Savitribai Phule Pune University

Modern Education Society's College of Engineering, Pune

19, Bund Garden, V.K. Joag Path, Pune – 411001.

ACCREDITED BY NBA & NAAC WITH "A" GRADE (CGPA – 3.13)

DEPARTMENT OF COMPUTER ENGINEERING

LP IV – Cloud Computing

SUBMITTED BY

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UNDER THE GUIDANCE OF

Dr. Revati M. Wahul

(Academic Year: 2020-2021)

Savitribai Phule Pune University
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Certificate

This is to certify that the mini-project entitled

Cloud Application for Password Manager

has been completed by

Miss. Yogini Nagtilak	**(U.PRN- 71818452B)**
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of BE COMP Second Shift in the Semester - II of the academic year 2020-2021 in partial fulfillment of the Fourth Year of Bachelor degree in "Computer Engineering" as prescribed by the Savitribai Phule Pune University.

Dr. Revati M. Wahul

Project Guide

Date: 31st May,2021

Contents

Problem Statement

1.1 Problem Statement

To host a website on cloud for Software as a Service. Implement the basic operations like add or delete an account on/from cloud in encrypted form.

2 Introduction

2.1 Introduction

Cloud computing is the delivery of different services through the Internet. These resources include tools and applications like data storage, servers, databases, networking, and software. Rather than keeping files on a proprietary hard drive or local storage device, cloud-based storage makes it possible to save them to a remote database. As long as an electronic device has access to the web, it has access to the data and the software programs to run it. Cloud computing is a popular option for people and businesses for a number of reasons including cost savings, increased productivity, speed and efficiency, performance, and security.

There are various types of clouds, each of which is different from the other. Public clouds provide their services on servers and storage on the Internet. These are operated by third-party companies, who handle and control all the hardware, software, and the general infrastructure. Clients access services through accounts that can be accessed by just about anyone.

Private clouds are reserved for specific clientele, usually one business or organization. The firm's data service center may host the cloud computing service. Many private cloud computing services are provided on a private network.

Hybrid clouds are, as the name implies, a combination of both public and private services. This type of model allows the user more flexibility and helps optimize the user's infrastructure and security.

2.2 Cloud Services

- **Software as a Sevice:** The model in which an application is hosted as a service to customers who access it via the Internet. When the software is hosted off-site, the customer doesn’t have to maintain it or support it. It is out of the customer’s hands when the hosting service decides to change it. The idea is that you use the software out of the box as is and do not need to make a lot of changes or require integration to other systems.The provider does all the patching and upgrades as well as keeping the infrastructure running.

- **Platform as a Service:** PaaS vendors offer a development environment to application developers. The provider typically develops toolkit and standards for development and channels for distribution and payment. In the PaaS models, cloud providers deliver a computing platform, typically including operating system, programming-language execution environment, database, and web server. Application developers develop and run their software on a cloud platform instead of directly buying and managing the underlying hardware and software layers. With some PaaS, the underlying computer and storage resources scale automatically to match application demand so that the cloud user does not have to allocate resources manually.

- **Infrastructure as a Service:** IaaS provides on-demand access to fundamental computing resources–physical and virtual servers, networking, and storage—over the internet on a pay-as-you-go basis. IaaS enables end users to scale and shrink resources on an as-needed basis, reducing the need for high, up-front capital expenditures or unnecessary on-premises or ‘owned’ infrastructure and for overbuying resources to accommodate periodic spikes in usage.

2.3 AWS

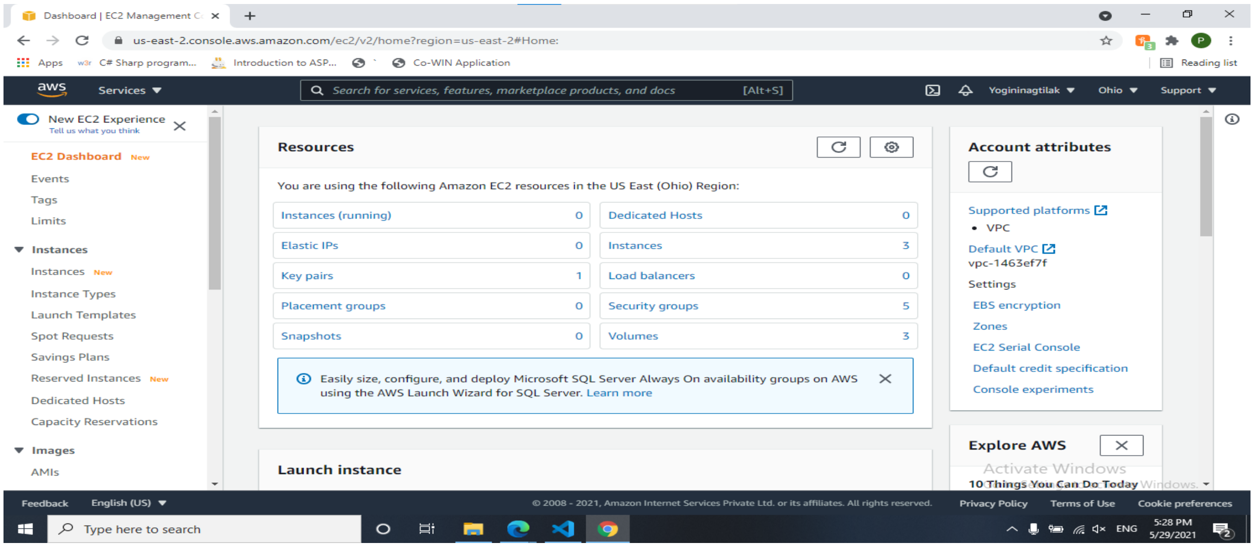
Amazon Web Services (**AWS**) is a subsidiary of Amazon providing on-demand cloud cloud computing platforms and APIs to individuals, companies, and governments, on a metered pay-as-you-go basis. These cloud computing web services provide a variety of basic abstract technical infrastructure and distributed computing building blocks and EC2), which allows users to have at their disposal a virtual cluster of computers, available all the time, through the Internet. AWS's version of virtual computers emulates most of the attributes of a real computer, including hardware CPUs and GPUs processing; local/RAM memory; hard-disk/SSD storage; a choice of operating systems; networking; and pre-loaded application software such as web servers, databases, and customer relationship management.

Amazon EC2

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud. It is designed to make web-scale cloud computing easier for developers. Amazon EC2’s simple web service interface allows you to obtain and configure capacity with minimal friction. It provides you with complete control of your computing resources and lets you run on Amazon’s proven computing environment.

3 Implementation

Step 1: Create an Instance



Resources

You are using the following Amazon EC2 resources in the US East (Ohio) Region:

Instances (running)	0	Dedicated Hosts	0
Elastic IPs	0	Instances	3
Key pairs	1	Load balancers	0
Placement groups	0	Security groups	5
Snapshots	0	Volumes	3

Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. Learn more

Launch instance

Account attributes

Supported platforms
- VPC

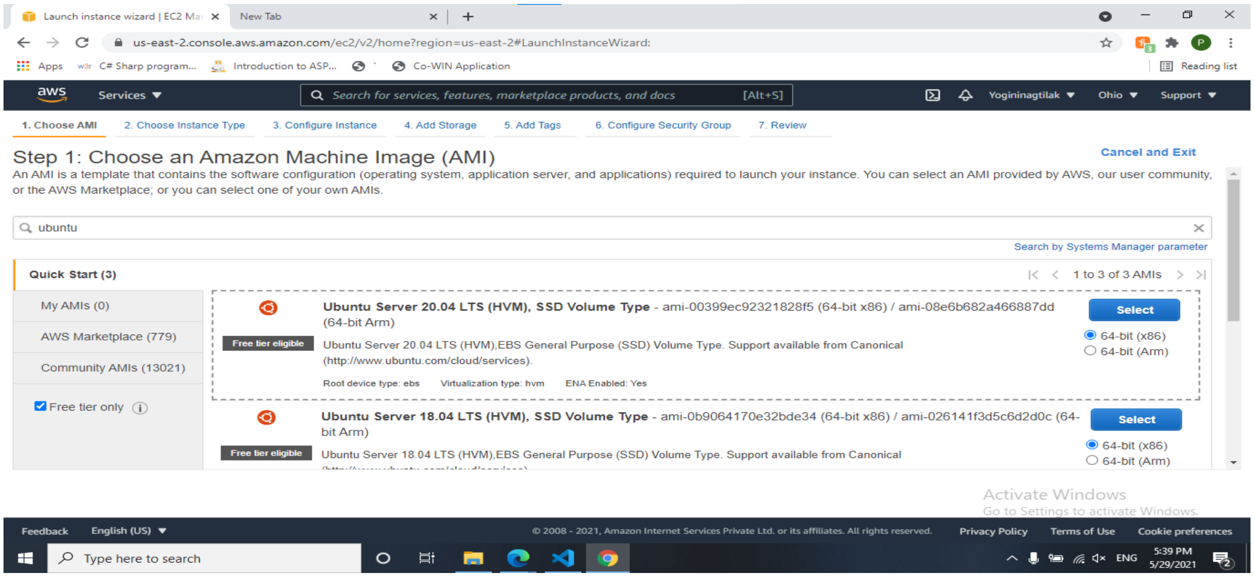
Default VPC
vpc-1463ef7f

Settings
EBS encryption
Zones
EC2 Serial Console
Default credit specification
Console experiments

Explore AWS

10 Things You Can Do Today

Step 2: Choose an appropriate machine



Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

ubuntu

☑ Free tier only

Ubuntu Server 20.04 LTS (HVM), SSD Volume Type - ami-00399ec92321828f5 (64-bit x86) / ami-08e6b682a466887dd (64-bit Arm)

Free tier eligible

Ubuntu Server 20.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical (http://www.ubuntu.com/cloud/services).

