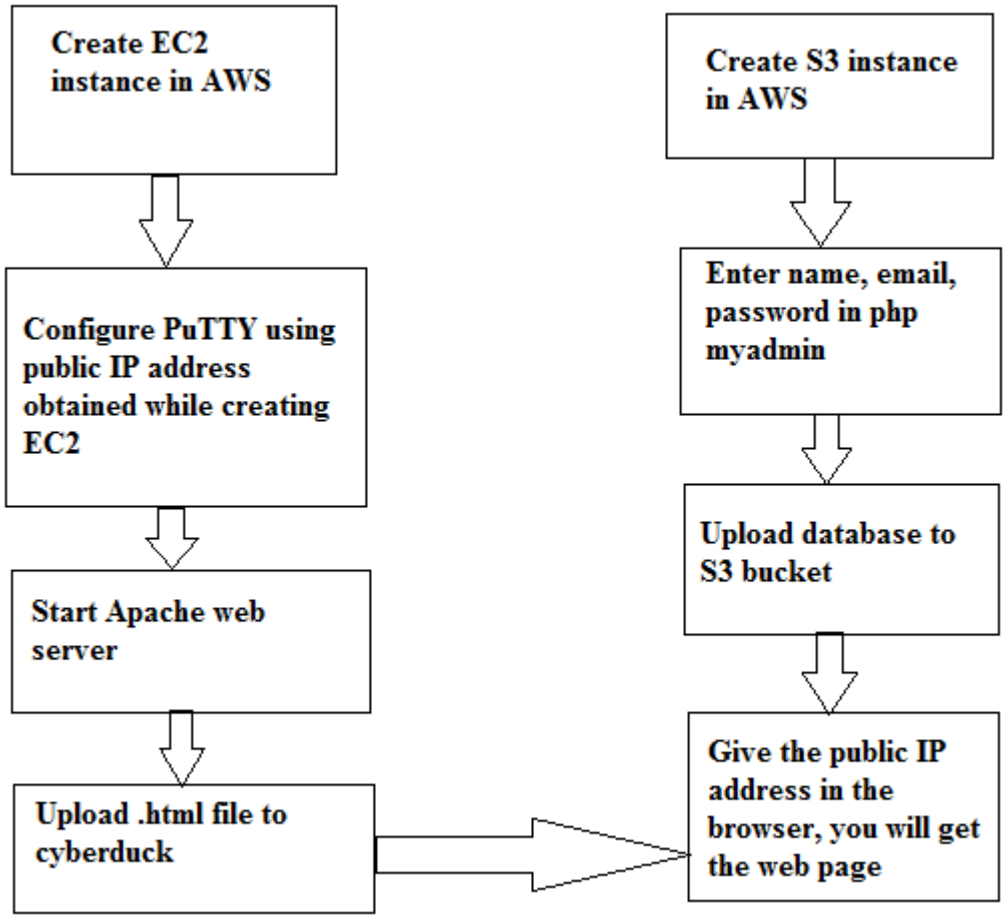
“Development of website using Apache server installed on EC2 and S3 instances of Amazon Web Services”

ABSTRACT

The AWS Cloud provides a broad set of infrastructure services, such as computing power, storage options, networking and databases that are delivered as a utility: on-demand, available in seconds, with pay-as-you-go pricing. From data warehousing to deployment tools, directories to content delivery, over 90 AWS services are available. New services can be provisioned quickly, without upfront capital expense. This allows enterprises, start-ups, small and medium-sized businesses, and customers in the public sector to access the building blocks they need to respond quickly to changing business requirements. This provides you with an overview of the benefits of the AWS Cloud and introduces you to the services that make up the platform.

In this project we are using EC2 and S3 instances to deploy the website to the server.

WORK FLOW


Create EC2 instance in AWS
Configure PuTTY using public IP address obtained while creating EC2
Start Apache web server
Upload .html file to cyberduck
Create S3 instance in AWS
Enter name, email, password in php myadmin
Upload database to S3 bucket
Give the public IP address in the browser, you will get the web page

1.Introduction

Building your website is now adays very easy using amazon services.Cloud as played a major role in helping to host the website.The web hosting is a service that allows organisations and individuals to post a website or web page onto the the internet.A web host or web hosting service provider,is a bussiness that provides the technologies and services needed for the website or webpage to be viewed in the internet.Websites are hosted,or stored on special computersmcalled servers.

When internet users want to view your website,all they need to do is type your website address or domaininto their browser.Their computer will then connect to youserver and your webpages will be delivered to them through the browser.

Most hosting companies require that you own your domain in order to host with them.If you do not have a domain,the hosting companies will help you purchase one.

2.Amazon AWS

Amazon web services offers cloud web hosting solutions that provide businesses,non profits and governmental organisations with low-cost ways to deliver their websites and web applications.Whether you're looking for a marketing,rich media,or ecommerce website,AWS offers a wide range of website hosting options,and we'll help you select the one that is right for you.

Advantages of using AWS for web hosting

1.Broad CMS and development platform support.

2.Datacenters worldwide.

3.Dynamically grow and shrink resources.

4.Flexible pricing models.

Amazon Web Services

It is a subsidiary of Amazon.com that provides on-demand cloud computing platforms to individuals,companies and governments,on a paid subscription basis with a free tier option available for 12 months.

We are using EC2 and S3 for our application.

3.Amazon EC2

Amazon Elastic Compute Cloud forms a central part of Amazon.com's cloud computing platform,Amazon web services(AWS),by allowing users to rent virtual computers on which to run their own computer applications.EC2 encourages scalable deployment of applications by providing a web service through which a user can boot an Amazon Machine Image(AMI) to configure a virtual machine,which Amazon calls an "instance",containing any software

desired.A user can create,launch and terminate server-instances as needed,paying by the second for active severs-hence the term "elastic".EC2 provides users with control over the geographical locational location of instances that allows for latency optimization and high levels of redundancy.

Features of EC2:

1.Persistent storage.

2.Elastic IP address.

3.Amazon Cloudwatch.

4.Automated scaling.

How to create EC2 instance?

1.Create AWS account.

2. Login to your AWS account and go to the AWS Services tab at the top left corner.

3. Here, you will see all of the AWS Services categorized as per their area viz. Compute, Storage, Database, etc. For creating an EC2 instance, we have to choose Computeà EC2 as in the next step.

