Project created on 09.09.2016 00:08.

Report for project Senior Design

Task created on 27.01.2017 00:15.

No due date

Set up AWS Server

An EC2 instance (remote computer) was created on Amazon Web Services (AWS). The procedure for creating the instance, setting up users on the instance, and allowing web traffic access to the instance will be described below.

Task tags: *No tags*

Created gmail account

Created by Tong Yu on 27.01.2017 00:17.

We created a separate gmail account specifically to make our AWS account.

Created AWS Account

Created by Tong Yu on 27.01.2017 00:18.

Using our new gmail address, we created an Amazon Web Service account.

EC2 Instance Creation

Created by Carlie Abraham on 27.01.2017 04:52.

With our amazon AWS account, we purchased a EC2 instance on the Amazon Cloud. The operating system we chose was Amazon Linux AMI, which is based on RHEL. When creating the instance, a new security group was created so that users can SSH into the server on port 22, and the server was accessible for web traffic via port 80. A security group is a collection of permissions that allow incoming or outcoming traffic to the server.

Running Instance Information *[instancerunning.png]*

Uploaded by Carlie Abraham on 27.01.2017 05:01.

Comments for result Running Instance Information

Carlie Abraham on 27.01.2017 at 05:41: Details showing launch of EC2 instance.

Security Group Information *[securitygroups.png]*

Uploaded by Carlie Abraham on 27.01.2017 05:02.

Comments for result Security Group Information

Carlie Abraham on 27.01.2017 at 05:03: This is the security group for the EC2 server running on AWS. It shows that two ports are open to the server, one to allow ssh access, and another to allow web traffic.

❋ Connecting to the server via SSH Created by Carlie Abraham on 27.01.2017 05:10.

A few steps needed to be taken in order to connect to the server via SSH. SSH stands for secure shell, and allows for secure access to a remote computer, which in this case was our EC2 server on AWS. When the server was created, a PEM file was automatically created and downloaded, which provides a public key necessary to ssh into the server for the first time. For security reasons, this file will not be included in the design notebook. Using the general ec2 user already set up on the ec2 instance and the pem certificate file, we were able to gain access to the remote computer via ssh.

SSH access via general user *[sshgeneral.png]*
Uploaded by Carlie Abraham on 27.01.2017 05:13.

Comments for result SSH access via general user

Carlie Abraham on 27.01.2017 at 05:13: Here is the terminal displaying successful access to the EC2 server with the PEM file and a general EC2 user.

❋ Setting user administration permissions
Created by Carlie Abraham on 27.01.2017 05:23.

After successful login with the general EC2 user, user permissions for all group members needed to be set up in order to access the server from their own personal accounts/computers.

First, a new user was created on the server for each member of the team. The user was given "sudo" privileges, which means that they will have access to all parts of the server, and can read and write to any file. After the user creation, steps were taken to allow the user to ssh into the server from their username on their personal computer. This involved the creating of a ssh key on the user's personal computer, which generates an id*rsa, which is a personal key-pair to log into the server securely. This id*rsa file was then copied over to the server into the user's home directory. Now that the personal key is on the user's personal computer and server home directory, the user has gained ssh permissions so that they can log onto the server with their own credentials. This procedure was completed for each member of the team so that all have access to the server, and that each user has their own home directory on the server.

SSH access via custom user *[sshcarlie.png]*
Uploaded by Carlie Abraham on 27.01.2017 05:25.

Comments for result SSH access via custom user

Carlie Abraham on 27.01.2017 at 05:25: This image shows successful login with a custom user after the custom user was created and given ssh permissions on the server.

❋ Configuring Apache Created by Carlie Abraham on 27.01.2017 05:31.

Apache is open-source web server software that allows for HTTP requests. One of the first steps to get Apache to run on our server was to open up port 80 on the server, which was completed when the server was created. Next, the Apache software was installed onto the server. Additionally, permission was granted to each of the users on the server in order to open up their home directory to web access, which means that files in the users home directory can be made available over the internet, such as html files that will be used to create our website functionality.

Testing Apache *[helloworld.png]*
Uploaded by Carlie Abraham on 27.01.2017 05:32.

Comments for result Testing Apache

Carlie Abraham on 27.01.2017 at 05:34: To test that our web server was up and running, and that the apache software was installed correctly, a simple text file entitled "hello.txt" was created in carlieabraham's home directory. This text file contained one line of text. This file was able to be viewed from the proper website address, as shown in the image, which means that the webserver and apache was working correctly.