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

● 64-bit (x86)
○ 64-bit (Arm)

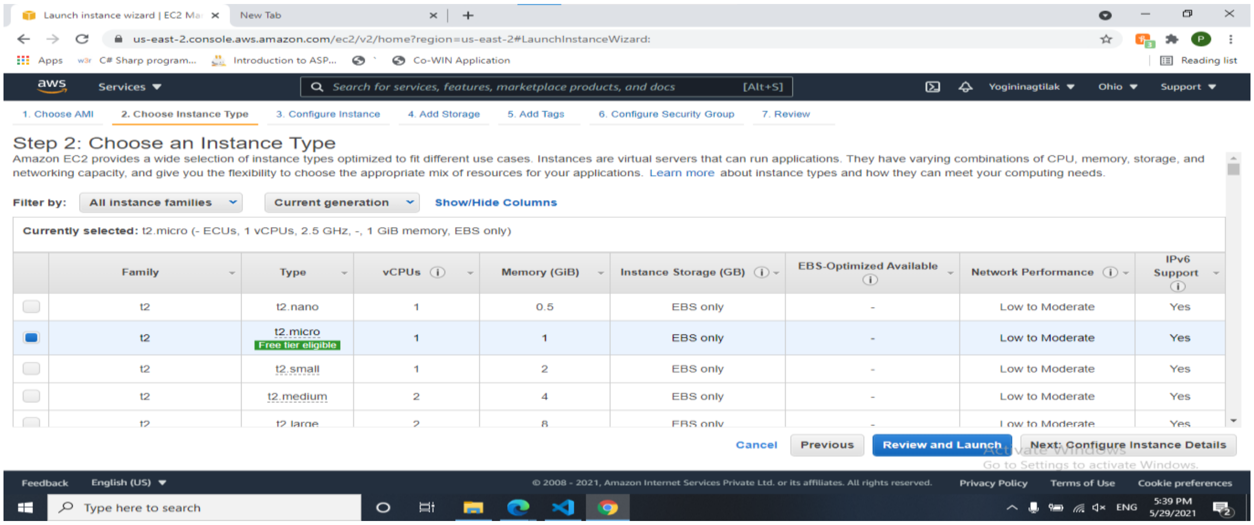
Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-0b9064170e32bde34 (64-bit x86) / ami-026141f3d5c6d2d0c (64-bit Arm)

Free tier eligible

Ubuntu Server 18.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical

● 64-bit (x86)
○ 64-bit (Arm)

Step 3: Choose an Instance type



Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. Learn more about instance types and how they can meet your computing needs.

Filter by: All instance families | Current generation | Show/Hide Columns

Currently selected: t2.micro (- ECUs, 1 vCPUs, 2.5 GHz, -, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
□	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
■	t2	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
□	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
□	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
□	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes

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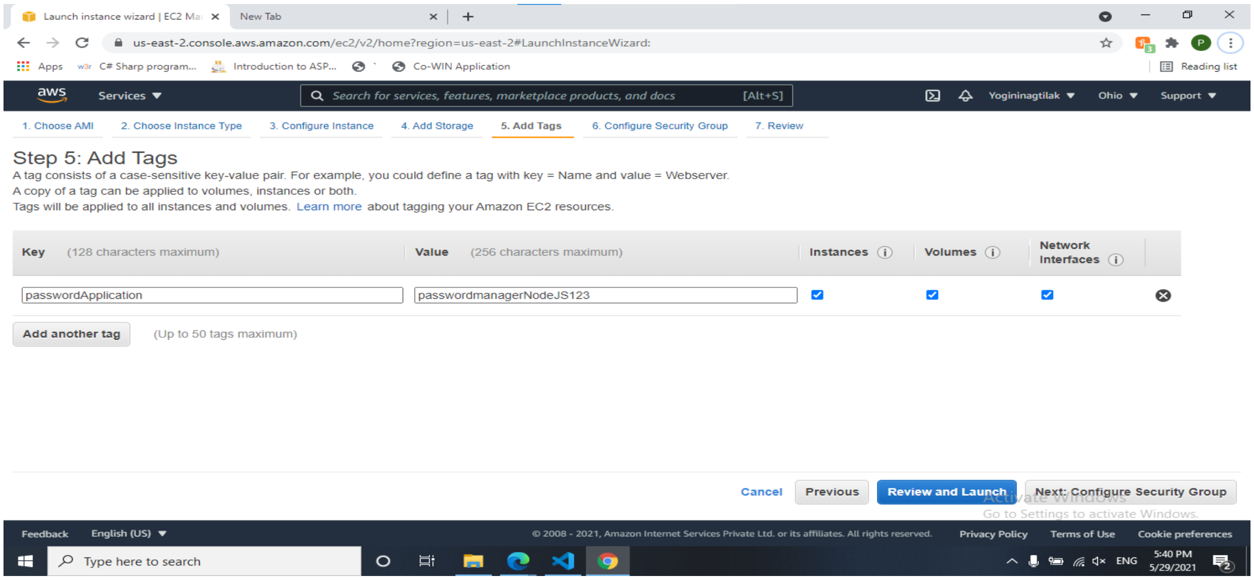
Step 4: Add tags



Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.
A copy of a tag can be applied to volumes, instances or both.
Tags will be applied to all instances and volumes. Learn more about tagging your Amazon EC2 resources.

Key (128 characters maximum)	Value (256 characters maximum)	Instances	Volumes	Network Interfaces
passwordApplication	passwordmanagerNodeJS123	☑	☑	☑

(Up to 50 tags maximum)

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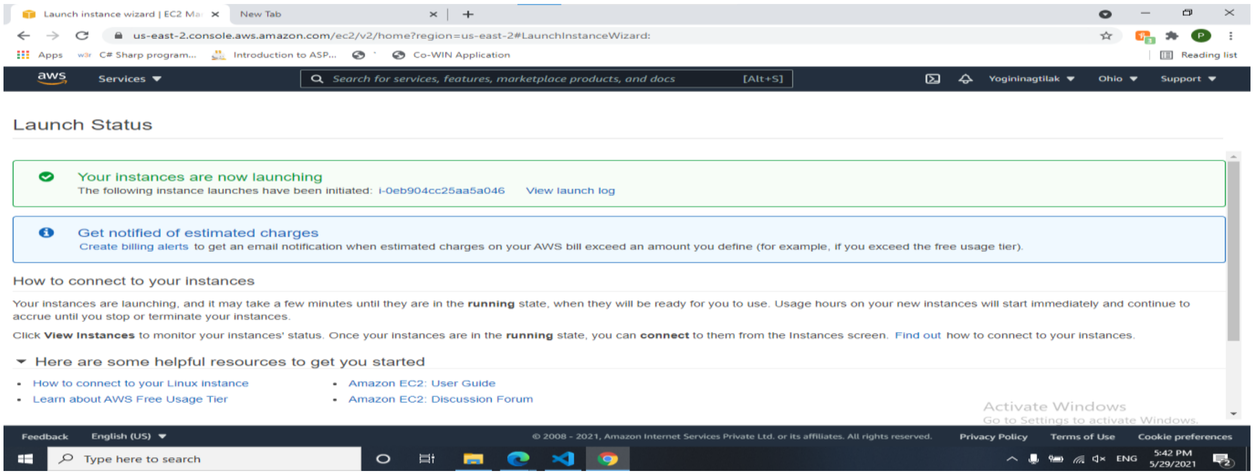
5:40 PM 5/29/2021

Step 5: Review and Launch Instance


Launch instance wizard | EC2 Ma
New Tab
us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#LaunchInstanceWizard:
Apps
C# Sharp program...
Introduction to ASP...
Co-WIN Application
Reading list
aws
Services
Search for services, features, marketplace products, and docs [Alt+S]
Yogininagtilak
Ohio
Support
Feedback
English (US)
© 2008 - 2021, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.
Privacy Policy
Terms of Use
Cookie preferences
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
5:42 PM
5/29/2021