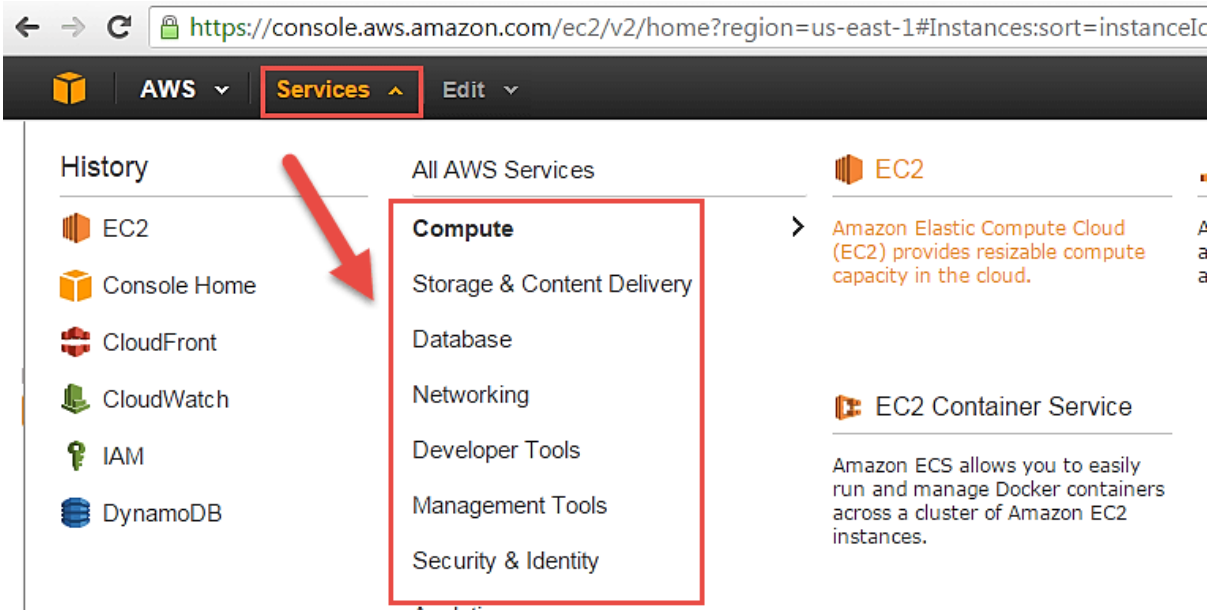


Fig1:Showing options for dashboard.

4. Open all the services and click on EC2 under Compute services. This will launch the dashboard of EC2.

5. On the top right corner of the EC2 dashboard, choose the AWS Region in which you want to provision the EC2 server.

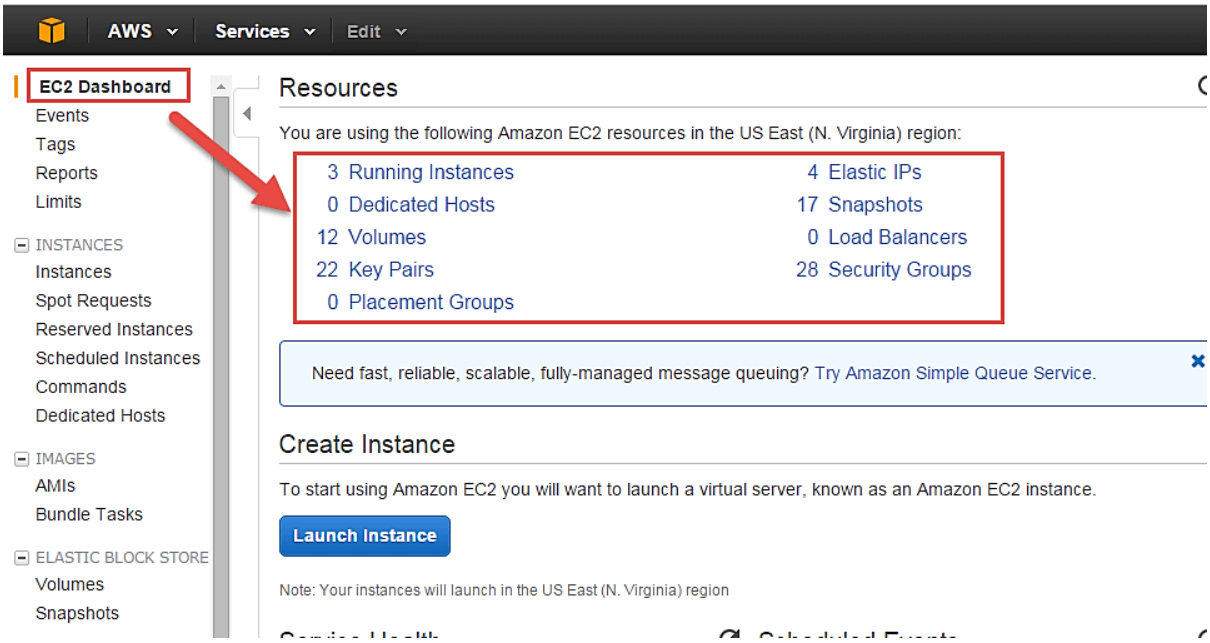


Fig2:choosing AWS region.

