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IST 615

Lab 2 – Virtual Machines in AWS

PART -1

In this lab, we are creating a Virtual Machine in AWS. Using POC webserver for testing new web-based application. We are going to launch and configure AWS EC2 instance.

1. Here, I have successfully launched a webserver for POC of the application

Graphical user interface, text, application, Word

Description automatically generated

1. Now, I changed the size of the instance from t2.micro to t2.small. Again, launching the webserver site with IPv4 Public IP address.

**Earlier:**

Graphical user interface, text, application

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**Later:**

Graphical user interface, text, application

Description automatically generated

1. Connected SSH into AWS EC2 webserver

Text, letter

Description automatically generated

PART -2

1. What is the purpose/use of the Amazon EC2 service?

An Amazon EC2 instance provides scalable computing capacity in the Amazon Web Services (AWS) Cloud. When you launch an Amazon EC2 instance, you are creating a virtual server. This means you are securing space on a physical server located in an AWS data center for your use. The allocated space consists of the compute, storage, and network resources you need to run your webserver workload.

1. What is an Amazon Machine Image (AMI)?

An AMI is a template used to create a virtual machine within Amazon EC2. An Amazon Machine Image (AMI) is a supported and maintained image provided by AWS that provides the information required to launch an instance. You must specify an AMI when you launch an instance. You can launch multiple instances from a single AMI when you require multiple instances with the same configuration. You can use different AMIs to launch instances when you require instances with different configurations.

An AMI includes the following:

* One or more Amazon Elastic Block Store (Amazon EBS) snapshots, or, for instance-store-backed AMIs, a template for the root volume of the instance (for example, an operating system, an application server, and applications).
* Launch permissions that control which AWS accounts can use the AMI to launch instances.
* A block device mapping that specifies the volumes to attach to the instance when it's launched.

1. What is the purpose of user data when creating an EC2 instance?

The user\_data.txt file contains Bash commands that execute the following tasks.

This is called bootstrapping, providing code that runs when a computer starts up.

It installs, enables, and starts the Apache HTTP Server. Creates an index.html page with a message.

1. What do you use to control what types of traffic can access your Amazon EC2 instances?

Security groups act as a firewall for associated instances, controlling both inbound and outbound traffic at the instance level. You must add rules to a security group to enable you to connect to your Linux instance from your IP address using SSH.

1. Why would you want to resize an Amazon EC2 instance?

Increased flexibility - sometimes referred to as 'elasticity' - is one of the major reasons we decide to leverage the AWS Platform. Elasticity is the flexibility to use only the resources you require, with the ability to scale out and in as needed, where needed.

In this example, virtual machine running the webserver is underpowered. Their software requires a little bit more horsepower. Therefore, we are resizing it to t2.small.

1. A security group works like a firewall because it contains a set of rules that filter traffic coming into and out of an Amazon EC2 instance. By default, all non-local traffic is blocked