Launch Status

Your instances are now launching
The following instance launches have been initiated: i-0eb904cc25aa5a046 View launch log

Get notified of estimated charges
Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

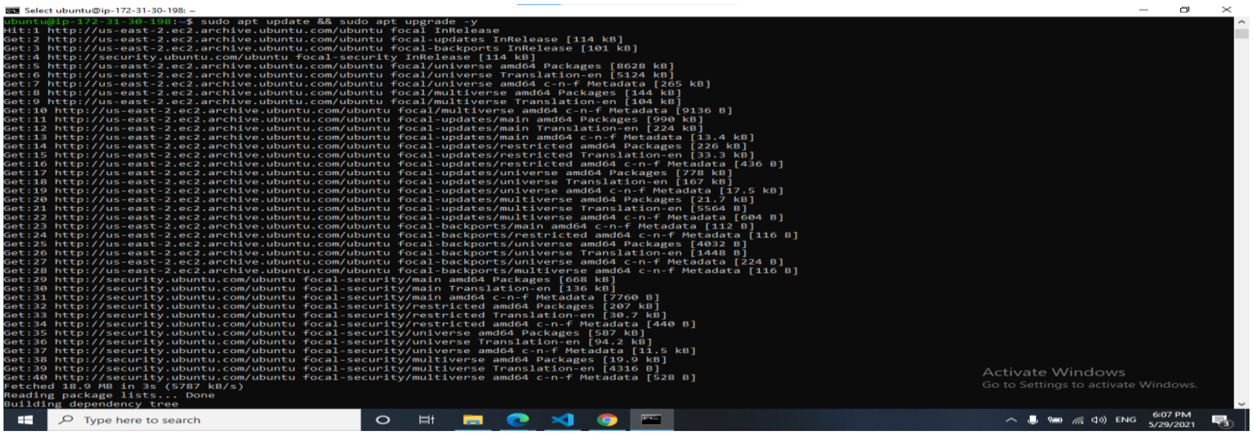
Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. Find out how to connect to your instances.

Here are some helpful resources to get you started

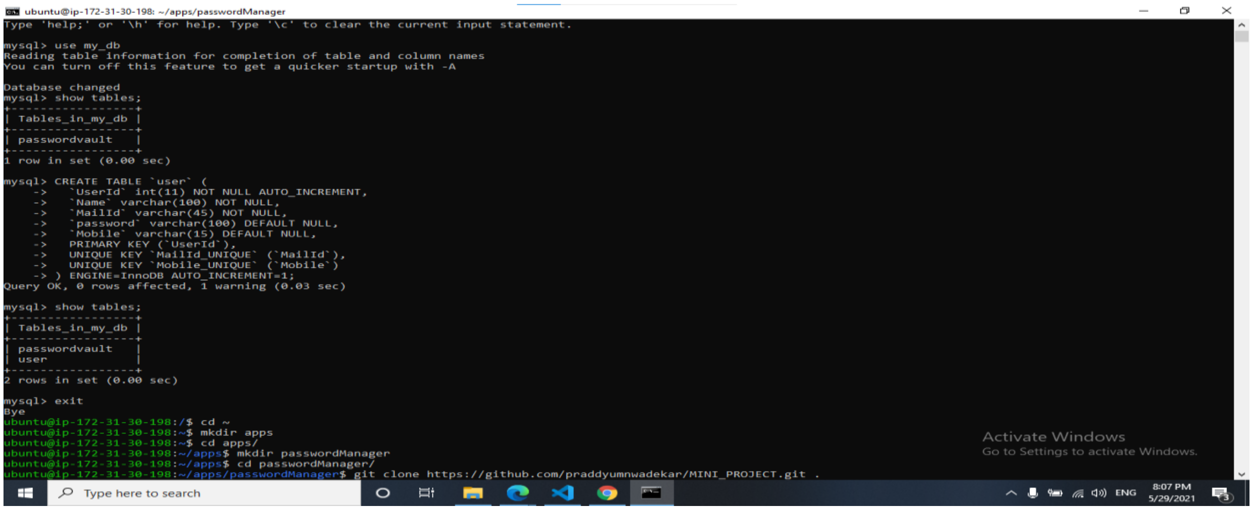
- How to connect to your Linux instance
- Learn about AWS Free Usage Tier
- Amazon EC2: User Guide
- Amazon EC2: Discussion Forum

Step 6: Connect to machine and done updation


Select ubuntu@ip-172-31-30-198: ~
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
6:07 PM
5/29/2021

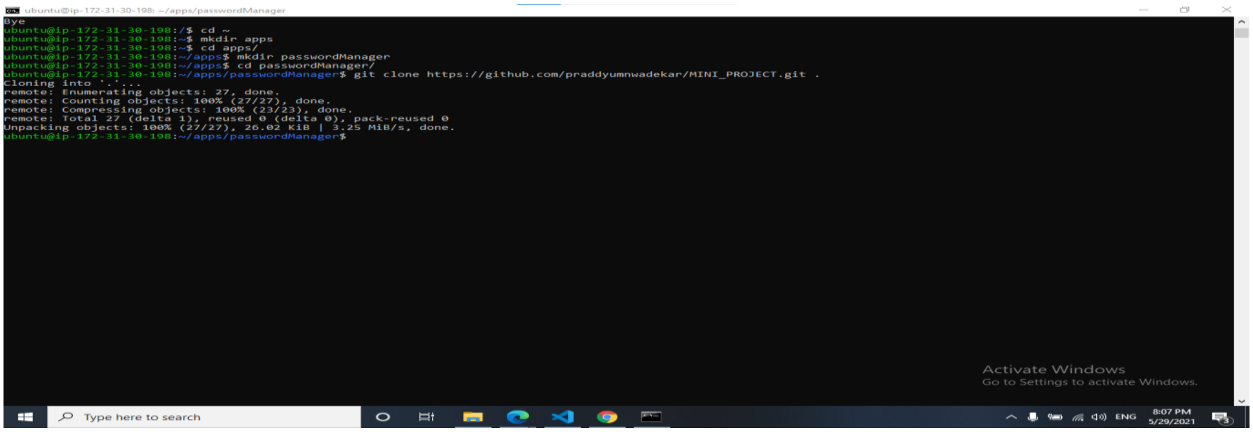
```
ubuntu@ip-172-31-30-198:~$ sudo apt update && sudo apt upgrade -y
Hit:1 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Get:4 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:5 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 Packages [8628 kB]
Get:6 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/universe Translation-en [5124 kB]
Get:7 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 c-n-f Metadata [265 kB]
Get:8 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/multiverse amd64 Packages [144 kB]
Get:9 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/multiverse Translation-en [104 kB]
Get:10 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/multiverse amd64 c-n-f Metadata [9136 B]
Get:11 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [990 kB]
Get:12 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [224 kB]
Get:13 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [13.4 kB]
Get:14 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [226 kB]
Get:15 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [33.3 kB]
Get:16 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [436 B]
Get:17 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [778 kB]
Get:18 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [167 kB]
Get:19 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [17.5 kB]
Get:20 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [21.7 kB]
Get:21 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse Translation-en [5564 B]
Get:22 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 c-n-f Metadata [604 B]
Get:23 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-backports/main amd64 c-n-f Metadata [112 B]
Get:24 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-backports/restricted amd64 c-n-f Metadata [116 B]
Get:25 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-backports/universe amd64 Packages [4032 B]
Get:26 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-backports/universe Translation-en [1448 B]
Get:27 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-backports/universe amd64 c-n-f Metadata [224 B]
Get:28 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:29 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [668 kB]
Get:30 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [136 kB]
Get:31 http://security.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metadata [7760 B]
Get:32 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [207 kB]
Get:33 http://security.ubuntu.com/ubuntu focal-security/restricted Translation-en [30.7 kB]
Get:34 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 c-n-f Metadata [440 B]
Get:35 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [587 kB]
Get:36 http://security.ubuntu.com/ubuntu focal-security/universe Translation-en [94.2 kB]
Get:37 http://security.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [11.5 kB]
Get:38 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages [19.9 kB]
Get:39 http://security.ubuntu.com/ubuntu focal-security/multiverse Translation-en [4316 B]
Get:40 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 c-n-f Metadata [528 B]
Fetched 18.9 MB in 3s (5787 kB/s)
Reading package lists... Done
Building dependency tree
```

Step 7: For dynamic website connect to mysql


ubuntu@ip-172-31-30-198: ~/apps/passwordManager
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
8:07 PM
5/29/2021

