AUTOSHOP

Deployment of AUTOSHOP in Various Cloud Platforms

Project Report Submitted by

JISHNUMON PB

Reg. No: LAJC16MCA042

In Partial fulfilment for the award of the degree

of

MASTER OF COMPUTER APPLICATIONS (MCA)

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

AMAL JYOTHI COLLEGE OF ENGINEERING

KANJIRAPPALLY

[Affiliated to APJ Abdul Kalam Technological University, Kerala. Approved by AICTE, Accredited By NAAC with 'A' grade. Koovappally, Kanjirappally, Kottayam, Kerala - 686518]

2017-2019

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DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

CERTIFICATE

This is to certify that the project entitled **"AUTOSHOP"** is a bonafide record of the work done by **JISHNUMON PB LAJC16MCA042,** during the academic year **2017-2019** carried out under our supervision. It is certified that all corrections/suggestions indicated for assessment have been incorporated in the report. The work report has been approved as it satisfies the academic requirements in respect of the project work prescribed by the university for the Master of Computer Applications Degree. Certified further, that to the best of our knowledge the exact work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this to any other candidate.

Fr. RubinThottupuram	**Mr. Binumon Joseph**	**Mr. Jinson Devis**
Head of the Department	Project Coordinator	Project Supervisor

External Expert appointed by the university

DECLARATION

I hereby declare that the project report **"AUTOSHOP"** is a bonafide work done at Amal Jyothi College of Engineering, towards the partial fulfilment of the requirements for the award of the Degree of Master of Computer Applications (MCA) from APJ Abdul Kalam Technological University, during the academic year 2017-2019.

Date..... **JISHNUMON PB**

KANJIRAPPALLY **Reg. No: LAJC16MCA042**

ACKNOWLEDGEMENT

First and foremost, I thank Almighty God for his gracious guidance through the project. I take this opportunity to express my gratitude to all those who have helped me in completing the project successfully

It has been said that gratitude is the memory of the heart. I acknowledge my deep sense of gratitude to our manager **Rev. Fr. Dr. Mathew Paikatt** for providing all the infrastructural facilities for us, our Principal **Dr. Z V Lakaparampil** for providing good faculty for guidance.

I take the immense pleasure in expressing my thanks to Head of the Department of Master of Computer Applications, **Fr. Rubin Thottupuram**, for his kind patronages in making this project a successful one. I would like to extend my sincere thanks to our coordinator **Mr. Binumon Joseph** my project guide **Mr. Jinson Devis** for their guidance and cooperation, without which this would not have been a success.

I am indebted to my beloved teachers whose cooperation and suggestions throughout the project which helped me a lot. I also thank all my friends and classmates for their interest, dedication and encouragement shown towards the project. I convey hearty thanks to parents for the moral support, suggestion and encouragement to make this venture a success.

JISHNUMON PB

ABSTRACT

The project entitled '**Autoshop'** is an online Automobile shopping system that allows web users to purchase used vehicles online without visiting any physical location. **'Autoshop'** allows the user to purchase Automobile online and Bid vehicles in Auction. The Site Administrator updates the information about new Automobiles concurrently. Only registered customers can purchase Automobiles bid from Autoshop. The user must register in the site to access their accounts, after login they can buy used vehicles by bidding Automobiles which are available for auction. The user can bid a vehicle with a high rate than the latest Bid Rate, before the date expires. After date expires, the site sends the Confirmation letter to the user who bid the car with highest rate through email-id which they specified.

This system allows the users to search items category wise, then Brand wise and Model wise. Thus this system provides all the basic functionalities to a user who would like to purchase used cars in online.

INTRODUCTION

Autoshop is an online website which helps the users to easily view all the products and their accessories and buy vehicles in online. The system consists of three modules: products, users and administrator. For higher availability the project has been hosted in various cloud platforms such as Google cloud platform, Amazon AWS, Microsoft azure.

Google Cloud Platform- Google Cloud Platform, offered by Google, is a suite of cloud computing services that runs on the same infrastructure that Google uses internally for its end-user products, such as Google Search and YouTube. Alongside a set of management tools, it provides a series of modular cloud services including computing, data storage, data analytics and machine learning. Registration requires a credit card or bank account details.

Amazon AWS-Amazon Web Services (AWS) is a subsidiary of Amazon.com that provides on-demand cloud computing platforms to individuals, companies and governments, on a paid subscription basis. AWS's version of virtual computers have most of the attributes of a real computer including hardware (CPU(s) & GPU(s) for processing, local/RAM memory, hard-disk/SSD storage); a choice of operating systems; networking; and pre-loaded application software such as web servers, databases, CRM, etc. The browser acts as a window into the virtual computer, letting subscribers log-in, configure and use their virtual systems just as they would a real physical computer.

Microsoft Azure-Microsoft Azure (formerly Windows Azure) is a cloud computing service created by Microsoft for building, testing, deploying, and managing applications and services through a global network of Microsoft-managed data centres. It provides software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS) and supports many different programming languages, tools and frameworks, including both Microsoft-specific and third-party software and systems.

The website has been tested using various kali Linux tools for testing the vulnerability of the site such as JSQL, The Mole

JSQL- JSQL Injection is a Java-based automated SQL injection tool used to find database information from a distant server. Provides a common way of using SQL from within Java to access a database.it is free, open source and cross-platform (Windows, Linux, Mac OS X, Solaris).

The Mole is a vulnerability scanner that scans web servers for thousands of vulnerabilities and other known issues. It is very easy to use and does everything itself, without much instructions. It is included by default in pen testing distorts like Kali Linux.

For additional security purpose SSL certificate is integrated

SSL Certificates are small data files that digitally bind a cryptographic key to an organization's details. When installed on a web server, it activates the padlock and the https protocol and allows secure connections from a web server to a browser.

The search engine optimization technique used is Bing webmaster

Bing Webmaster Tools is a free service as part of Microsoft's Bing search engine which allows webmasters to add their websites to the Bing index crawler. The service also offers tools for webmasters to troubleshoot the crawling and indexing of their website, Sitemap creation, submission and ping tools, website statistics, consolidation of content submission, and new content and community resources.

Also, the project included with some additional features such as Google AdWords, Online chat and Voice search etc. Google AdWords is an online advertising service developed by Google, where advertisers pay to display brief advertising copy, product listings, and video content within the Google ad network to web users. Google AdWords' system is based partly on cookies and partly on keywords determined by advertisers. Google uses these characteristics to place advertising copy on pages where they think it might be relevant. Advertisers pay when users divert their browsing to click on the advertising copy. Partner websites receive a portion of the generated income.

PART 1

DEPLOYMENT OF THE APPLICATION IN VARIOUS CLOUD PLATFORMS

P1.1 Google Cloud Platform

P1.1.1 Introduction To Google Cloud Platform

With Google Cloud Platform (GCP), you can build, test, and deploy applications on Google's highly-scalable and reliable infrastructure for your web, mobile, and backend solutions.

Overview

This overview is designed to help you understand the overall landscape of Google Cloud Platform (GCP). Here, you'll take a brief look at some of the commonly used features and get pointers to documentation that can help you go deeper. Knowing what's available and how the parts work together can help you make decisions about how to proceed. You'll also get pointers to some tutorials that you can use to try out GCP in various scenarios. And GCE allows administrators to select the region and zone where certain data resources will be stored and used. Currently, GCE has three regions: United States, Europe and Asia. Each region has two availability zones and each zone supports either Ivy Bridge or Sandy Bridge processors. GCE also offers a suite of tools for administrators to create advanced networks on the regional level.

