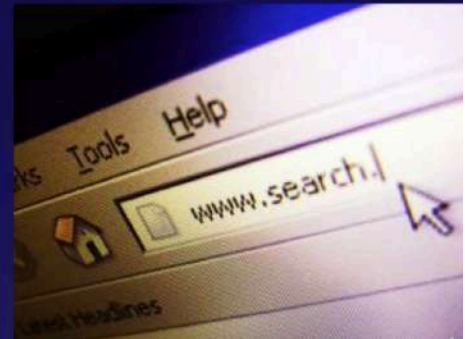
These top level domain names are controlled by the Internet Assigned Numbers Authority (IANA) in a root zone database which is essentially a database of all available top level domains. You can view this database by visiting:

http://www.iana.org/domains/root/db

Domain Registrars

Because all of the names in a given domain name have to be unique there needs to be a way to organize this all so that domain names aren't duplicated. This is where domain registrars come in. A registrar is an authority that can assign domain names directly under one or more top-level domains. These domains are registered with InterNIC, a service of ICANN, which enforces uniqueness of domain names across the Internet. Each domain name becomes registered in a central database known as the WhoIS database.

Popular domain registrars include

Amazon, GoDaddy.com, 123-reg.co.uk etc.

Start Of authority Record (SOA)

The SOA record stores information about:

- The name of the server that supplied the data for the zone.
- The administrator of the zone.
- The current version of the data file.
- The default number of seconds for the time-to-live file on resource records.

Name Server(NS)

A record

TTL

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What's an TTL?

The length that a DNS record is cached on either the Resolving Server or the users own local PC is equal to the value of the "Time To Live" (TTL) in seconds. The lower the time to live, the faster changes to DNS records take to propagate throughout the internet.

C name

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What's a CName?

A Canonical Name (CName) can be used to resolve one domain name to another. For example, you may have a mobile website with the domain name http://m.acloud.guru that is used for when users browse to your domain name on their mobile devices. You may also want the name http://mobile.acloud.guru to resolve to this same address.

Alias Records

Alias Records

Alias records are used to map resource record sets in your hosted zone to Elastic Load Balancers, CloudFront distributions, or S3 buckets that are configured as websites.

Alias records work like a CNAME record in that you can map one DNS name (www.example.com) to another 'target' DNS name (elb1234.elb.amazonaws.com).
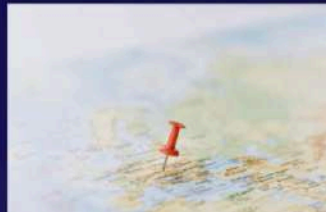
Alias Records

Key difference – A CNAME can't be used for naked domain names (zone apex record.) You can't have a CNAME for http://acloud.guru, it must be either an A record or an Alias.