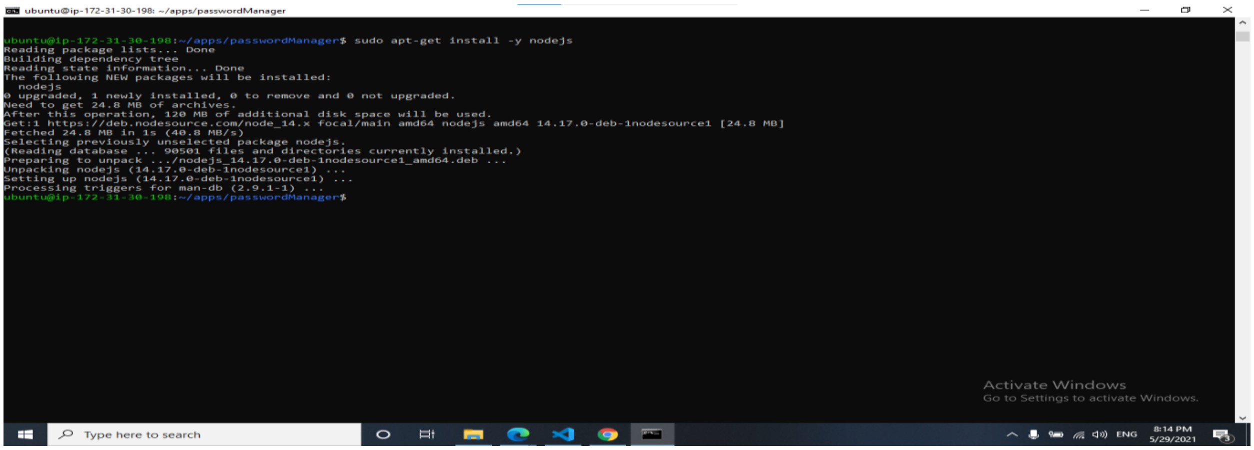
```
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use my_db
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+-----------------+
| Tables_in_my_db |
+-----------------+
| passwordvault   |
+-----------------+
1 row in set (0.00 sec)

mysql> CREATE TABLE `user` (
    ->   `UserId` int(11) NOT NULL AUTO_INCREMENT,
    ->   `Name` varchar(100) NOT NULL,
    ->   `MailId` varchar(45) NOT NULL,
    ->   `password` varchar(100) DEFAULT NULL,
    ->   `Mobile` varchar(15) DEFAULT NULL,
    ->   PRIMARY KEY (`UserId`),
    ->   UNIQUE KEY `MailId_UNIQUE` (`MailId`),
    ->   UNIQUE KEY `Mobile_UNIQUE` (`Mobile`)
    -> ) ENGINE=InnoDB AUTO_INCREMENT=1;
Query OK, 0 rows affected, 1 warning (0.03 sec)

mysql> show tables;
+-----------------+
| Tables_in_my_db |
+-----------------+
| passwordvault   |
| user            |
+-----------------+
2 rows in set (0.00 sec)

mysql> exit
Bye
ubuntu@ip-172-31-30-198:/$ cd ~
ubuntu@ip-172-31-30-198:~$ mkdir apps
ubuntu@ip-172-31-30-198:~$ cd apps/
ubuntu@ip-172-31-30-198:~/apps$ mkdir passwordManager
ubuntu@ip-172-31-30-198:~/apps$ cd passwordManager/
ubuntu@ip-172-31-30-198:~/apps/passwordManager$ git clone https://github.com/praddyumnwadekar/MINI_PROJECT.git .
```

Step 8: Connect to github repository


ubuntu@ip-172-31-30-198: ~/apps/passwordManager
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
8:07 PM
5/29/2021

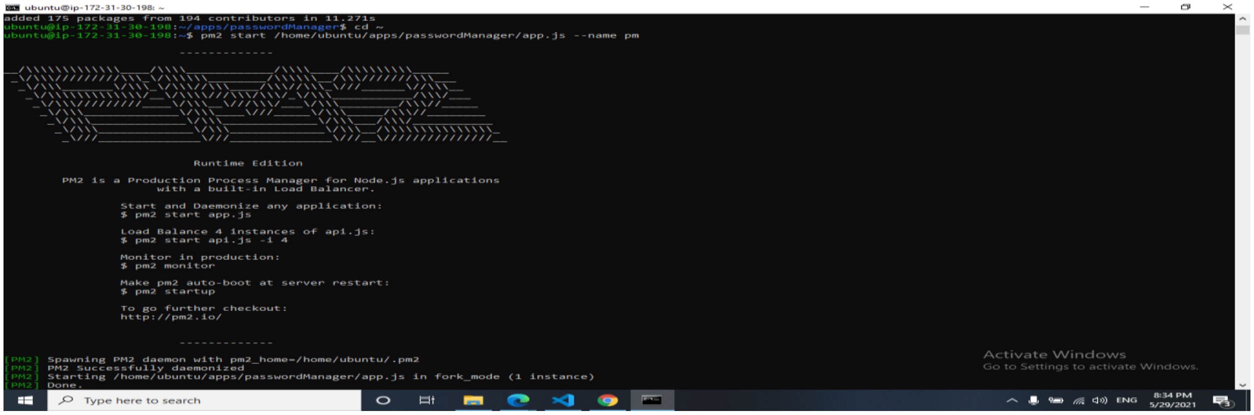
```
Bye
ubuntu@ip-172-31-30-198:/$ cd ~
ubuntu@ip-172-31-30-198:~$ mkdir apps
ubuntu@ip-172-31-30-198:~$ cd apps/
ubuntu@ip-172-31-30-198:~/apps$ mkdir passwordManager
ubuntu@ip-172-31-30-198:~/apps$ cd passwordManager/
ubuntu@ip-172-31-30-198:~/apps/passwordManager$ git clone https://github.com/praddyumnwadekar/MINI_PROJECT.git .
Cloning into '.'...
remote: Enumerating objects: 27, done.
remote: Counting objects: 100% (27/27), done.
remote: Compressing objects: 100% (23/23), done.
remote: Total 27 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (27/27), 26.02 KiB | 3.25 MiB/s, done.
ubuntu@ip-172-31-30-198:~/apps/passwordManager$
```

Step 9: Installing node.js


ubuntu@ip-172-31-30-198: ~/apps/passwordManager
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
8:14 PM
5/29/2021

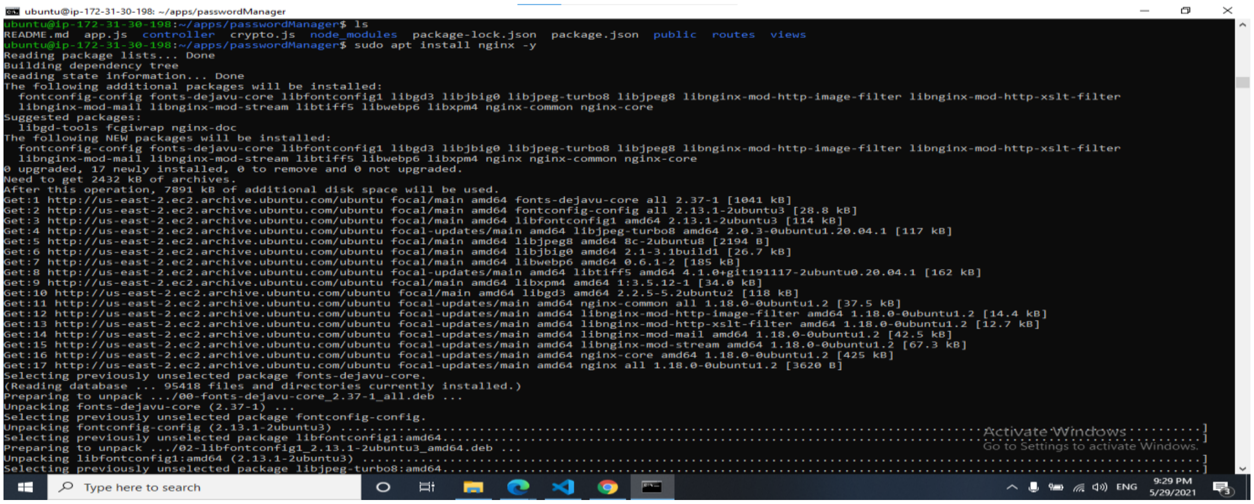
```
ubuntu@ip-172-31-30-198:~/apps/passwordManager$ sudo apt-get install -y nodejs
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  nodejs
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 24.8 MB of archives.
After this operation, 120 MB of additional disk space will be used.
Get:1 https://deb.nodesource.com/node_14.x focal/main amd64 nodejs amd64 14.17.0-deb-1nodesource1 [24.8 MB]
Fetched 24.8 MB in 1s (40.8 MB/s)
Selecting previously unselected package nodejs.
(Reading database ... 90501 files and directories currently installed.)
Preparing to unpack .../nodejs_14.17.0-deb-1nodesource1_amd64.deb ...
Unpacking nodejs (14.17.0-deb-1nodesource1) ...
Setting up nodejs (14.17.0-deb-1nodesource1) ...
Processing triggers for man-db (2.9.1-1) ...
ubuntu@ip-172-31-30-198:~/apps/passwordManager$
```