GCP resources

GCP consists of a set of physical assets, such as computers and hard disk drives, and virtual resources, such as virtual machines (VMs), that are contained in Google's data centers around the globe. Each data center location is in a global *region*. Regions include Central US, Western Europe, and East Asia. Each region is a collection of *zones*, which are isolated from each other within the region. Each zone is identified by a name that combines a letter identifier with the name of the region. For example, zone an in the East Asia region is named Asia-east1-a

Accessing resources through services

In cloud computing, what you might be used to thinking of as software and hardware products, become *services*. These services provide access to the underlying resources. The list of available GCP services is long, and it keeps growing. When you develop your website or application on GCP, you mix and match these services into combinations that provide the infrastructure you need, and then add your code to enable the scenarios you want to build.

Global, regional, and zonal resources

Some resources can be accessed by any other resource, across regions and zones. These global resources include preconfigured disk images, disk snapshots, and networks. Some resources can be accessed only by resources that are located in the same region.

Persistent disk

Every Google Compute Engine instance starts with a disk resource called persistent disk. Persistent disk provides the disk space for instances and contains the root filesystem from which the instance boots. Persistent disks can be used as raw block devices. By default, Google Compute Engine uses SCSI for attaching persistent disks. Persistent Disks provide straightforward, consistent and reliable storage at a consistent and reliable price, removing the need for a separate local ephemeral disk. Persistent disks need to be created before launching an instance.

Projects

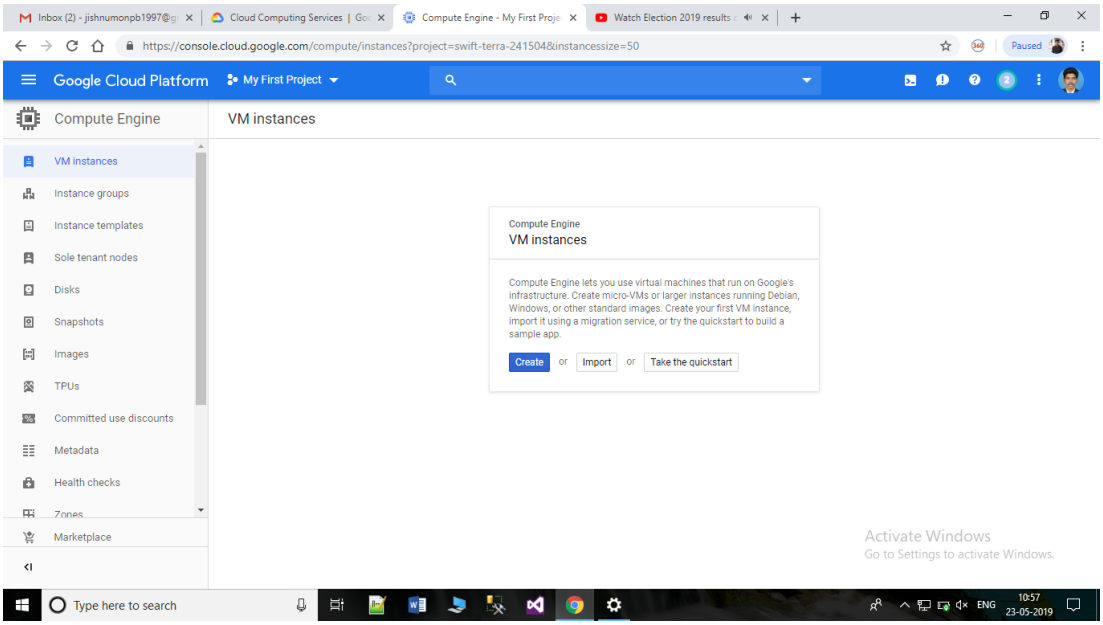
Any GCP resources that you allocate and use must belong to a project. You can think of a project as the organizing entity for what you're building. A project is made up of the settings, permissions, and other metadata that describe your applications. Resources within a single project can work together easily, for example by communicating through an internal network, subject to the regions-and-zones rules. The resources that each project contains remain separate across project boundaries; you can only interconnect them through an external network connection.

Each GCP project has:

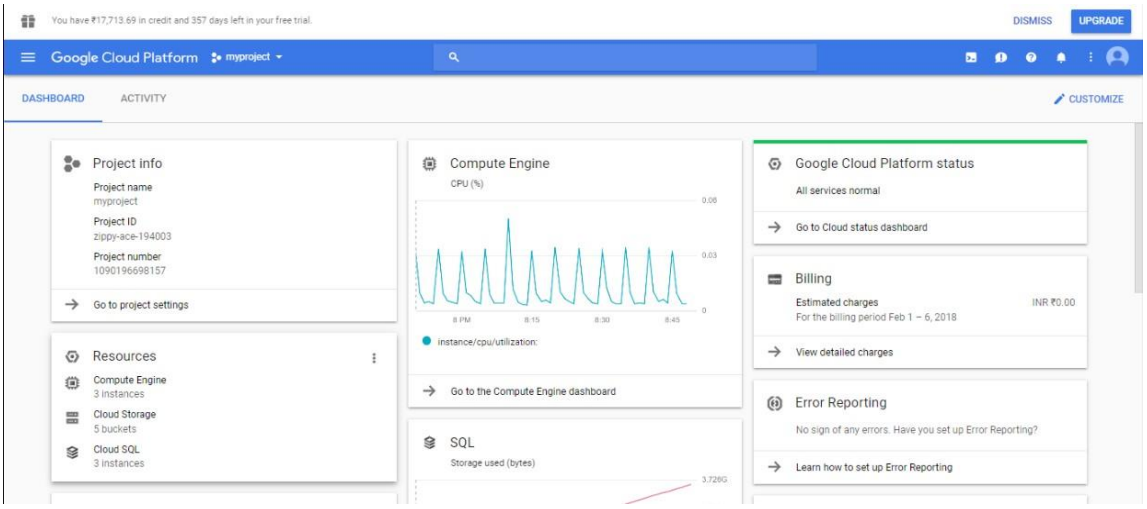
- A project name, which you provide.
- A project ID, which you can provide or GCP can provide for you.
- A project number, which GCP provides.

P1.1.2 Compute Engine for the implementation of Application

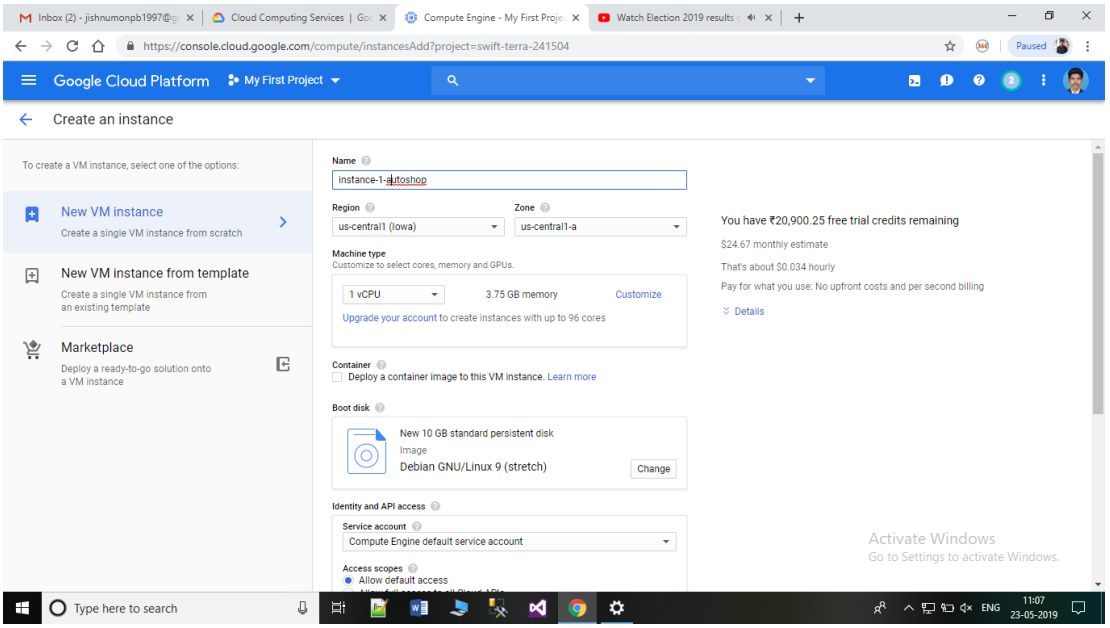
Step 1- Log on to google cloud platform account