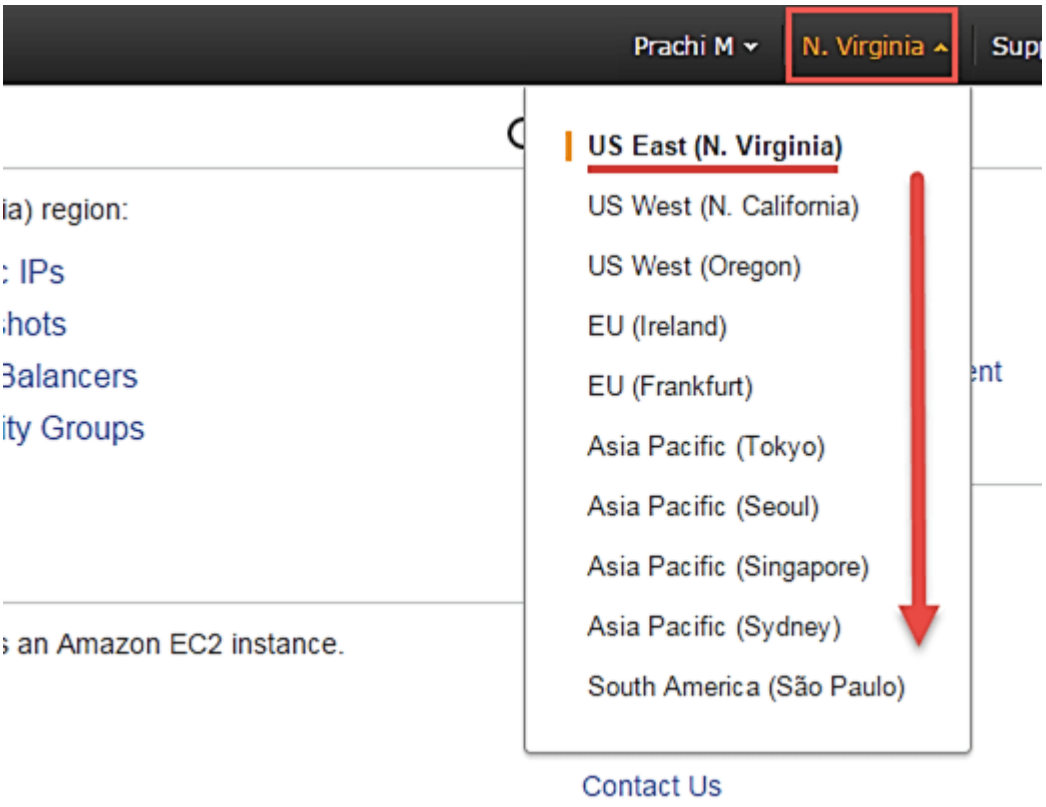


Fig3:Choosing region

6.Once your desired Region is selected, come back to the EC2 Dashboard.Click on 'Launch Instance' button in the section of Create Instance (as shown below).

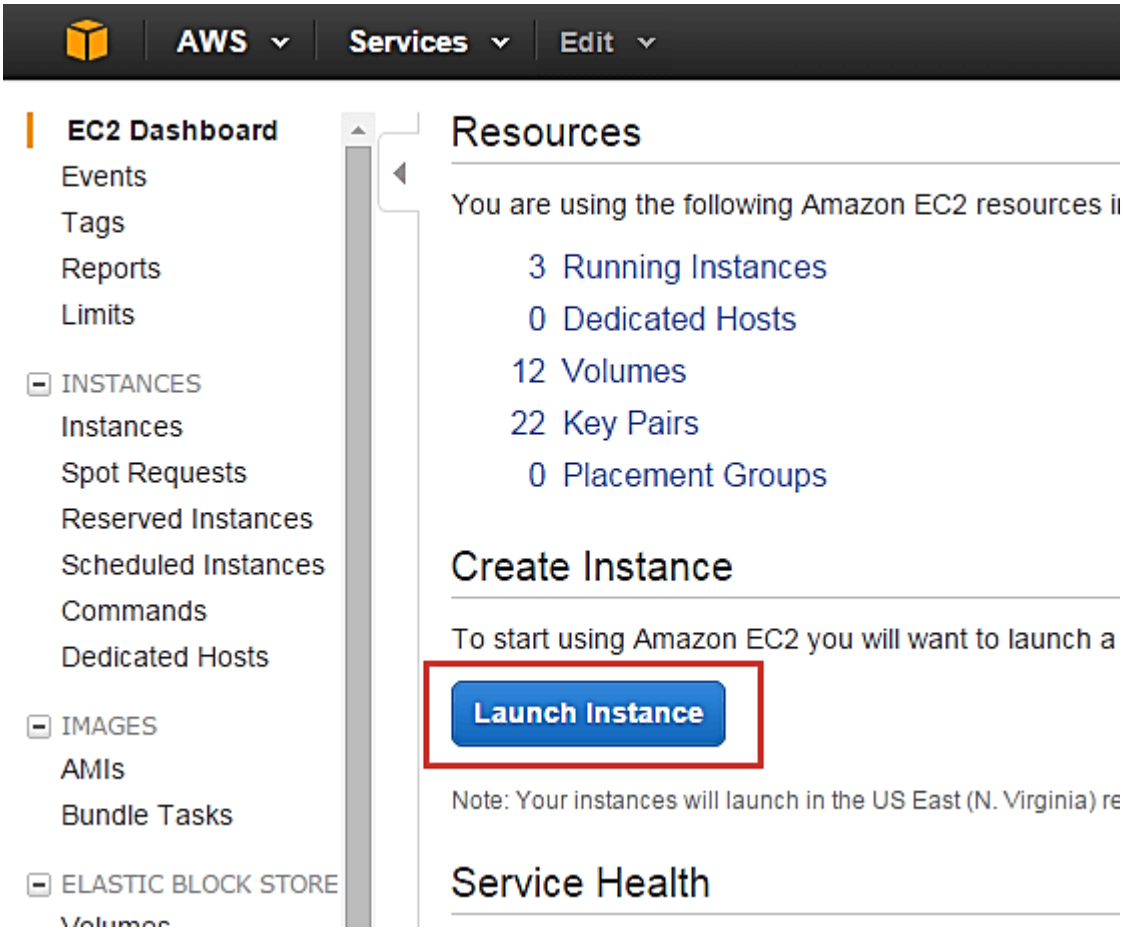


Fig4:Launching instance

7.After launching instance you need to select instance for purpose.