Step 10: Start pm2 required for node.js application


ubuntu@ip-172-31-30-198: ~
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
8:34 PM
5/29/2021

```
added 175 packages from 194 contributors in 11.271s
ubuntu@ip-172-31-30-198:~/apps/passwordManager$ cd ~
ubuntu@ip-172-31-30-198:~$ pm2 start /home/ubuntu/apps/passwordManager/app.js --name pm

                        -------------

                          Runtime Edition

        PM2 is a Production Process Manager for Node.js applications
                     with a built-in Load Balancer.

                Start and Daemonize any application:
                $ pm2 start app.js

                Load Balance 4 instances of api.js:
                $ pm2 start api.js -i 4

                Monitor in production:
                $ pm2 monitor

                Make pm2 auto-boot at server restart:
                $ pm2 startup

                To go further checkout:
                http://pm2.io/


                        -------------

[PM2] Spawning PM2 daemon with pm2_home=/home/ubuntu/.pm2
[PM2] PM2 Successfully daemonized
[PM2] Starting /home/ubuntu/apps/passwordManager/app.js in fork_mode (1 instance)
[PM2] Done.
```

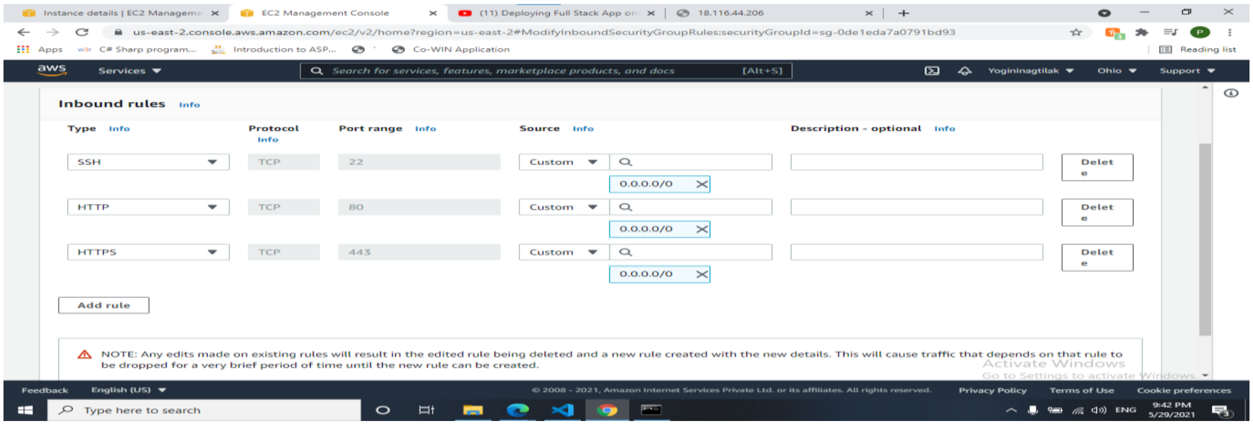
Step 11: Install nginx



ubuntu@ip-172-31-30-198: ~/apps/passwordManager

```
ubuntu@ip-172-31-30-198:~/apps/passwordManager$ ls
README.md  app.js  controller  crypto.js  node_modules  package-lock.json  package.json  public  routes  views
ubuntu@ip-172-31-30-198:~/apps/passwordManager$ sudo apt install nginx -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core libfontconfig1 libgd3 libjbig0 libjpeg-turbo8 libjpeg8 libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter
  libnginx-mod-mail libnginx-mod-stream libtiff5 libwebp6 libxpm4 nginx-common nginx-core
Suggested packages:
  libgd-tools fcgiwrap nginx-doc
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core libfontconfig1 libgd3 libjbig0 libjpeg-turbo8 libjpeg8 libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter
  libnginx-mod-mail libnginx-mod-stream libtiff5 libwebp6 libxpm4 nginx nginx-common nginx-core
0 upgraded, 17 newly installed, 0 to remove and 0 not upgraded.
Need to get 2432 kB of archives.
After this operation, 7891 kB of additional disk space will be used.
Get:1 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 fonts-dejavu-core all 2.37-1 [1041 kB]
Get:2 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 fontconfig-config all 2.13.1-2ubuntu3 [28.8 kB]
Get:3 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 libfontconfig1 amd64 2.13.1-2ubuntu3 [114 kB]
Get:4 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libjpeg-turbo8 amd64 2.0.3-0ubuntu1.20.04.1 [117 kB]
Get:5 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 libjpeg8 amd64 8c-2ubuntu8 [2194 B]
Get:6 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 libjbig0 amd64 2.1-3.1build1 [26.7 kB]
Get:7 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 libwebp6 amd64 0.6.1-2 [185 kB]
Get:8 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libtiff5 amd64 4.1.0+git191117-2ubuntu0.20.04.1 [162 kB]
Get:9 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 libxpm4 amd64 1:3.5.12-1 [34.0 kB]
Get:10 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 libgd3 amd64 2.2.5-5.2ubuntu2 [118 kB]
Get:11 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx-common all 1.18.0-0ubuntu1.2 [37.5 kB]
Get:12 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-http-image-filter amd64 1.18.0-0ubuntu1.2 [14.4 kB]
Get:13 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-http-xslt-filter amd64 1.18.0-0ubuntu1.2 [12.7 kB]
Get:14 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-mail amd64 1.18.0-0ubuntu1.2 [42.5 kB]
Get:15 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-stream amd64 1.18.0-0ubuntu1.2 [67.3 kB]
Get:16 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx-core amd64 1.18.0-0ubuntu1.2 [425 kB]
Get:17 http://us-east-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx all 1.18.0-0ubuntu1.2 [3620 B]
Selecting previously unselected package fonts-dejavu-core.
(Reading database ... 95418 files and directories currently installed.)
Preparing to unpack .../00-fonts-dejavu-core_2.37-1_all.deb ...
Unpacking fonts-dejavu-core (2.37-1) ...
Selecting previously unselected package fontconfig-config.
Unpacking fontconfig-config (2.13.1-2ubuntu3) ...........................................................................................]
Selecting previously unselected package libfontconfig1:amd64.............................................................................]
Preparing to unpack .../02-libfontconfig1_2.13.1-2ubuntu3_amd64.deb ...
Unpacking libfontconfig1:amd64 (2.13.1-2ubuntu3) ........................................................................................]
Selecting previously unselected package libjpeg-turbo8:amd64.............................................................................]
```

Step 12: Change the inbound rules



us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#ModifyInboundSecurityGroupRules:securityGroupId=sg-0de1eda7a0791bd93

Inbound rules Info

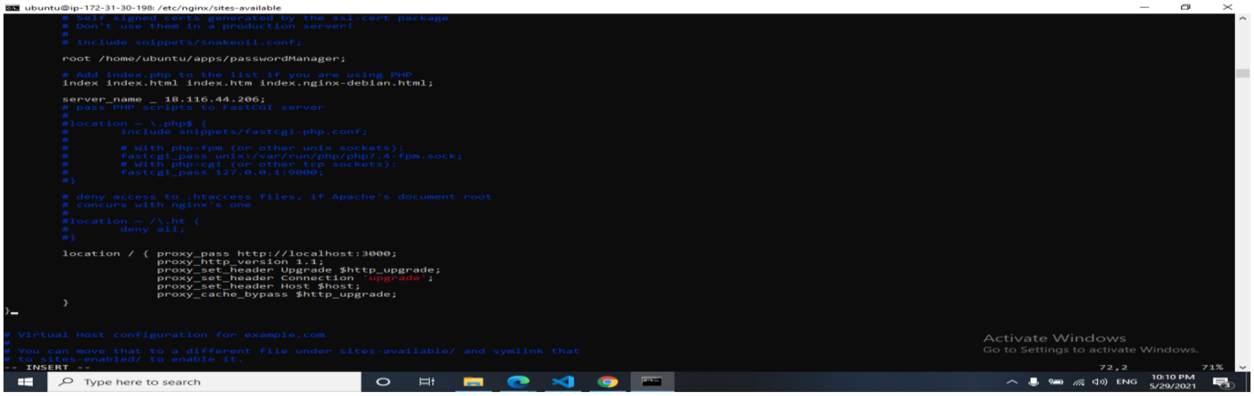
Type Info	Protocol Info	Port range Info	Source Info		Description - optional Info	
SSH	TCP	22	Custom	0.0.0.0/0		Delete
HTTP	TCP	80	Custom	0.0.0.0/0		Delete
HTTPS	TCP	443	Custom	0.0.0.0/0		Delete

Add rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Feedback
English (US)
© 2008 - 2021, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.
Privacy Policy
Terms of Use
Cookie preferences
Activate Windows
Go to Settings to activate Windows.
Type here to search
9:42 PM
5/29/2021