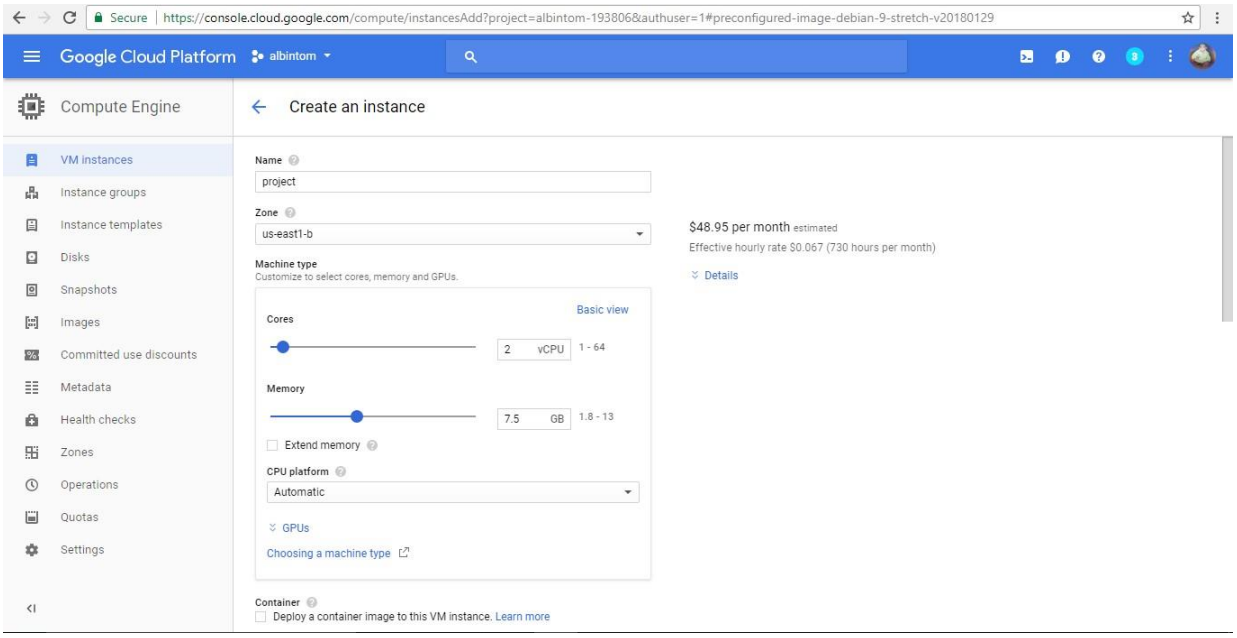


Step 2- Creating a new project



Step 3-Creating a new virtual machine instance Compute Engine

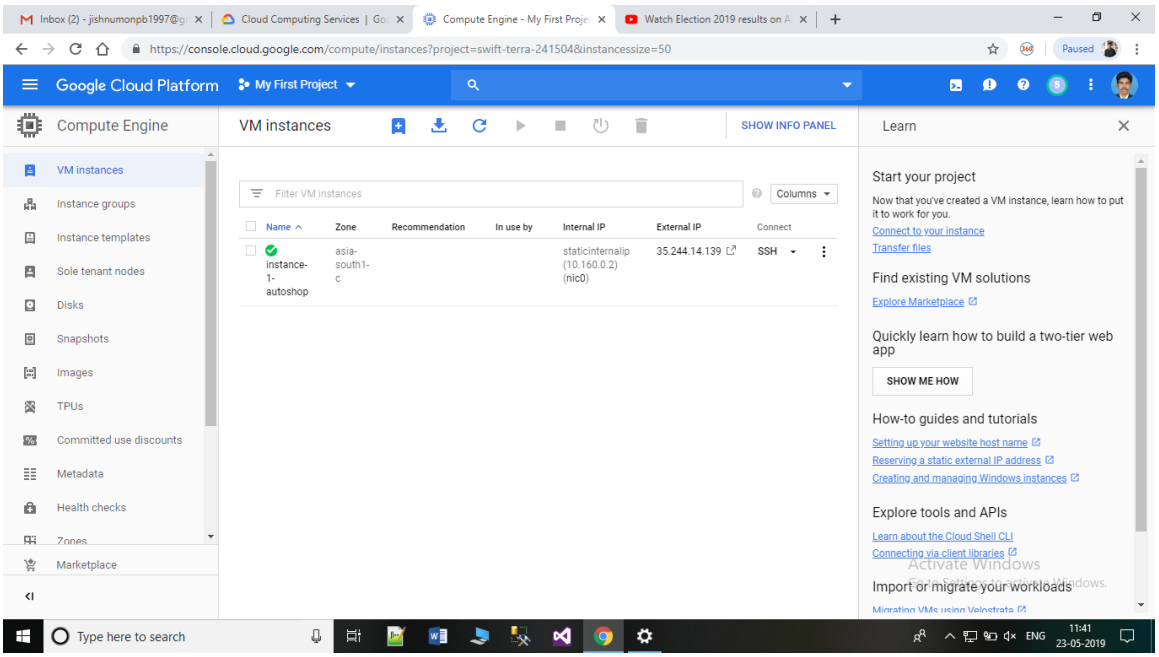




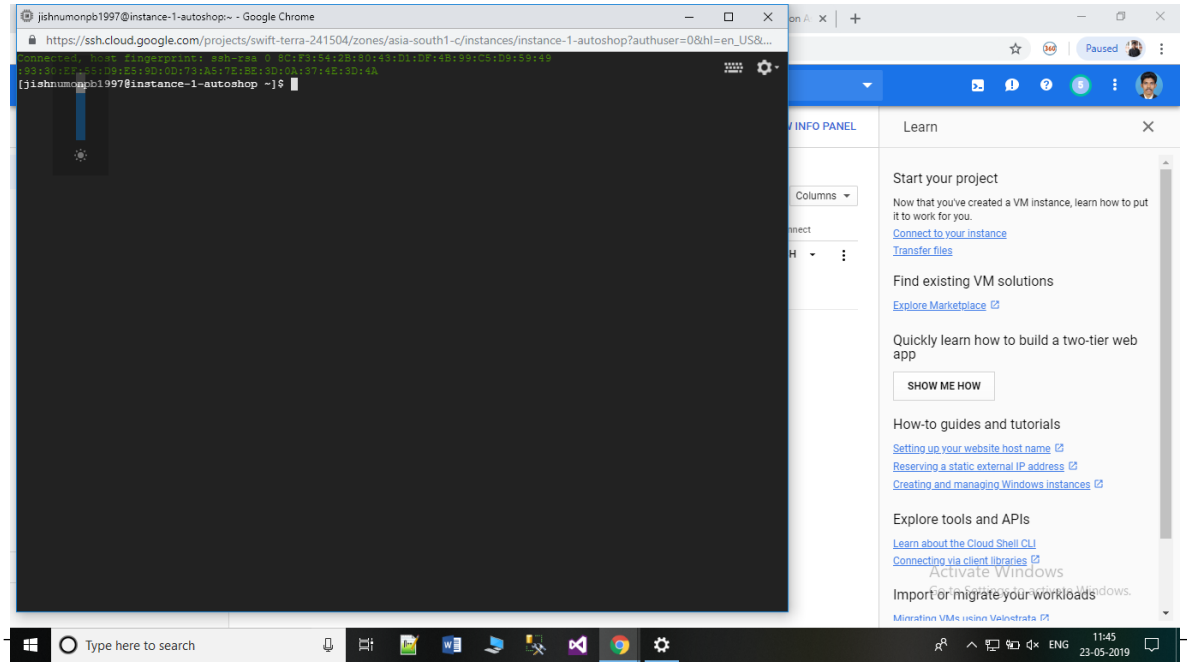
Step 4- Connecting to cloud Secure shell

