CC

Practical - 01.

AIM: Case study on Amazon EC2 and learn about Amazon EC2 web services.

OBJECTIVES :
- To learn Amazon EC2 Services.
- To study on Amazon EC2 and learn about Amazon EC2 web services.

Pre-requisites:
- AWS Account.
- Knowledge about instances.

Theory :

- An EC2 instance is nothing but a virtual server in Amazon web services terminology. It stands for Elastic compute cloud. It is a web service where an AWS subscriber can request and provision a compute server in AWS cloud.

- An on-demand EC2 instance is an offering from AWS where the subscriber / user can rent the virtual server per hour and use it to deploy his / her own applications.
- The instance will be charged per hour with different rates based on the type of the instance chosen.

- AWS provides multiple instance types for the respective business needs of the user.

- Thus, you can rent an instance based on your own CPU and memory requirements and use it as long as you want.
- You can terminate the instance when it's no more used and save on costs. This is the most striking advantage of an on-demand instance you can drastically save your CAPEX.
- Let us see in detail how to launch an on demand EC2 instance in AWS Cloud. Login and access to AWS services.

I. To launch an instance -

1) Open the Amazon EC2 console at https://console.aws.amazon.com/ec2/.
2) From the EC2 console dashboard, in the launch instance box, choose launch instance.
3) Under Name and tags, for Name, enter a descriptive name for your instance.
4) Under application and OS Images (Amazon Machine Image), do the following:

a). Choose Quick Start and then choose Amazon Linux. This is the operating system (OS) for your instance.

b) From Amazon Machine Image (AMI), select an HVM version of Amazon Linux 2. Notice that these AMIs are marked free tier eligible. An AMI is a basic configuration that serves as a template for your instance.

5. Under Instance type, from instance type list, you can select the hardware configuration for your instance. Choose the t2.micro instance type, which is selected by default. The t2.micro instance type is eligible for the free tier. In regions where t2.micro is unavailable you can choose a t3.micro instance under free tier.

6. Under Key pair (login). for Key pair name, choose the key pair that you created when getting set up.

II] Next to network settings, choose Edit. For Security group name, you'll see that the wizard created and selected a security group for you. You can use this security group, or alternatively you can select the security group that you created when getting set up using following steps -

a) Choose select existing security group.
b) From common security groups, choose your security group from the list of existing security groups.

- Keep the default selections for the other configuration settings for your instance.

- Review the summary of your instance configuration in the summary panel, and when you are ready, choose launch instance.

- A confirmation screen, you can view the status of the launch. It takes a short time for an instance to launch.

* Creating a Webserver –

- Connect to your EC2 instance and install the web server.
- To connect to your EC2 instance and use Apache Server.

1. Connect to EC2 instance that you created Earlier
2. Get the latest bug fixes and security updates by updating the software on your EC2 instance. To do this use: sudo apt update -y.
3. After updates complete install Apache, PHP, and MariaDB or postgre sql software using commands. This command installs multiple software packages and related dependencies at the same time: sudo apt install - apache2.
4. Start the web server - sudo systemctl start apache2.
5. Configure the web server to start with each system boot using the systemctl → sudo systemctl enable apache2.
6. Check if apache2 is running : sudo systemctl status apache2.
7. Enable HTTP and HTTPS traffic in inbound rules from Security group. Go to public ip of your instance to view hosted apache2 indexpage to see if server is working.

* CONCLUSION: Go to the public ip address of instance. Thus, we saw in detail how to create on demand EC2 instance, Because it is on demand, you can stop it when left unused.

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