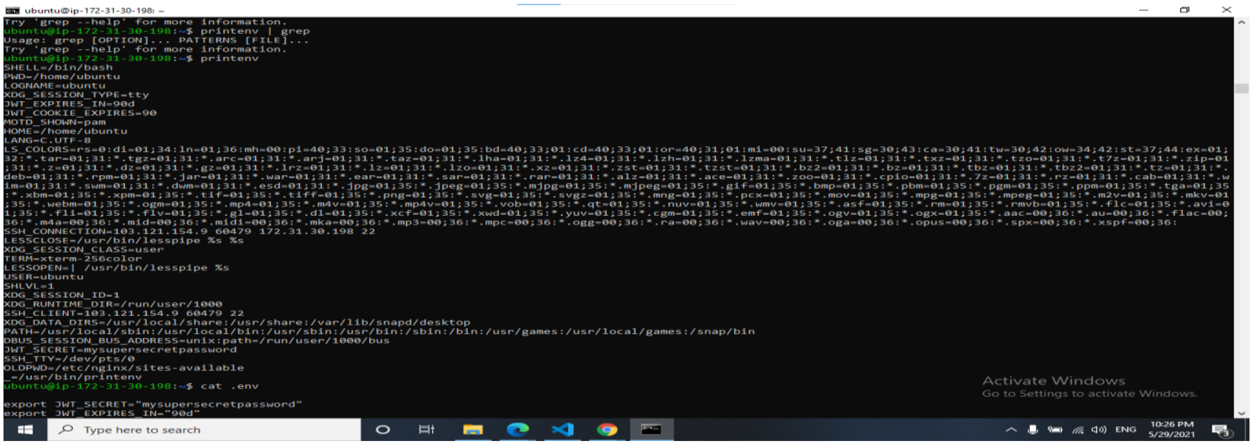
Step 13: Make appropriate changes in sites-available file (present in nginx)



ubuntu@ip-172-31-30-198: /etc/nginx/sites-available

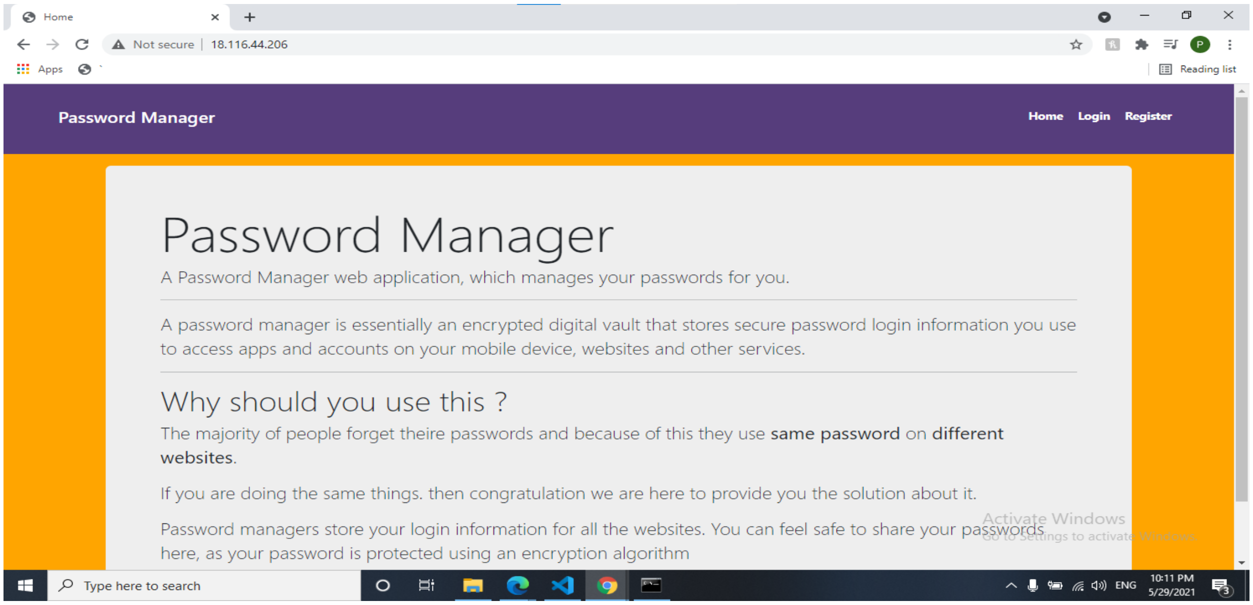
```
        # Self signed certs generated by the ssl-cert package
        # Don't use them in a production server!
        #
        # include snippets/snakeoil.conf;

        root /home/ubuntu/apps/passwordManager;

        # Add index.php to the list if you are using PHP
        index index.html index.htm index.nginx-debian.html;

        server_name _ 18.116.44.206;
        # pass PHP scripts to FastCGI server
        #
        #location ~ \.php$ {
        #       include snippets/fastcgi-php.conf;
        #
        #       # With php-fpm (or other unix sockets):
        #       fastcgi_pass unix:/var/run/php/php7.4-fpm.sock;
        #       # With php-cgi (or other tcp sockets):
        #       fastcgi_pass 127.0.0.1:9000;
        #}

        # deny access to .htaccess files, if Apache's document root
        # concurs with nginx's one
        #
        #location ~ /\.ht {
        #       deny all;
        #}

        location / { proxy_pass http://localhost:3000;
                     proxy_http_version 1.1;
                     proxy_set_header Upgrade $http_upgrade;
                     proxy_set_header Connection 'upgrade';
                     proxy_set_header Host $host;
                     proxy_cache_bypass $http_upgrade;
        }
}


# Virtual Host configuration for example.com
#
# You can move that to a different file under sites-available/ and symlink that
# to sites-enabled/ to enable it.
-- INSERT --                                                                          72,2          71%
```

Step 14: Store the environment variables



```
Try 'grep --help' for more information.
ubuntu@ip-172-31-30-198:~$ printenv | grep
Usage: grep [OPTION]... PATTERNS [FILE]...
Try 'grep --help' for more information.
ubuntu@ip-172-31-30-198:~$ printenv
SHELL=/bin/bash
PWD=/home/ubuntu
LOGNAME=ubuntu
XDG_SESSION_TYPE=tty
JWT_EXPIRES_IN=90d
JWT_COOKIE_EXPIRES=90
MOTD_SHOWN=pam
HOME=/home/ubuntu
LANG=C.UTF-8
LS_COLORS=rs=0:di=01;34:ln=01;36:mh=00:pi=40;33:so=01;35:do=01;35:bd=40;33;01:cd=40;33;01:or=40;31;01:mi=00:su=37;41:sg=30;43:ca=30;41:tw=30;42:ow=34;42:st=37;44:ex=01;
32:*.tar=01;31:*.tgz=01;31:*.arc=01;31:*.arj=01;31:*.taz=01;31:*.lha=01;31:*.lz4=01;31:*.lzh=01;31:*.lzma=01;31:*.tlz=01;31:*.txz=01;31:*.tzo=01;31:*.t7z=01;31:*.zip=01
;31:*.z=01;31:*.dz=01;31:*.gz=01;31:*.lrz=01;31:*.lz=01;31:*.lzo=01;31:*.xz=01;31:*.zst=01;31:*.tzst=01;31:*.bz2=01;31:*.bz=01;31:*.tbz=01;31:*.tbz2=01;31:*.tz=01;31:*.
deb=01;31:*.rpm=01;31:*.jar=01;31:*.war=01;31:*.ear=01;31:*.sar=01;31:*.rar=01;31:*.alz=01;31:*.ace=01;31:*.zoo=01;31:*.cpio=01;31:*.7z=01;31:*.rz=01;31:*.cab=01;31:*.w
im=01;31:*.swm=01;31:*.dwm=01;31:*.esd=01;31:*.jpg=01;35:*.jpeg=01;35:*.mjpg=01;35:*.mjpeg=01;35:*.gif=01;35:*.bmp=01;35:*.pbm=01;35:*.pgm=01;35:*.ppm=01;35:*.tga=01;35
:*.xbm=01;35:*.xpm=01;35:*.tif=01;35:*.tiff=01;35:*.png=01;35:*.svg=01;35:*.svgz=01;35:*.mng=01;35:*.pcx=01;35:*.mov=01;35:*.mpg=01;35:*.mpeg=01;35:*.m2v=01;35:*.mkv=01
;35:*.webm=01;35:*.ogm=01;35:*.mp4=01;35:*.m4v=01;35:*.mp4v=01;35:*.vob=01;35:*.qt=01;35:*.nuv=01;35:*.wmv=01;35:*.asf=01;35:*.rm=01;35:*.rmvb=01;35:*.flc=01;35:*.avi=0
1;35:*.fli=01;35:*.flv=01;35:*.gl=01;35:*.dl=01;35:*.xcf=01;35:*.xwd=01;35:*.yuv=01;35:*.cgm=01;35:*.emf=01;35:*.ogv=01;35:*.ogx=01;35:*.aac=00;36:*.au=00;36:*.flac=00;
36:*.m4a=00;36:*.mid=00;36:*.midi=00;36:*.mka=00;36:*.mp3=00;36:*.mpc=00;36:*.ogg=00;36:*.ra=00;36:*.wav=00;36:*.oga=00;36:*.opus=00;36:*.spx=00;36:*.xspf=00;36:
SSH_CONNECTION=103.121.154.9 60479 172.31.30.198 22
LESSCLOSE=/usr/bin/lesspipe %s %s
XDG_SESSION_CLASS=user
TERM=xterm-256color
LESSOPEN=| /usr/bin/lesspipe %s
USER=ubuntu
SHLVL=1
XDG_SESSION_ID=1
XDG_RUNTIME_DIR=/run/user/1000
SSH_CLIENT=103.121.154.9 60479 22
XDG_DATA_DIRS=/usr/local/share:/usr/share:/var/lib/snapd/desktop
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/1000/bus
JWT_SECRET=mysupersecretpassword
SSH_TTY=/dev/pts/0
OLDPWD=/etc/nginx/sites-available
_=/usr/bin/printenv
ubuntu@ip-172-31-30-198:~$ cat .env

export JWT_SECRET="mysupersecretpassword"
export JWT_EXPIRES_IN="90d"
```

Step 15: Paste the url in browser



Password Manager

A Password Manager web application, which manages your passwords for you.