sudo -s

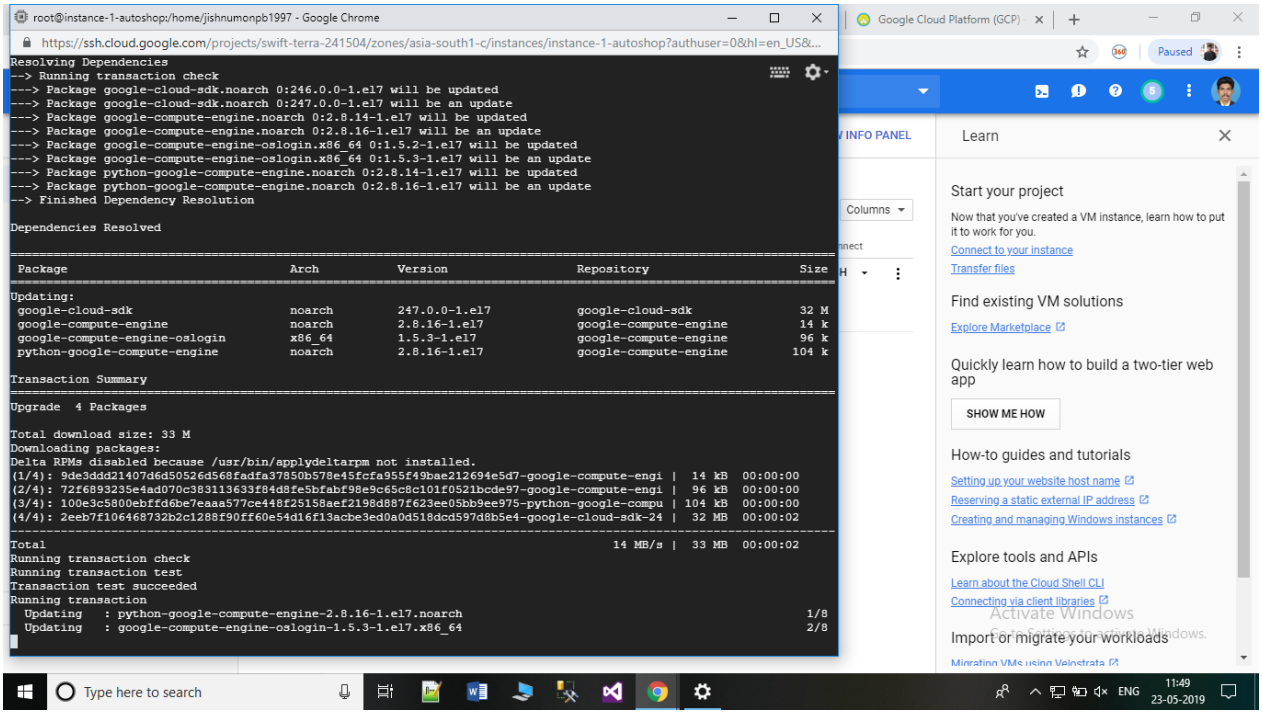
yum update -y yum install -y perl yum install -y wget



