**CS443**
**Cloud Computing**
**Homework 1 Report**

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I explained the work I have done for each part of the lab separately in this report. I also added related screenshots to the parts. In the AWS console, my username was automatically *"WSParticipantRole/Participant"*, therefore I used my Google account popup to prove I was the one doing the work in some of the screenshots.

### 1. EC2 Linux Hands on Lab

In the first part of the assignment, I created an EC2 instance that runs Linux. In order to do that, I used the AWS Console. I created an SSH key pair with ".ppk" extension in order to reach my EC2 instance through Putty, which is an app to connect to remote systems. I then created a web server using Amazon Linux AMI (Amazon Machine Image). At last, I connected to my instance using Putty. I cleaned up the resources to finish this part.
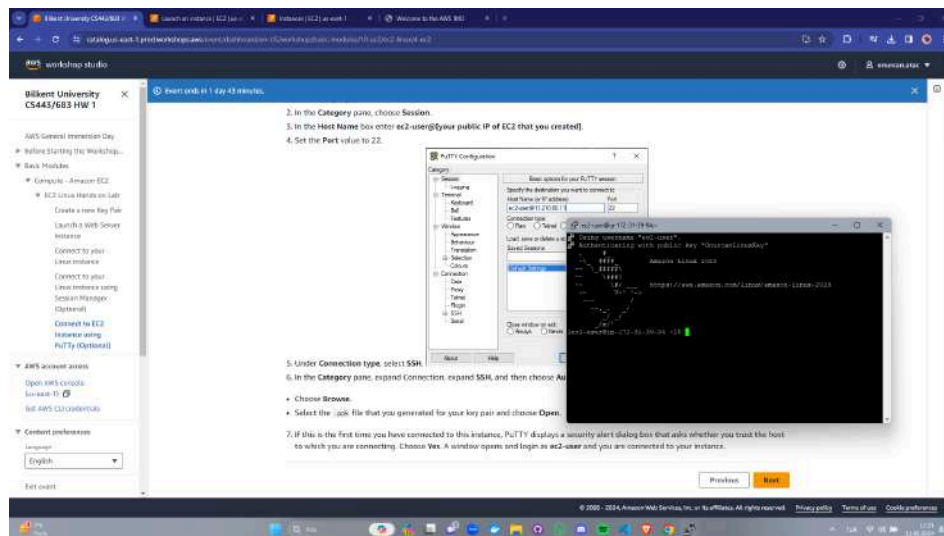


### 2. EC2 Windows Hands on Lab

In the second part of the assignment, I created an EC2 instance that runs Windows. The process was similar to the first part. I used the AWS Console. I created a new key pair, and launched a new instance using Windows quick start AMI. I then connected to the instance that I created using an RDP client, in my case I used Microsoft Remote Desktop application. I then stopped the instance and changed the instance type from t2.medium to t3.large easily. I also created an elastic IP for my server. I cleaned up the resources to finish this part.

### 3. Auto Scaling on AWS

In the third part of the assignment, I learned how to create an auto scaling group that scales and adjusts automatically when the demand increases. I started by creating a web host by using the ".yaml" file the lab provides and AWS CloudFormation service. I then created a security group. I then created a launch template that specifies the launch parameters to enable an easy launch for the instances while automatically scaling. I then set an auto scaling group up to determine the default, minimum and maximum number of instances. I then created a load balancer security group, in order to specify inbound and outbound rules, which enables the load balancer to send its outgoing traffic only to the specified auto scaling group. I then increased the CPU load and triggered the creation of new instances automatically. I cleaned up the resources and completed the assignment.