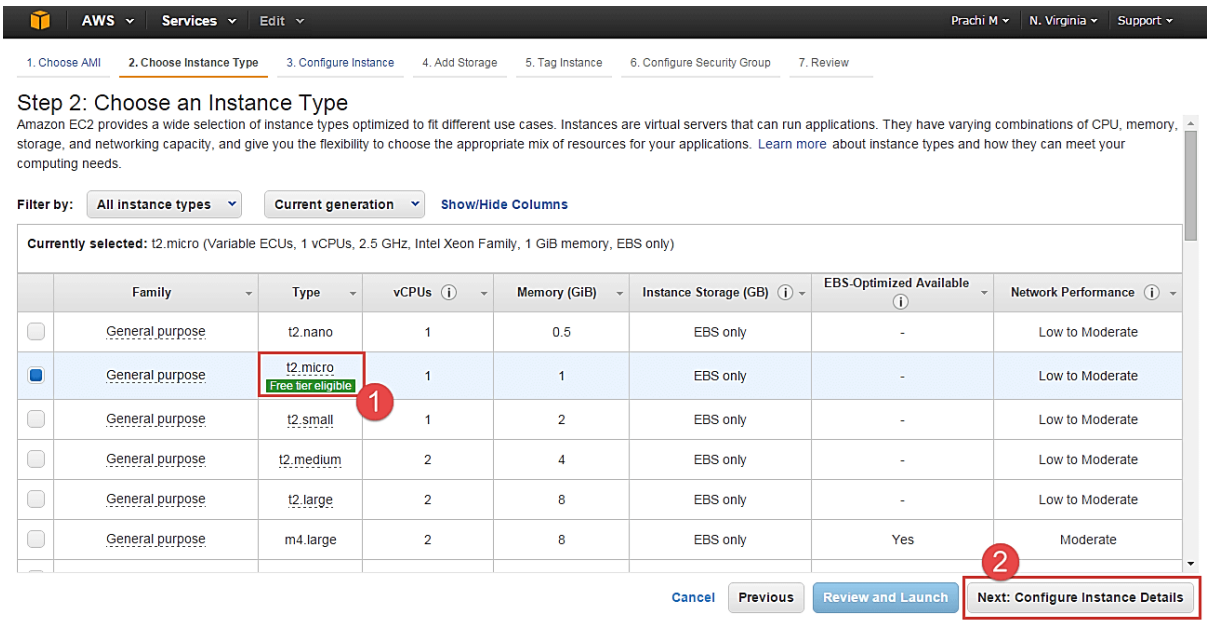


Fig5:Selecting instance for purpose

8.After selecting you need to configure the instance.

No. of instances- you can provision up to 20 instances at a time. Here we are launching one instance.

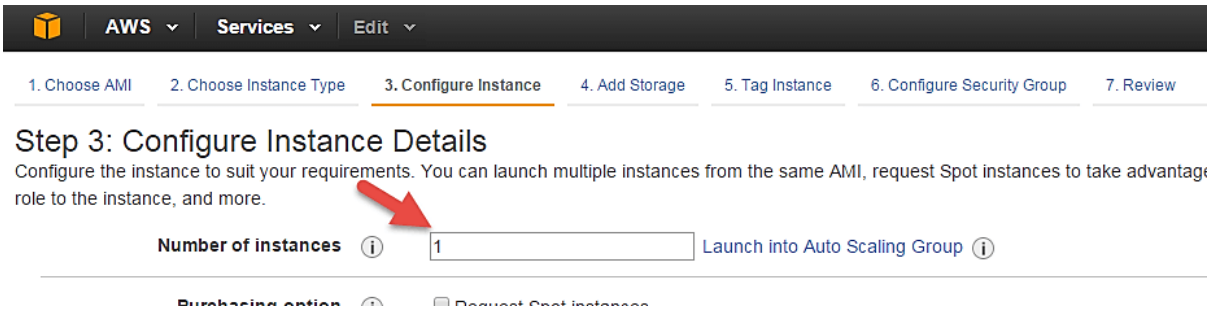


Fig6:Configuring details.

You can add storage to the instance.

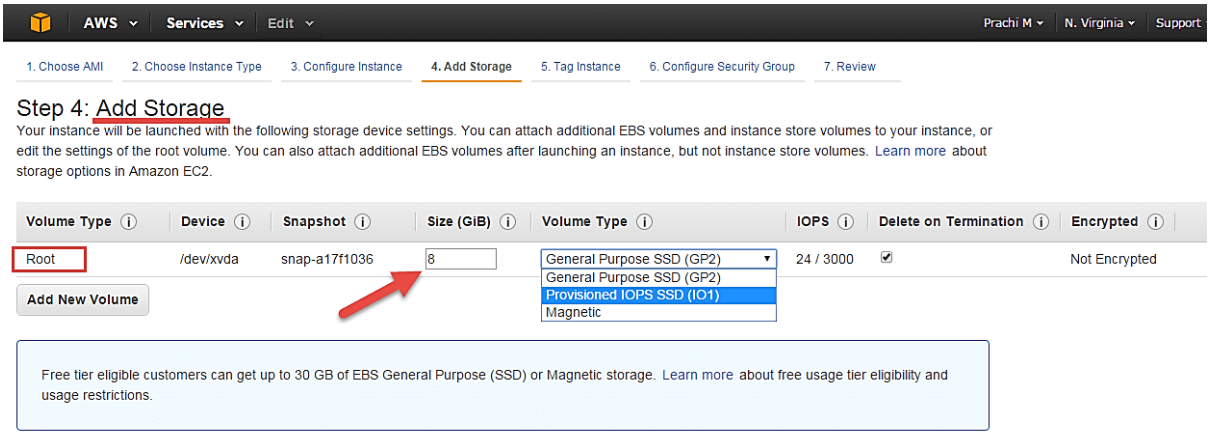


Fig7:Adding storage

You can also give security to the instances.You can also tag instances and also review instances.

4.Amazon S3

Amazon Simple Storage Service is storage for the Internet. It is designed to make web-scale computing easier for developers.

Amazon S3 has a simple web services interface that you can use to store and retrieve any amount of data, at any time, from anywhere on the web. It gives any developer access to the same highly scalable, reliable, fast, inexpensive data storage infrastructure that Amazon uses to run its own global network of web sites. The service aims to maximize benefits of scale and to pass those benefits on to developers.

How to create S3 instance?

1. Sign in to the AWS Management Console and open the Amazon S3 console at https://console.aws.amazon.com/s3/.
2. Choose Create bucket.

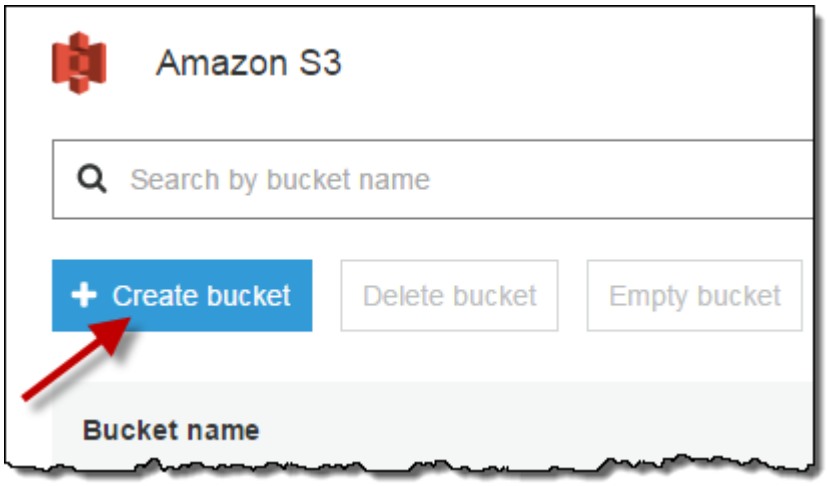


Fig8:Creating bucket.