A password manager is essentially an encrypted digital vault that stores secure password login information you use to access apps and accounts on your mobile device, websites and other services.

Why should you use this ?

The majority of people forget theire passwords and because of this they use **same password** on **different websites**.

If you are doing the same things. then congratulation we are here to provide you the solution about it.

Password managers store your login information for all the websites. You can feel safe to share your passwords here, as your password is protected using an encryption algorithm

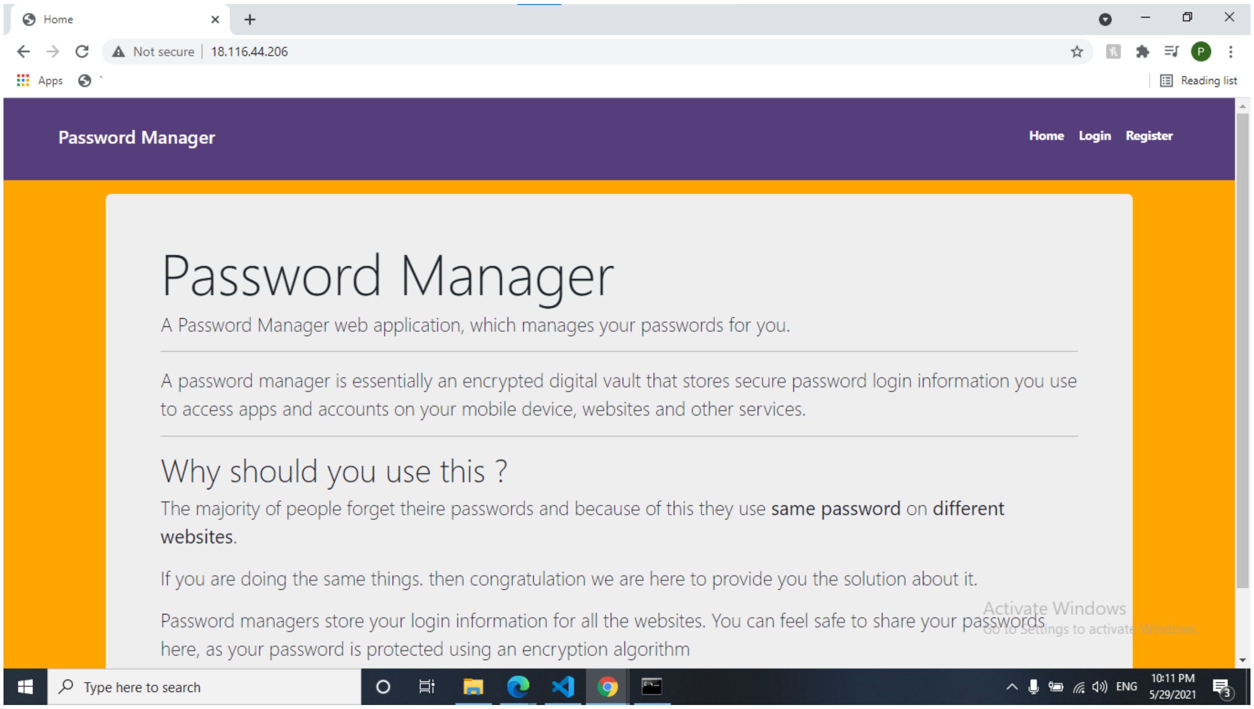
4 Experimental Setup

4.1 System Requirements

Operating System: Ubuntu, Windows 10

Hardware Requirement: Intel i3 core processor, Ram size 8GB

5 Result:



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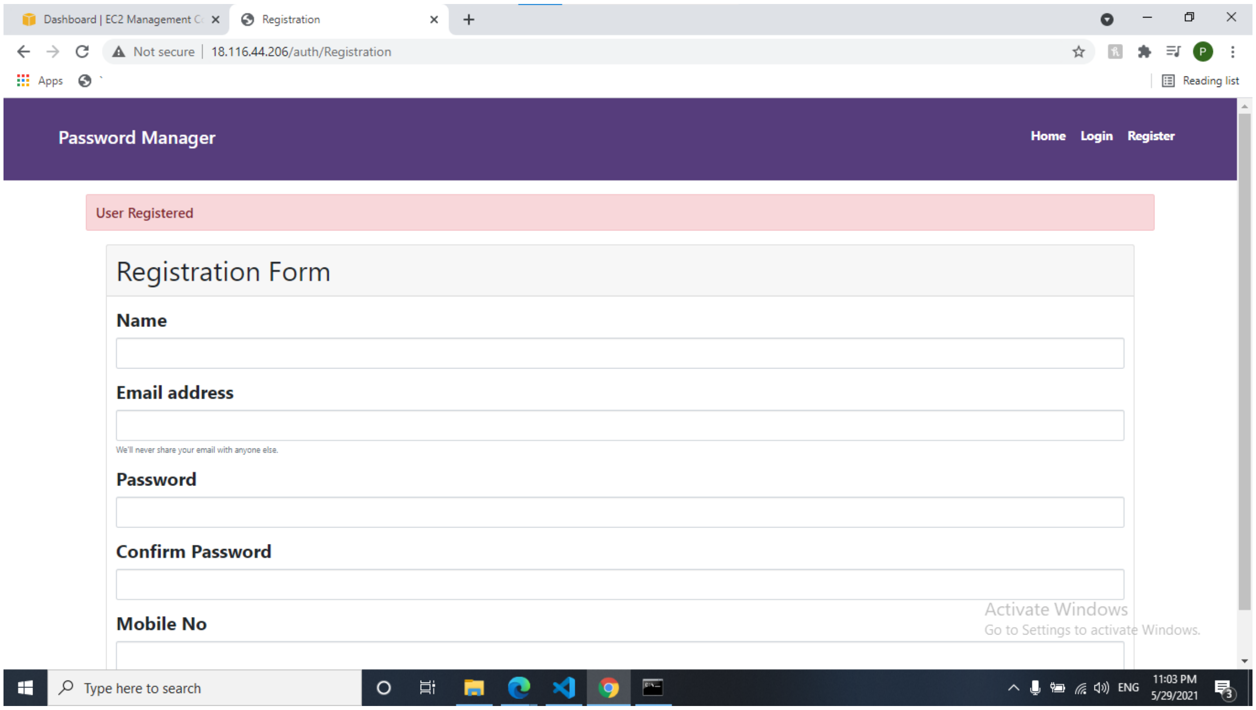


