AWS Certified Cloud Practitioner Training Bootcamp

Elastic Compute Cloud (EC2) Basics 101

EC2 – Basic Terminology

- Amazon Elastic Compute Cloud (EC2) provides scalable computing capacity in the Amazon Web Services (AWS) cloud

- AWS virtual compute environments are called *instances*

- Amazon Machine Images (*AMIs*) are available to choose from – preconfigured templates for EC2 instances

EC2

EC2 – Basic Terminology

- *Instance types* – different configurations of CPU, memory, storage and networking capacity
- Secure login to EC2 instances with *key pairs* (you store private key, AWS stores the public key)
- You can attach storage volumes to your EC2 instances – instance *storage volumes* – ephemeral storage
- Persistent storage volumes for your data are available through Elastic Block Store (EBS) – *Amazon EBS Volumes*

EC2 – Basic Terminology

- Store data in multiple locations (Regions and AZs)
- You can define basic security using AWS built-in firewall – *security group*; protocol, port, source IPs that you permit or deny to reach your EC2 instances
- *Elastic IP address* – static IPv4 public address that you can attach to your EC2 instance (i.e. for a website)
- Create and attach *tags* (labels) to your EC2 instances

EC2 AMI Types

- When you launch an EC2 instance, you first have to select an AMI – Amazon Machine Image, which basically represents software selection

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

- For AMIs with root volume backed by EBS, data is deleted when the instance terminates vs instance store volumes, where data persists only while instance is live

EC2 Instance Types

- Next step is to select the hardware – instance type
- Each instance type offers different compute, memory, and storage capabilities and grouped in instance families based on these capabilities
- https://aws.amazon.com/ec2/instance-types/
- In this course --- Free Tier ☺

Pricing models for Amazon EC2

- There are four ways to pay for Amazon EC2 instances: On-Demand Instances, Reserved Instances, Spot Instance and Dedicated Hosts

- With *On-Demand Instances*, you pay for compute capacity per hour or per second, depending on which instances you run

Pricing models for Amazon EC2

- Amazon *EC2 Spot Instances* allow you to request spare Amazon EC2 computing capacity for up to 90% off the On-Demand price

- Common use cases:
  - Applications that have flexible start and end times
  - Applications that are only feasible at very low compute prices
  - Users with urgent computing needs for a lot of additional capacity

Pricing models for Amazon EC2

- Amazon *EC2 Reserved Instances* provide you with a significant discount (up to 75%) compared to On-Demand Instance pricing

- For applications that have predictable usage, Reserved Instances can provide significant savings compared to On-Demand Instances

- Best for customers that commit to using EC2 over a 1-3 year term to reduce their total computing costs

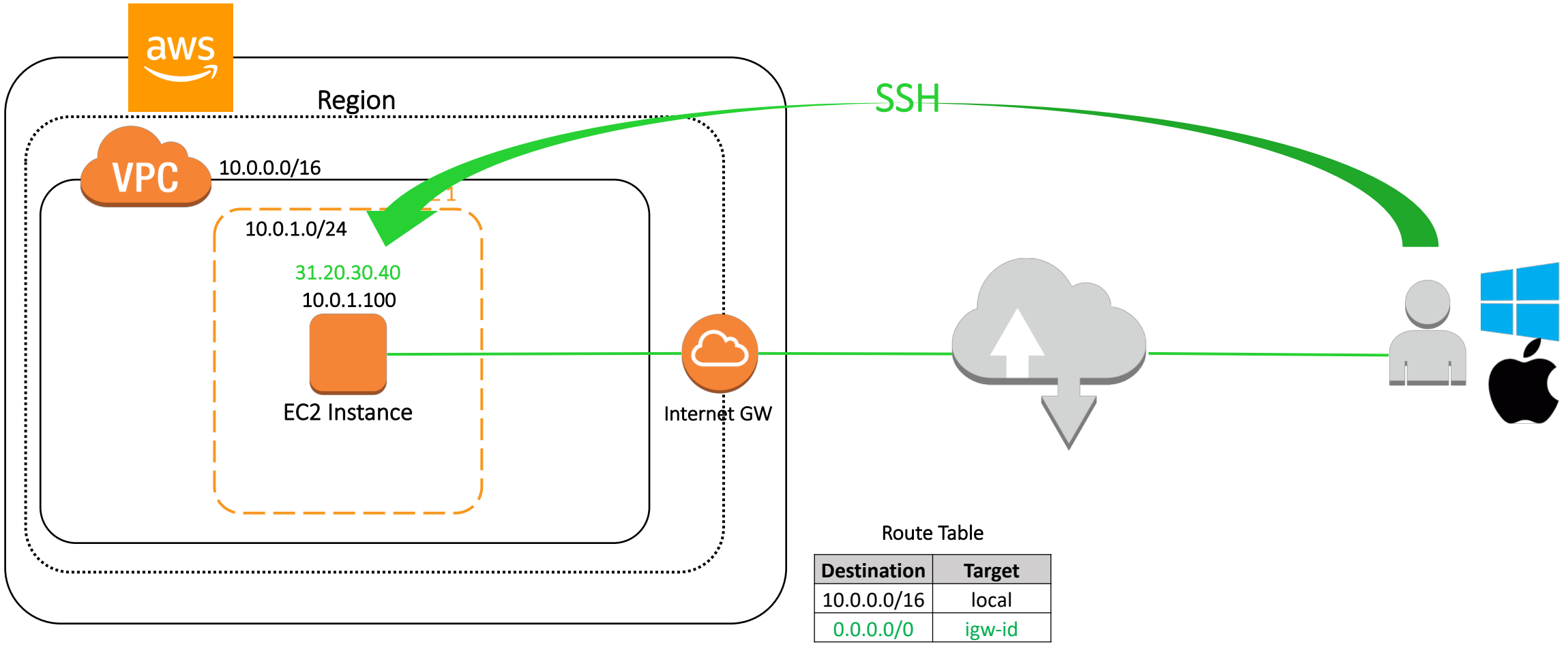
Pricing models for Amazon EC2

- An *Amazon Dedicated Host* is a 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, incl. Windows Server, SQL Server, etc

- They can also help you meet compliance requirements

Launch Amazon Linux AMI



Route Table

Destination	Target
10.0.0.0/16	local
0.0.0.0/0	igw-id

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Thank you