AWS: Launching and configuring EC2 Instance

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# Lab 1: Launching and configuring an EC2 Instance

## Description

BitBeat has developed a new product - BitBanger - which needs to be deployed on an AWS Webserver. Currently, the product is not open to customers and BitBeat wants to make minimal investment in testing the early versions of their product.

## Preparation

A cloud webserver needs to be built as proof of concept which would include a t2.micro Elastic Compute Cloud instance. This instance should be a webserver with Linux Machine configured to Apache HTTP Server, that is inexpensive and can be publicly accessible using a Public IP.

## Observations

Following steps were performed in the launching of the EC2 instance:

1. Logging into AWS Management Console
2. From E2C dashboard, select Launch instance with below specifications:
   1. Amazon Machine Image – Amazon **Linux** 2 AMI (HVM)

A close up of a computer screen

Description automatically generated

* 1. Instance type – t2.micro
     1. Configure Instance details -> Advance details -> User data (Bootstrapping)

A close-up of a computer code

Description automatically generated

* 1. Storage – EBS Storage
  2. Tag – Name + BitBeat Webserver (Prabhnoor BitBeat Webserver)
  3. Name the Security Group as Web Server SG
  4. Key Pair - Proceed without

1. Reviewing and launching the instance

Troubleshooting of EC2, where the security group was updated to include inbound traffic from HTTP (Port 80) was allowed to display the message of “*Hello Earthling! Take me to your leader!*”.

For allowing HTTPS inbound traffic although the rules were added but still it was not able to reach the page. Upon researching about this, SSL certificate is needed with domain name that is priced.

Stopping the instance when not in use is a good practice to avoid any unwanted charges.

As the new requirement pops up with the change of instance type from t2.micro to t2.small which was achieved from change instance type dropdown. Afterall the instance preparation and updates, terminate of instance from the change instance state is performed.

## Screenshots

### Setup of Instance:

1. Instance Name: Prabhnoor BitBeat WebServer
2. Instance state: Running

A screenshot of a computer

Description automatically generated

### Update of Inbound Rules:

A screenshot of a computer

Description automatically generated

### Display of the Webpage:

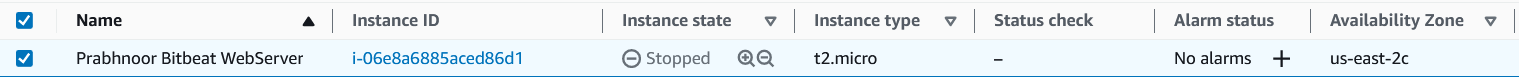
A screenshot of a computer

Description automatically generated

### Stopping the instance:

A screenshot of a computer

Description automatically generated



### Change Instance Type:

A screenshot of a computer

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Description automatically generated

A screenshot of a computer

Description automatically generated

### Display of Webpage post instance change:

A screenshot of a computer

Description automatically generated

## Reflection

BitBanger application was able to use AWS cloud service to display the preliminary page of the developing POC.

It is crucial to choose the correct Amazon Machine Image (AMI) and instance type in order to satisfy the project's needs and to keep expenses down, a t2.micro instance and the Amazon Linux 2 HVM was used in the instance.

Traffic towards EC2 is regulated by configuring the inbound rules under security groups that act as virtual firewalls. The knowledge about resizing the instance for increasing application performance or for adjusting to the resource requirements was handy. In addition to that, emphasis on cost management by shutting down the instance, when not being used was carried out.

## References

*Econestoga*. (n.d.). <https://conestoga.desire2learn.com/d2l/lms/dropbox/user/folder_submit_files.d2l?db=835869&grpid=0&isprv=0&bp=0&ou=875251>

*Cloud services - Amazon Web Services (AWS)*. (n.d.). Amazon Web Services, Inc. <https://aws.amazon.com/>