3.On the Name and region page, type a name for your bucket and choose the AWS Region where you want the bucket to reside.

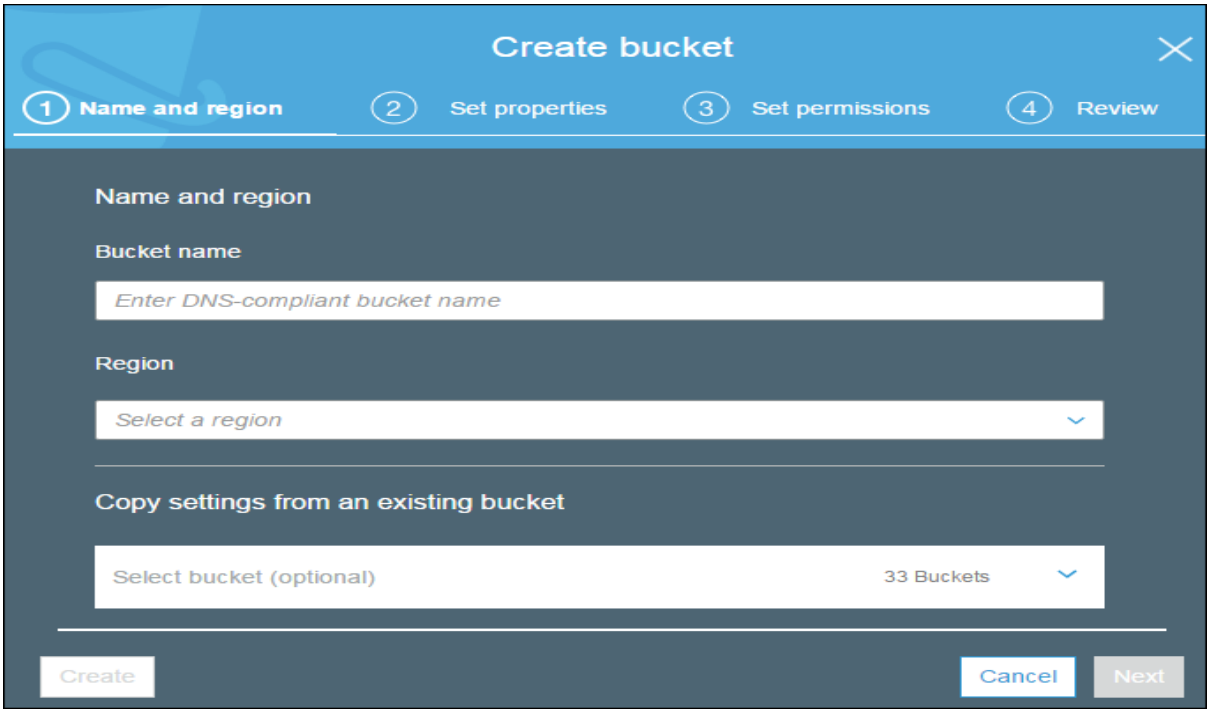


Fig9:Assigning name and region details

4.On the Set properties page, you can configure the following properties for the bucket. Or, you can configure these properties later, after you create the bucket.

a.Versioning.