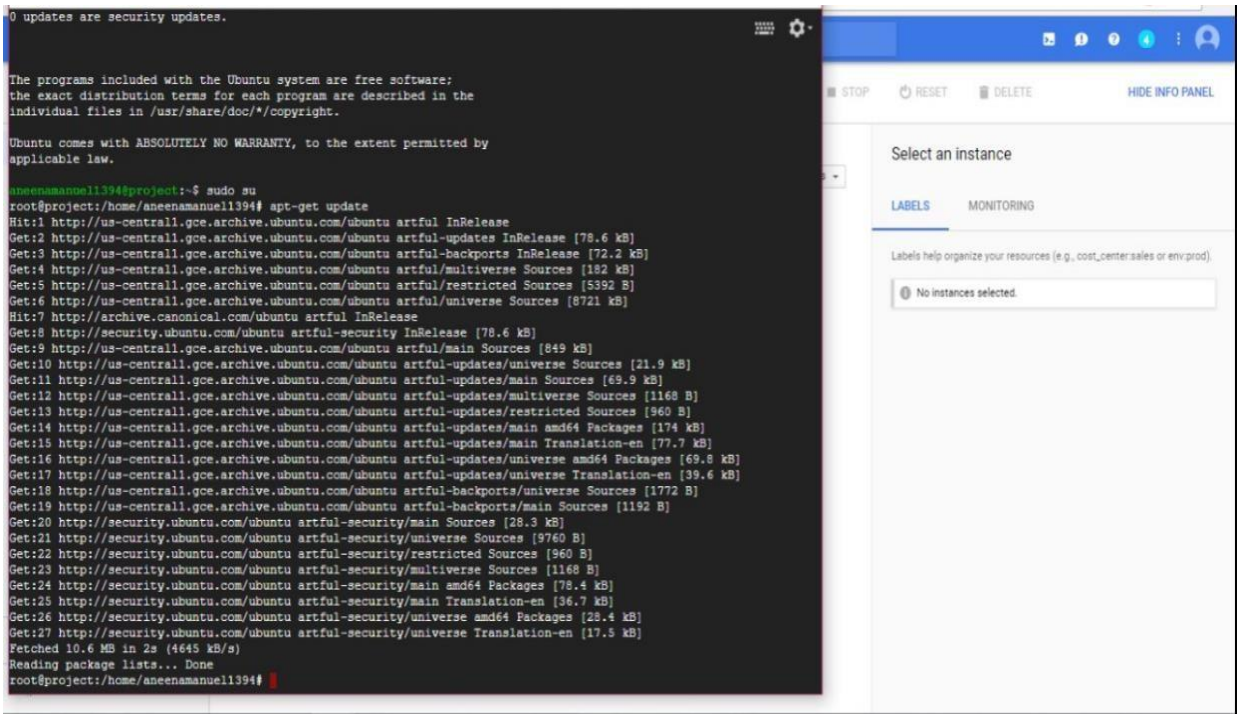
Open shell Terminal



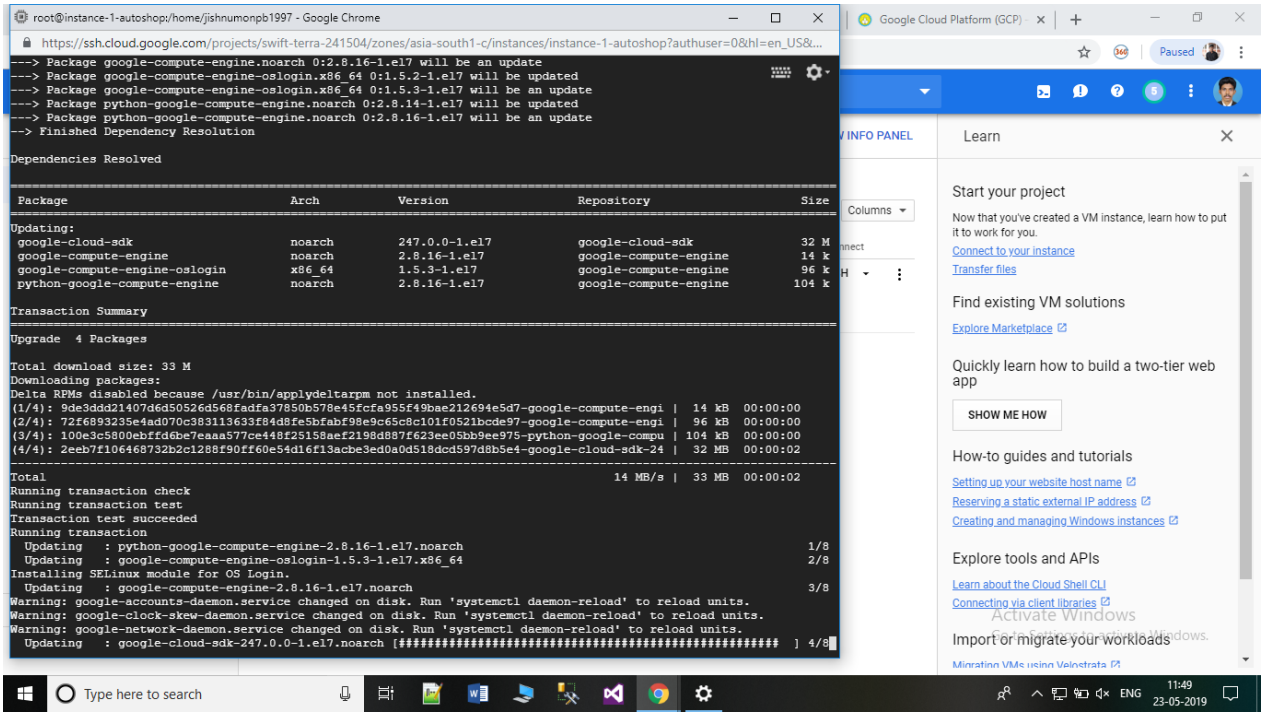
Type sudo -s to get admin permission

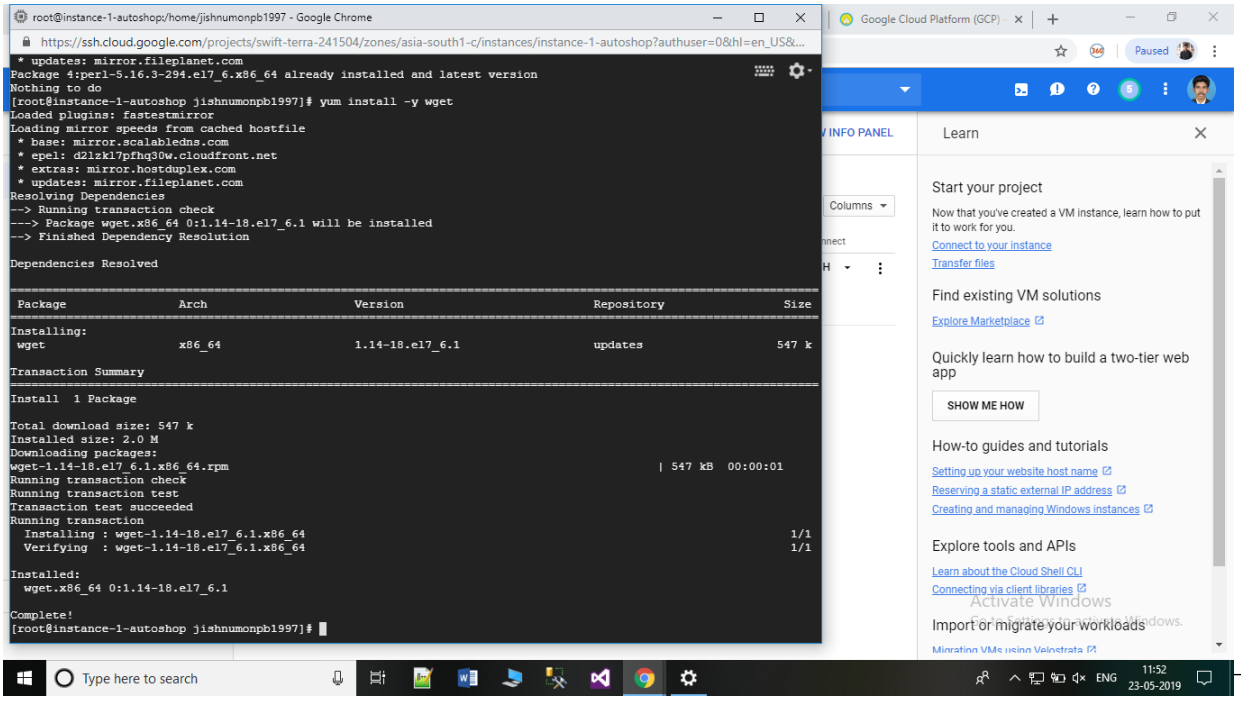


Type apt-get update for Package updation

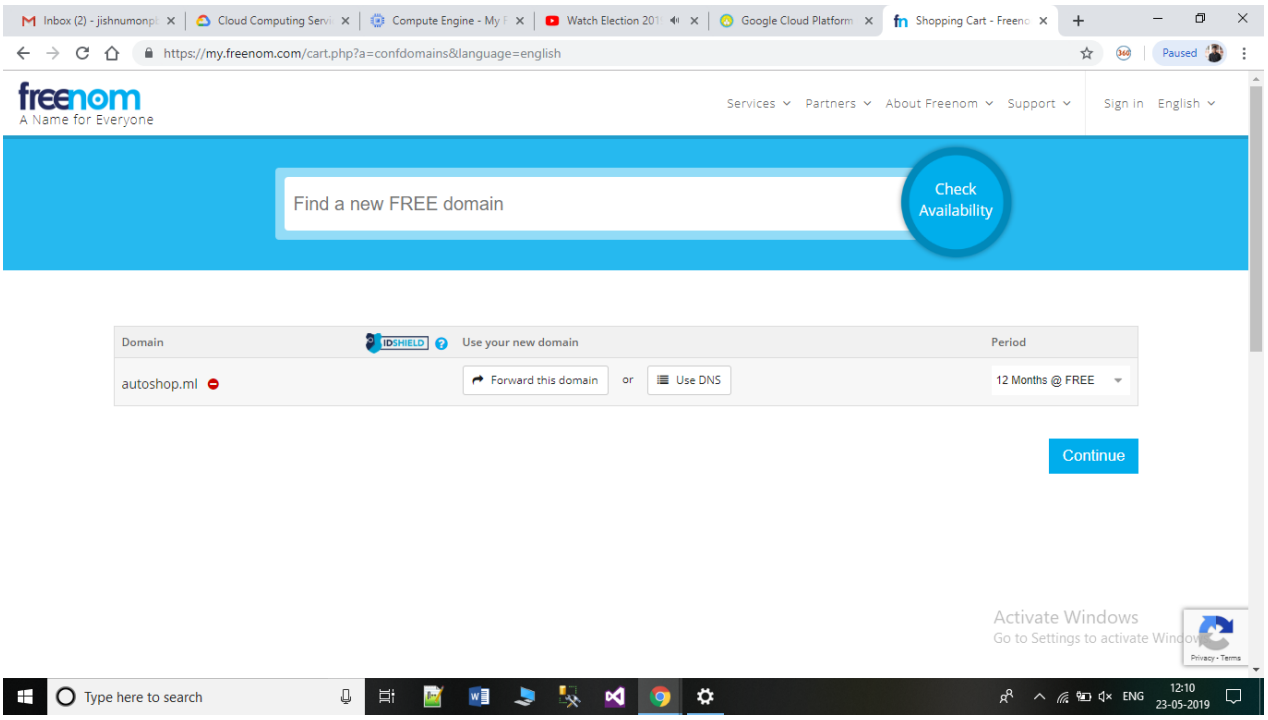


Installing Packages Yum install -y perl

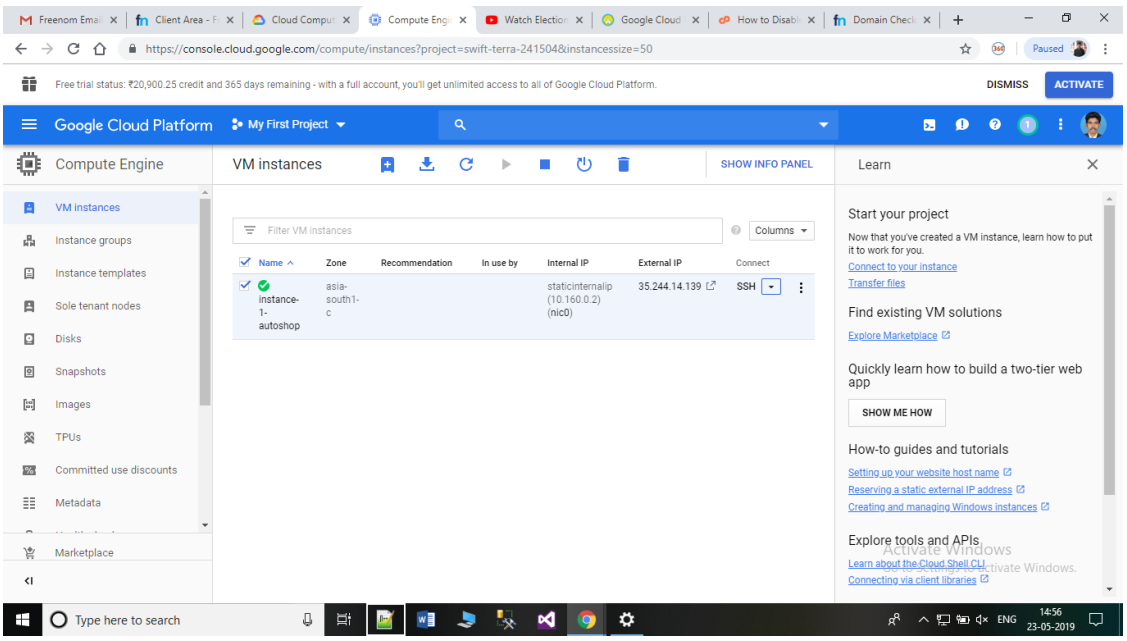




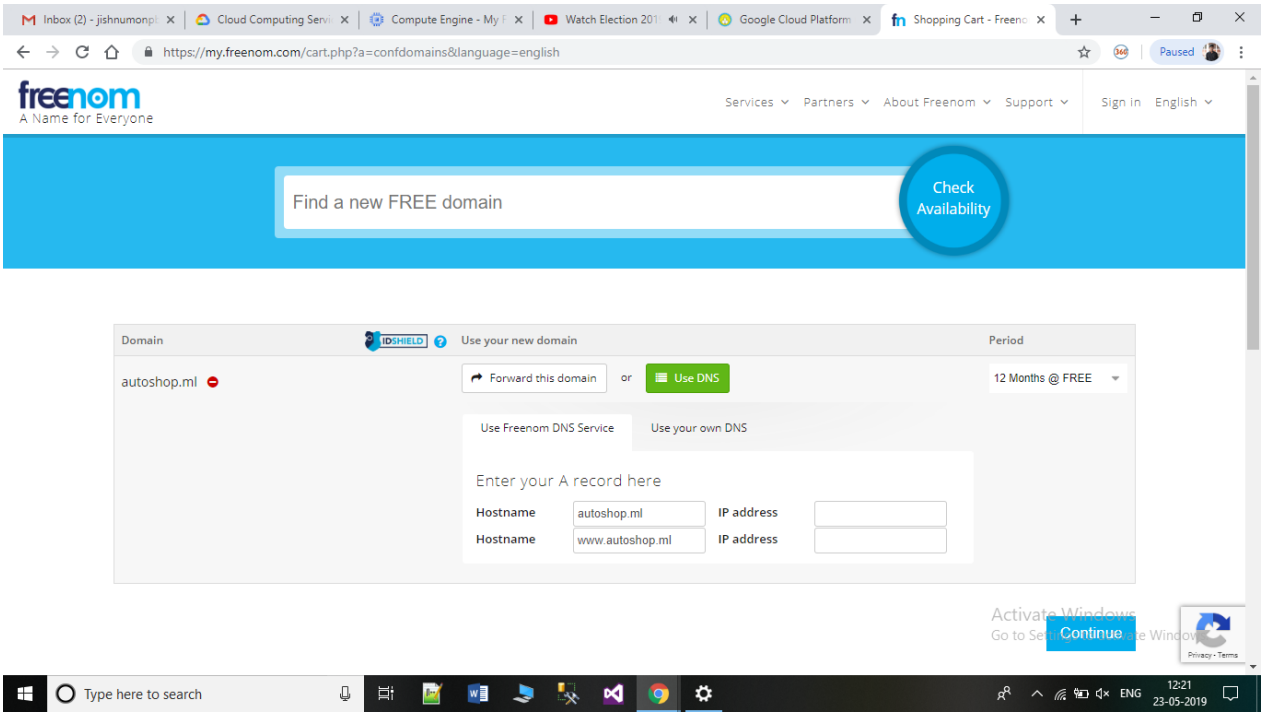
Step 5-Purchase Domain From freenom