User Registered

Registration Form

Name

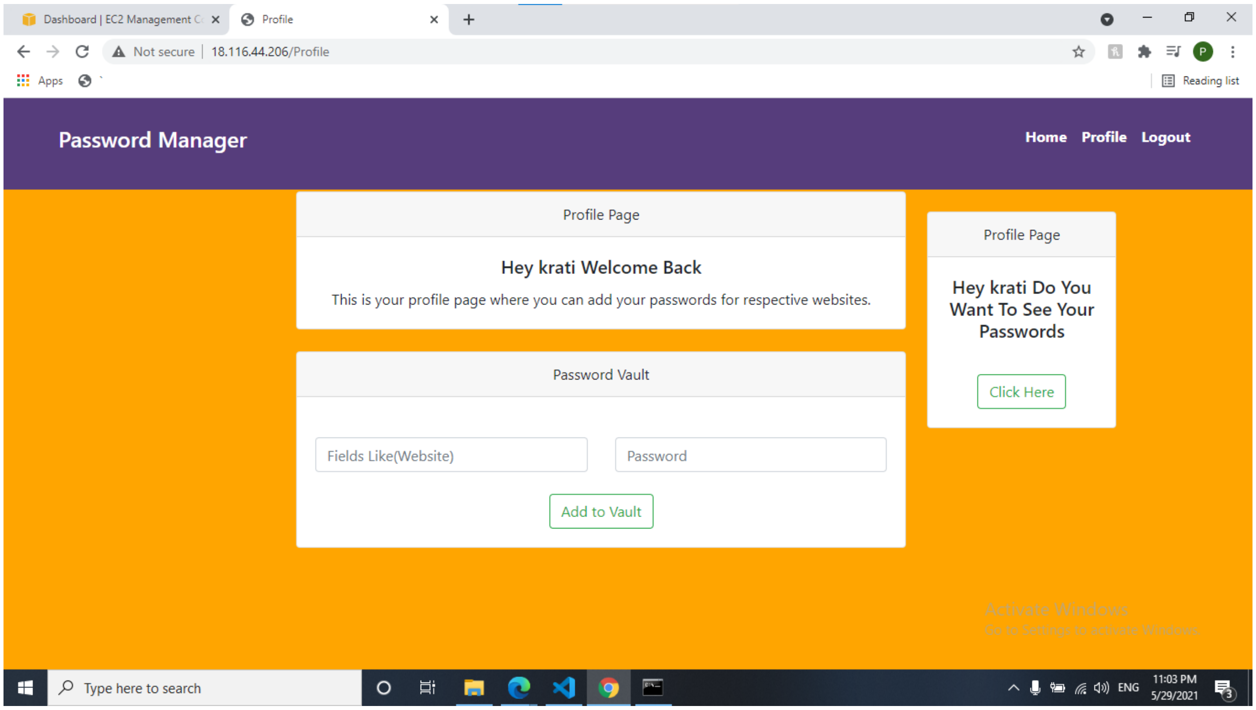
Email address

We'll never share your email with anyone else.

Password

Confirm Password

Mobile No



Password Manager

Profile Page

Hey krati Welcome Back

This is your profile page where you can add your passwords for respective websites.

Password Vault

Fields Like(Website)

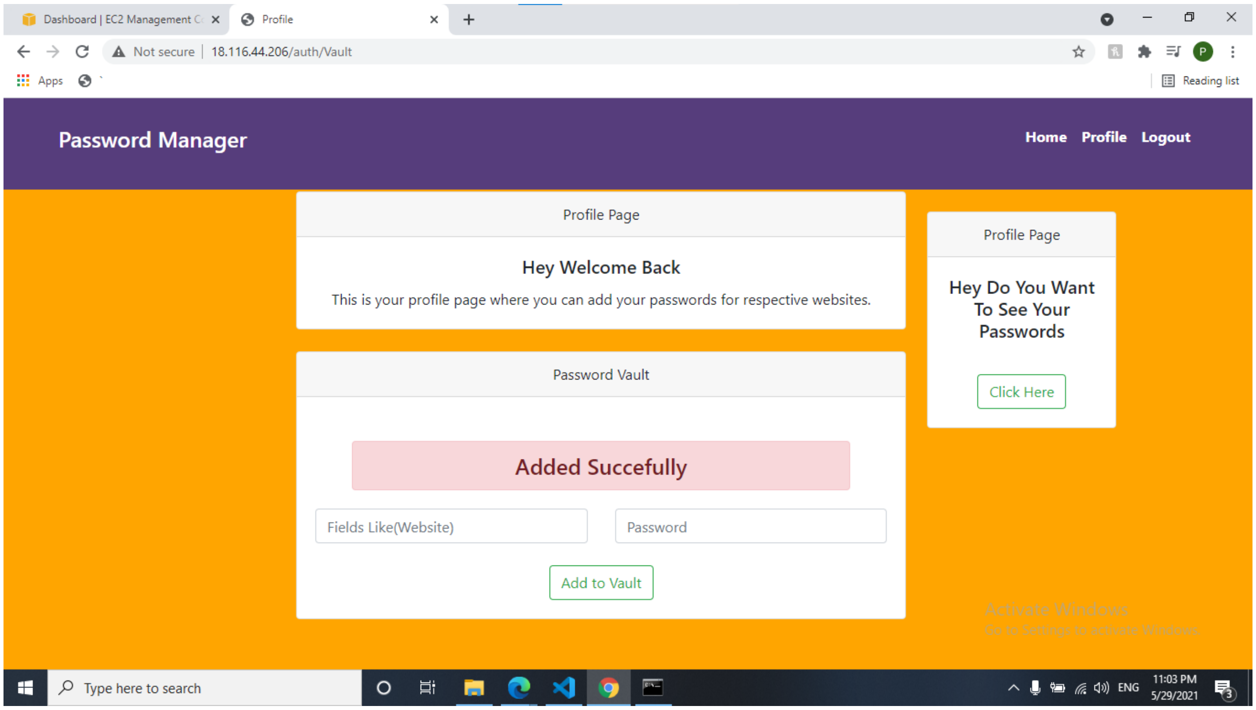
Password

Add to Vault

Profile Page

Hey krati Do You Want To See Your Passwords

Click Here



Password Manager

Profile Page

Hey Welcome Back

This is your profile page where you can add your passwords for respective websites.

Password Vault

Added Succefully

Fields Like(Website)

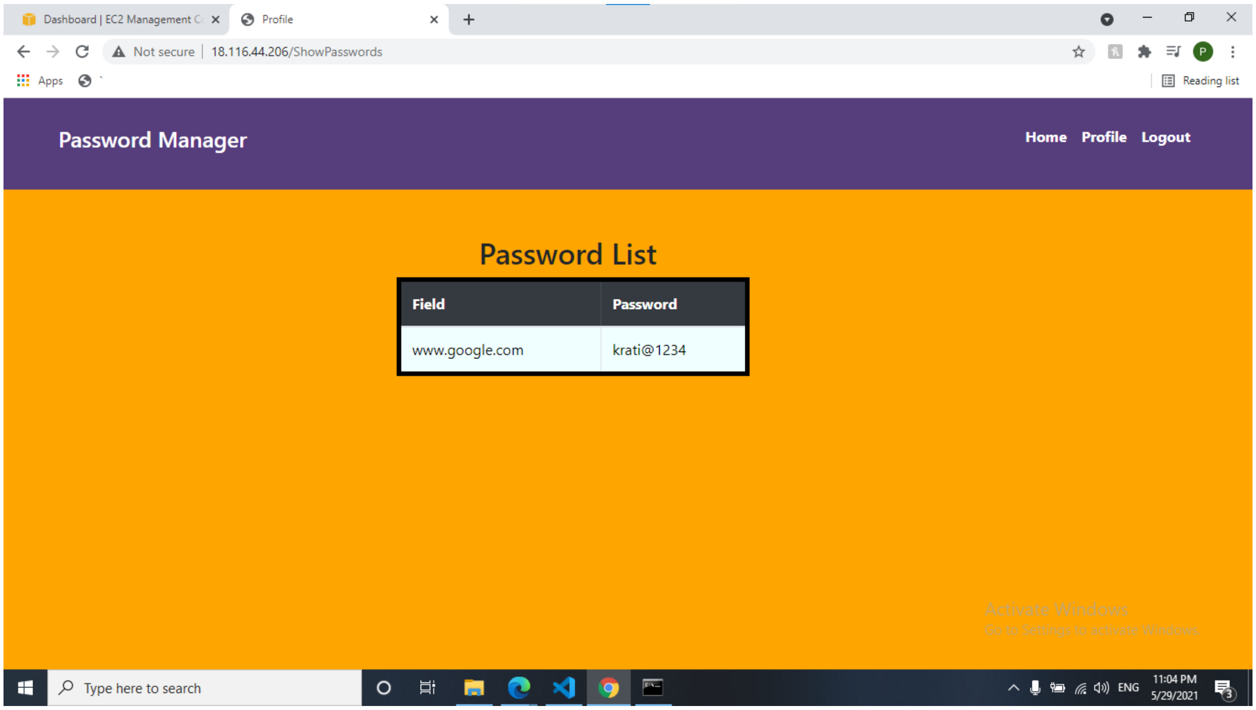
Password

Add to Vault

Profile Page

Hey Do You Want To See Your Passwords

Click Here



Password Manager

Password List

Field	Password
www.google.com	krati@1234

6 Applications:

6.1 Applications:

Cloud computing has been credited with increasing competitiveness through cost reduction, greater flexibility, elasticity and optimal resource utilization

- Infrastructure as a Service(IaaS) and Platform as a Service(PaaS)
- Private cloud and hybrid cloud
- Test and development
- Big Data Analytics
- File storage
- Disaster recovery
- Backing up the data
- Weather forecasting
- Control of heating and cooling devices
- Signal processing
- Controlling different functions of aircraft.

7. Conclusion:

7.1 Conclusion

Thus, we successfully setup our own cloud for Software as a Service (SaaS), designed and implemented the basic operations like creating an account, login , adding new password, check the save password list.

8. References

1. https://aws.amazon.com/
2. https://en.wikipedia.org/wiki/Cloud_computing
3. https://aws.amazon.com/ec2