b. Server access logging

c. Tags

d. Object-level logging

e. Default encryption

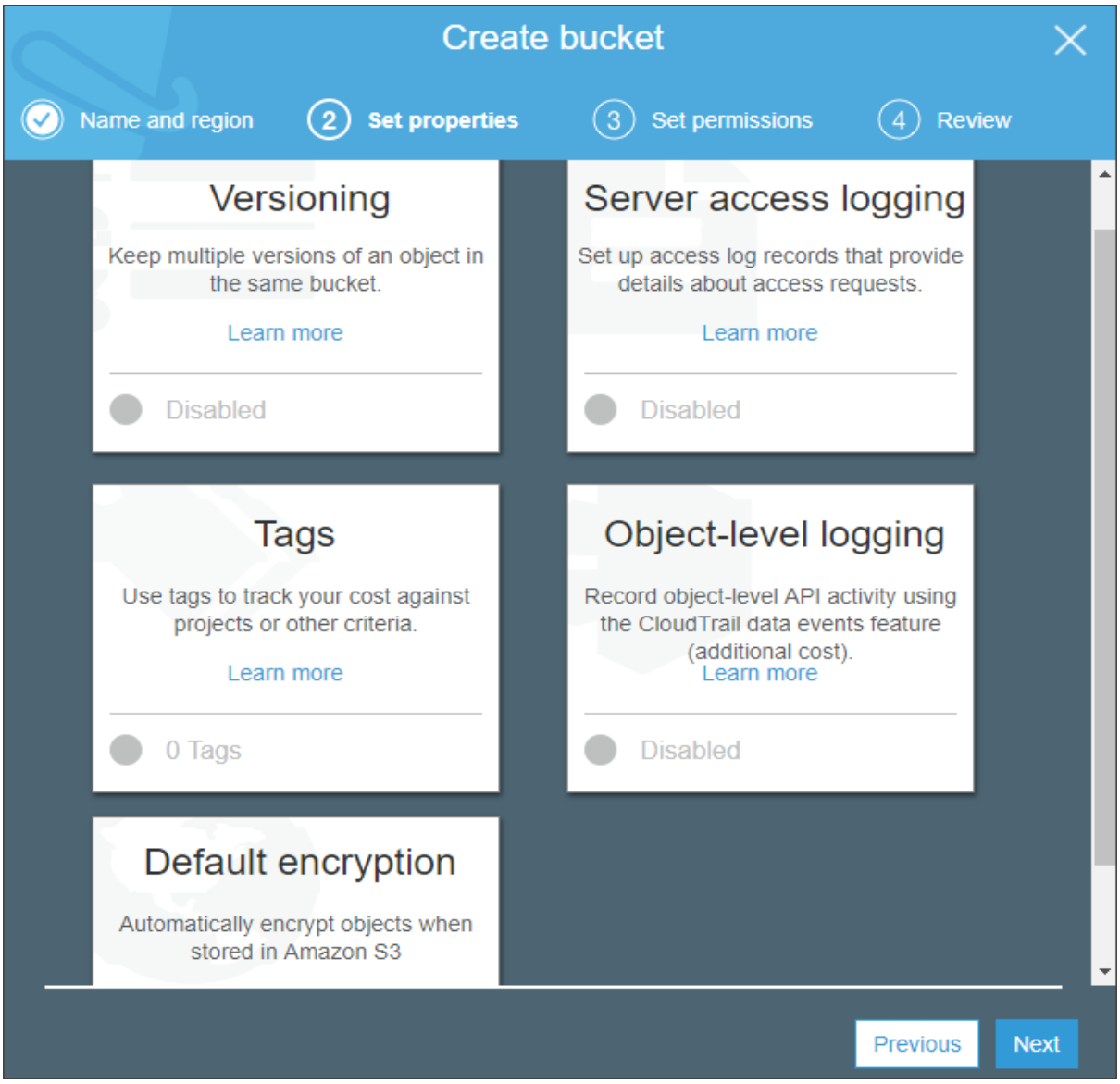


Fig10:Displaying properties.

5. Choose Next. On the Set permissions page, you manage the permissions that are set on the bucket that you are creating.

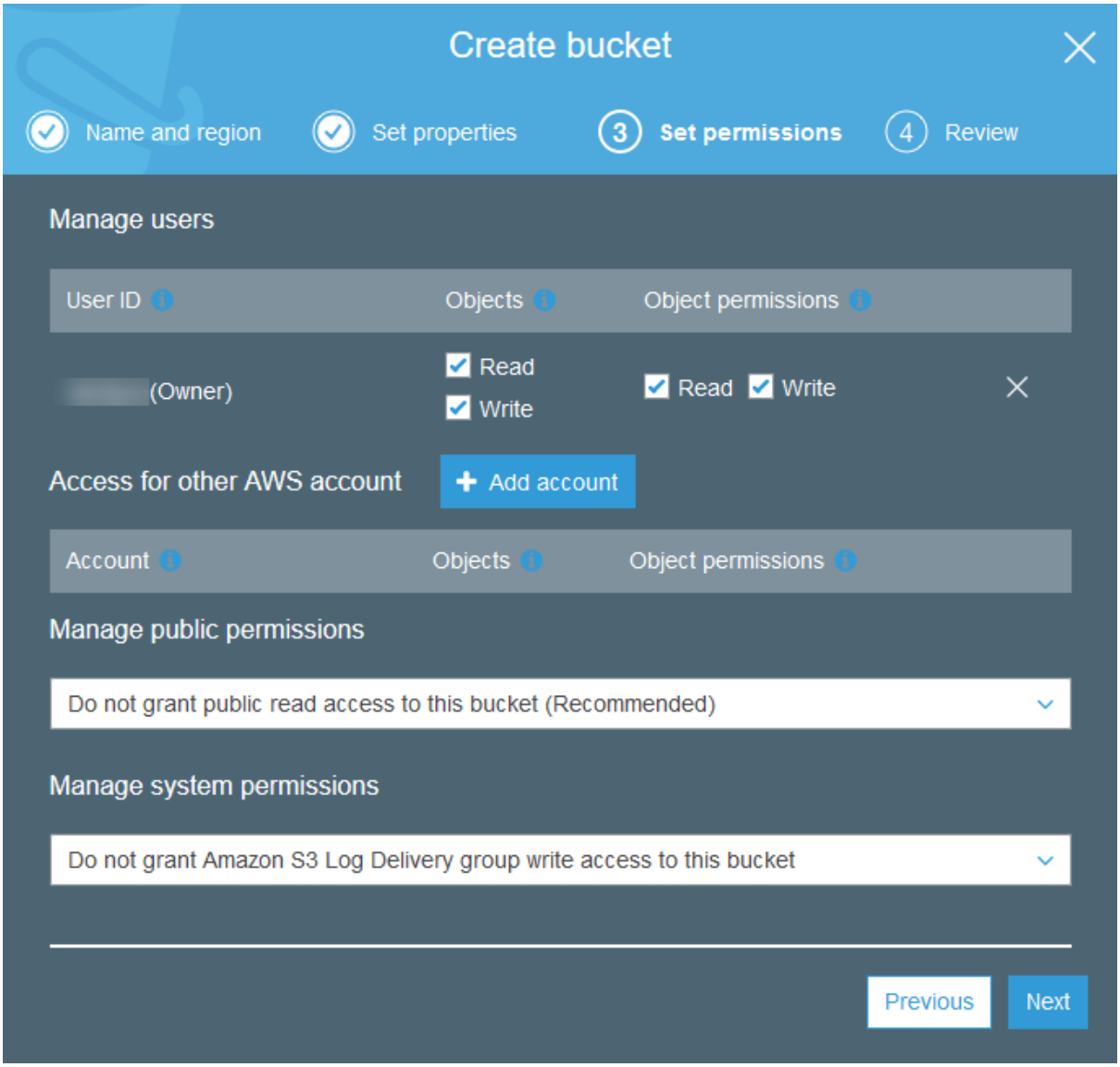


Fig11:Changing settings

6.On the Review page, verify the settings. If you want to change something, choose Edit. If your current settings are correct, choose Create bucket.

PROCEDURE

1. After creating the instance, download PuTTY and Cyberduck.

   Putty is a free and open source terminal emulator, serial console and network file transfer application. It supports several network protocols including SCH, SSH, Telnet and raw socket connection. It can also connect to a serial port.

   Cyberduck is an open source client for FTP and SFTP, webDEV and cloud storage available for macOS and windows.

2. Convert key which is in .pem format to .ppk format which we have created while creating the EC2 instance.
3. Then give the log in as: ec2-user.
4. Give the command "**sudo servive httpd start"** to start the Apache web server.
5. Use the chkconfig command to configurethe Apache web server to start at each system boot "**sudo chkconfig httpd on"**. The command chkconfig does not provide any conformation message when you successfully use it to enable a service. It can be verified by running the following command **"chkconfig --list httpd"**
6. Now refresh the browser, you will get the Apache default test page.
7. Then come to cyberduck and create an html page and put that to the server using public IP address.