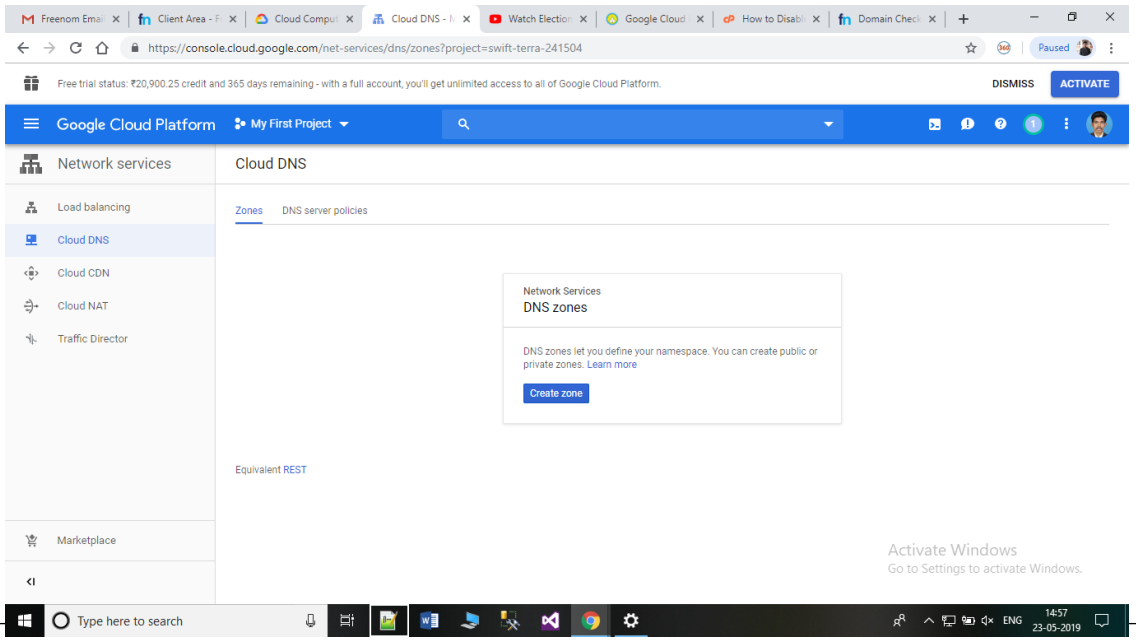
Copying External IP from vm instance

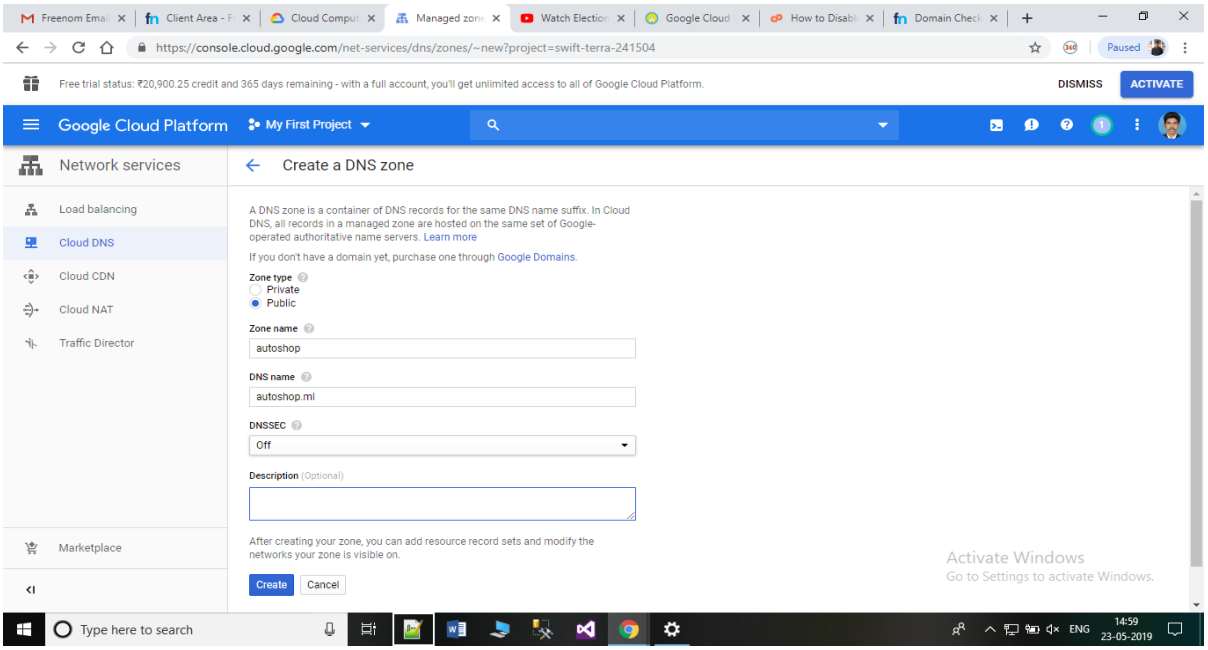


Step 6-Enter host name and ip address in freenom

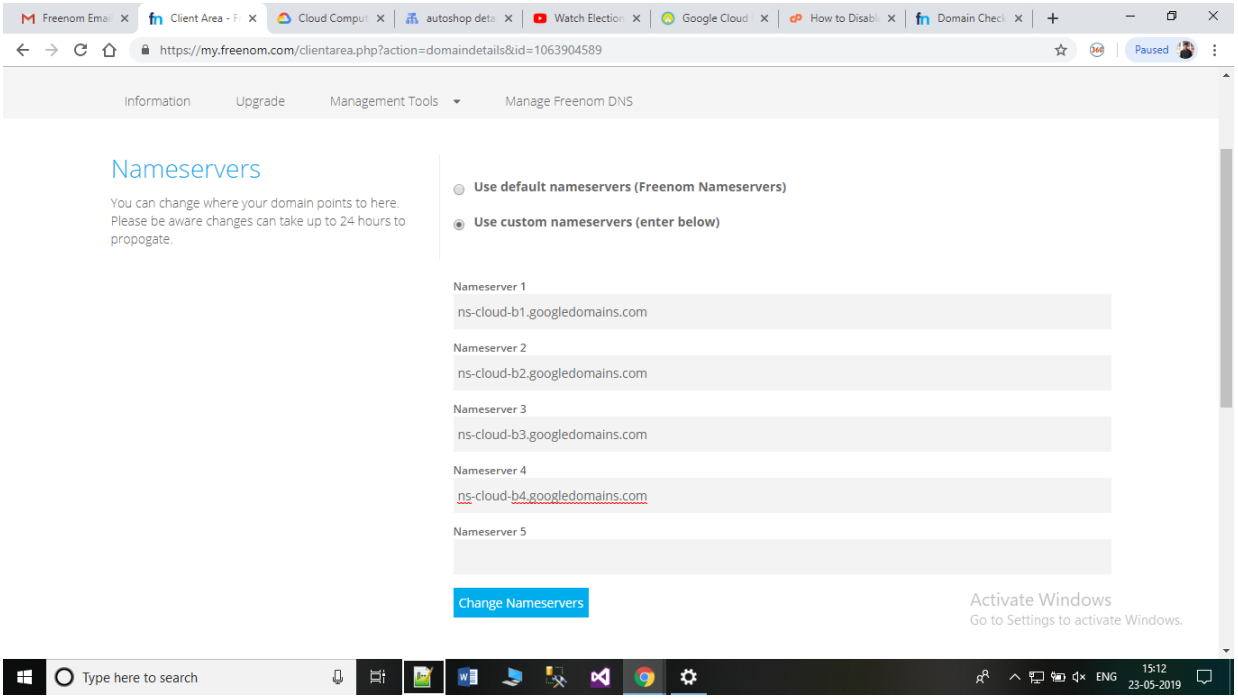


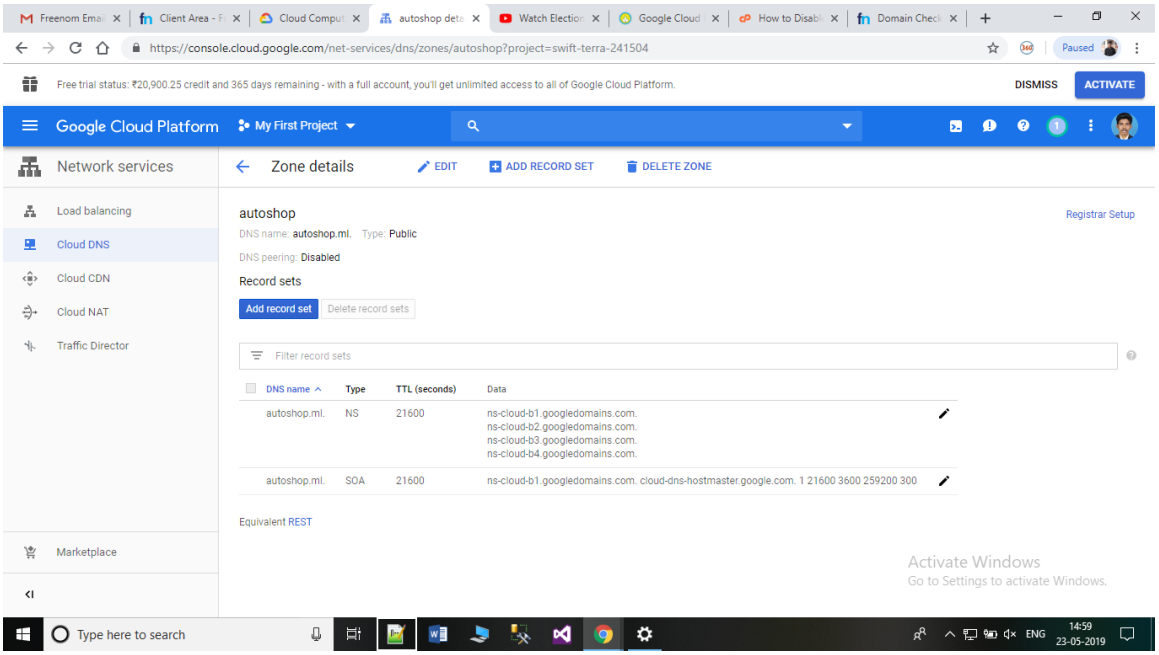
Step 7-Create cloud DNS Zone



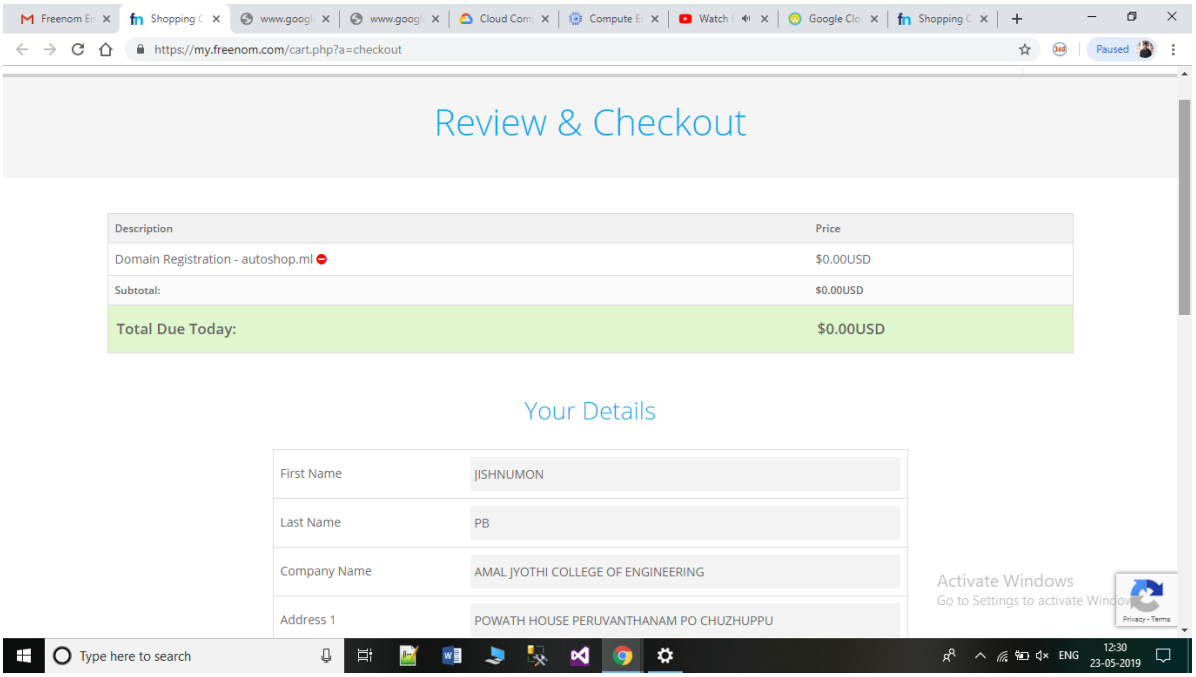


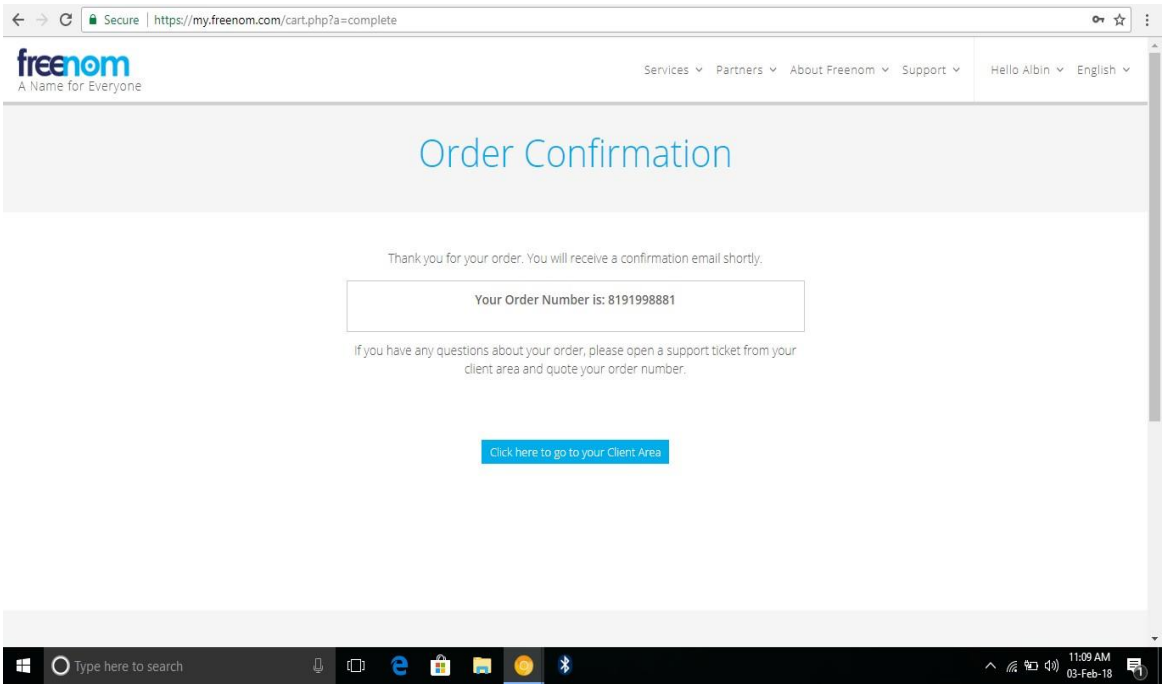
Step 8-Enter nameserver ip addres





We Get our Domain From freenom-.ml