SCREENSHOTS

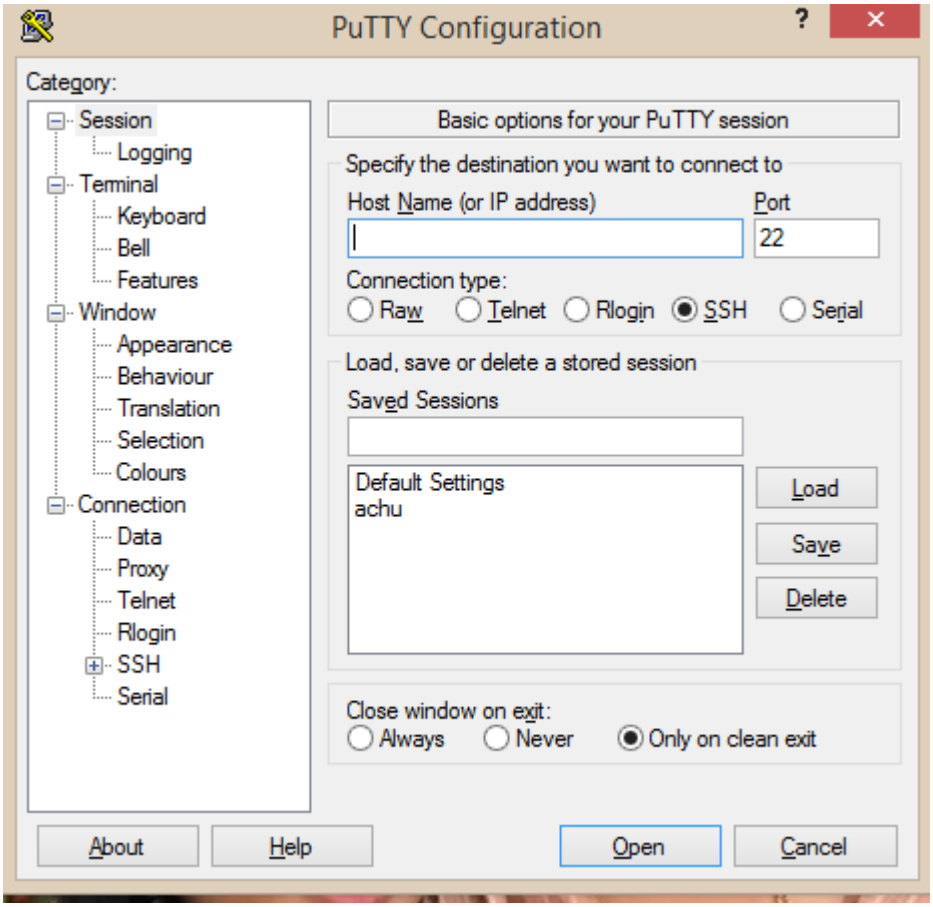


Figure 1

Figure 1 shows the PuTTY configuration window, after downloading PuTTY we need to configure it by giving the public IP address.

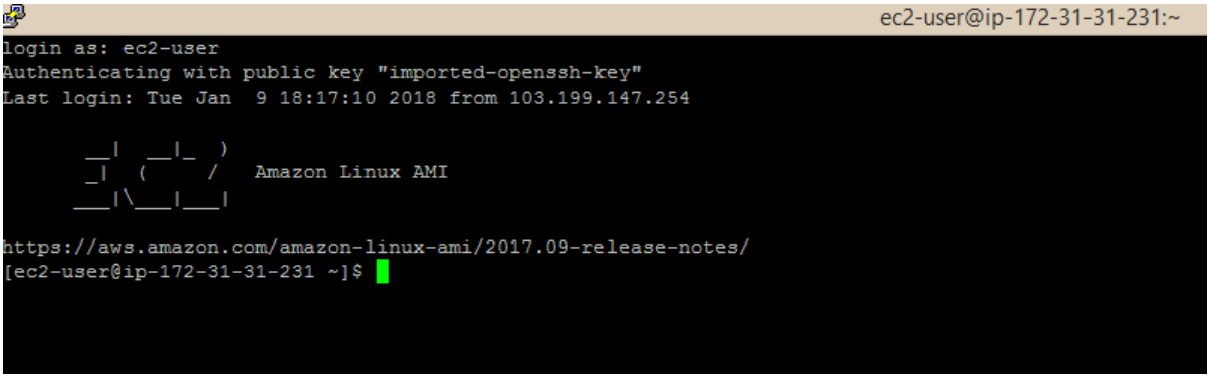


Figure 2

After configuring PuTTY, log in as ec2-user which is shown in Figure 2

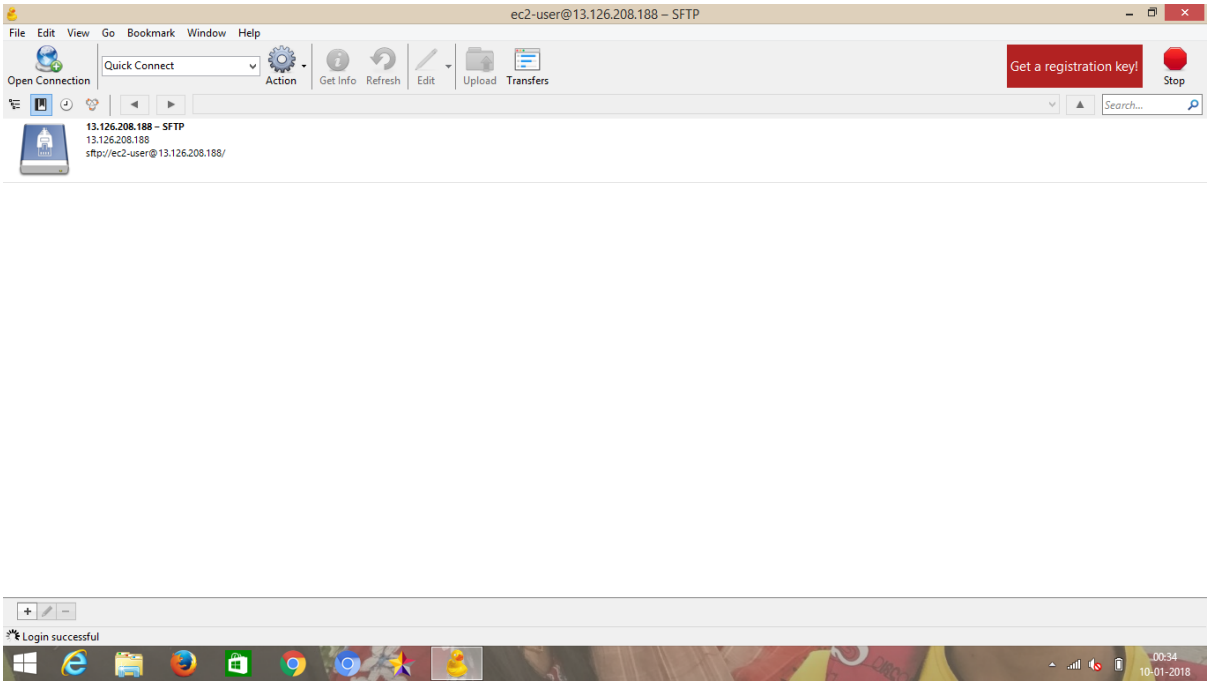


Figure 3

Figure 3 shows the cyberduck window where we need to create an html page in a folder.

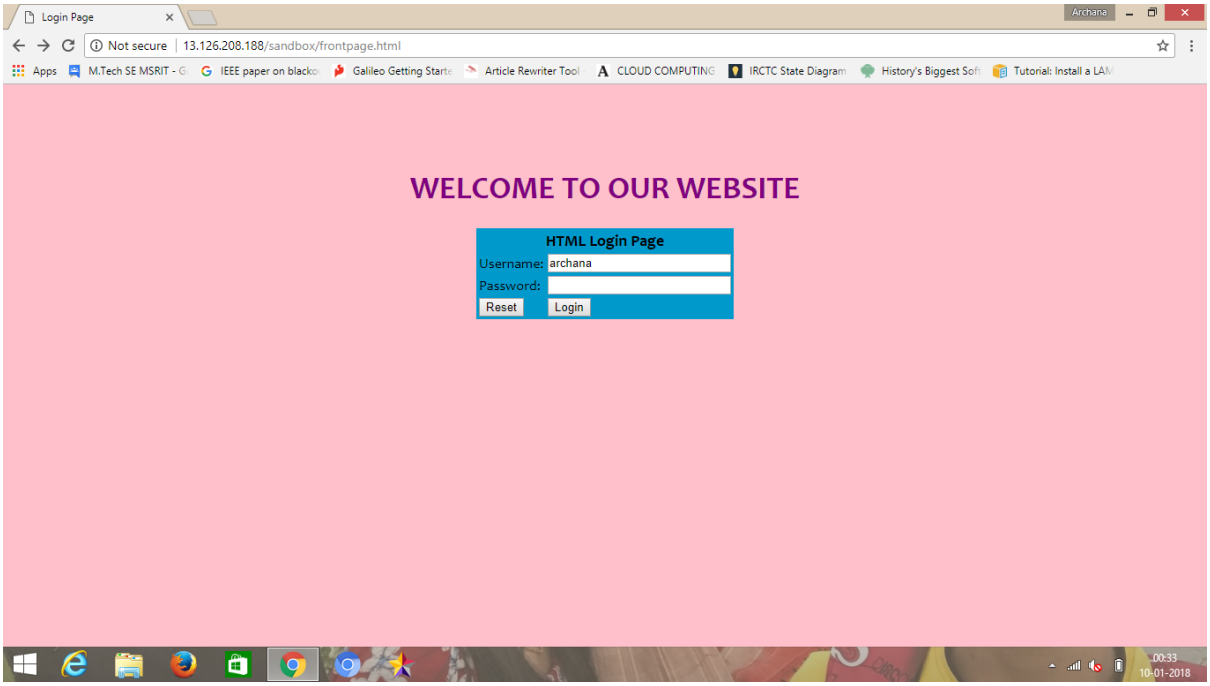


Figure 4

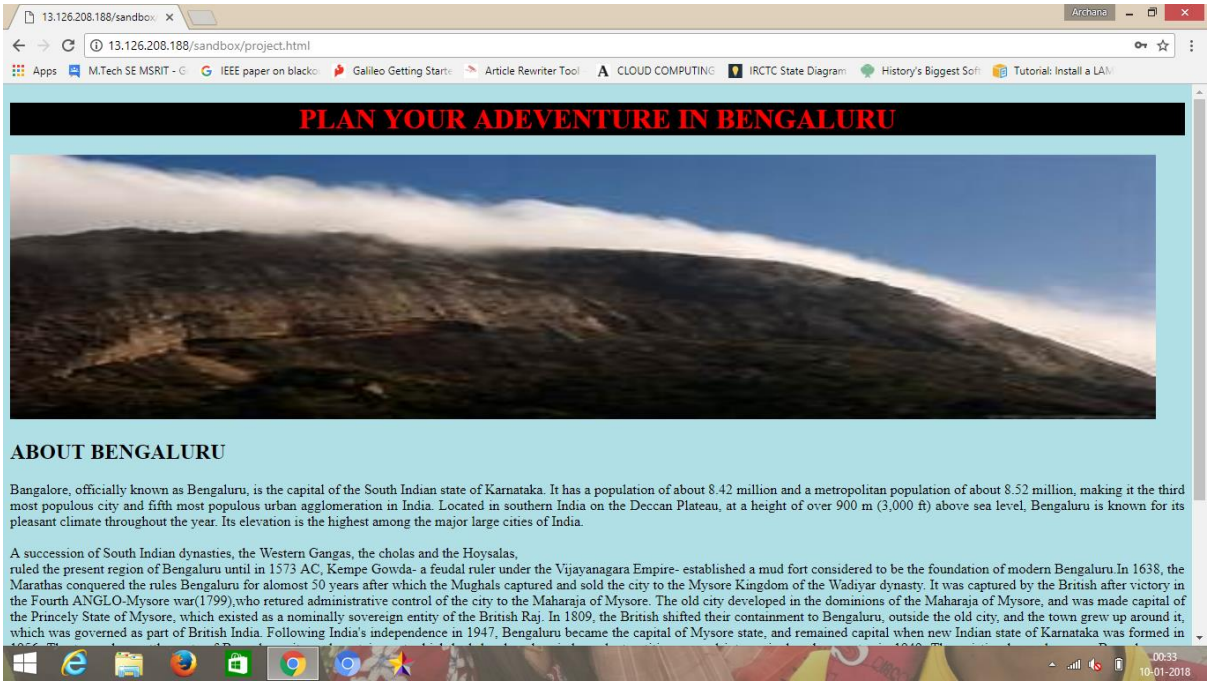


Figure 5

After hosting the html page in cyber duck, then our html page can be viewed as shown in Figure 4 and Figure 5.