Secure | https://my.freenom.com/cart.php?a=complete
freenom
A Name for Everyone
Services
Partners
About Freenom
Support
Hello Albin
English
Order Confirmation
Thank you for your order. You will receive a confirmation email shortly.
Your Order Number is: 8191998881
If you have any questions about your order, please open a support ticket from your client area and quote your order number.
Click here to go to your Client Area
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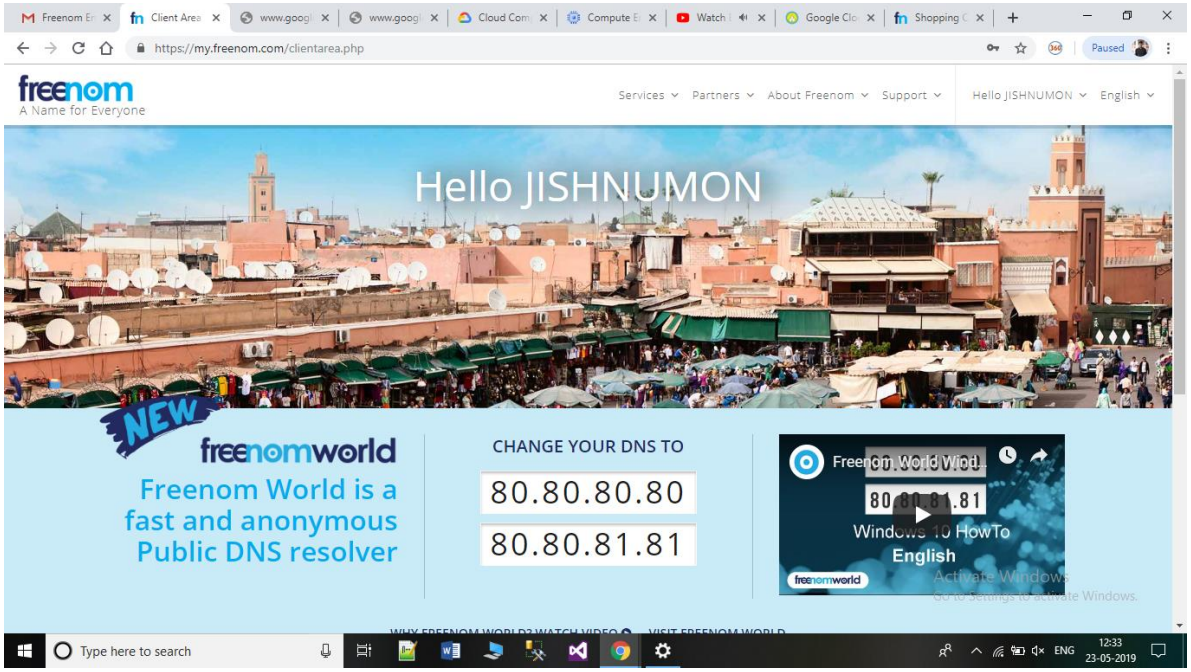
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A Name for Everyone
Services
Partners
About Freenom
Support
Hello JISHNUMON
English
Hello JISHNUMON
NEW
freenomworld
Freenom World is a fast and anonymous Public DNS resolver
CHANGE YOUR DNS TO
80.80.80.80
80.80.81.81
Windows 10 HowTo
English
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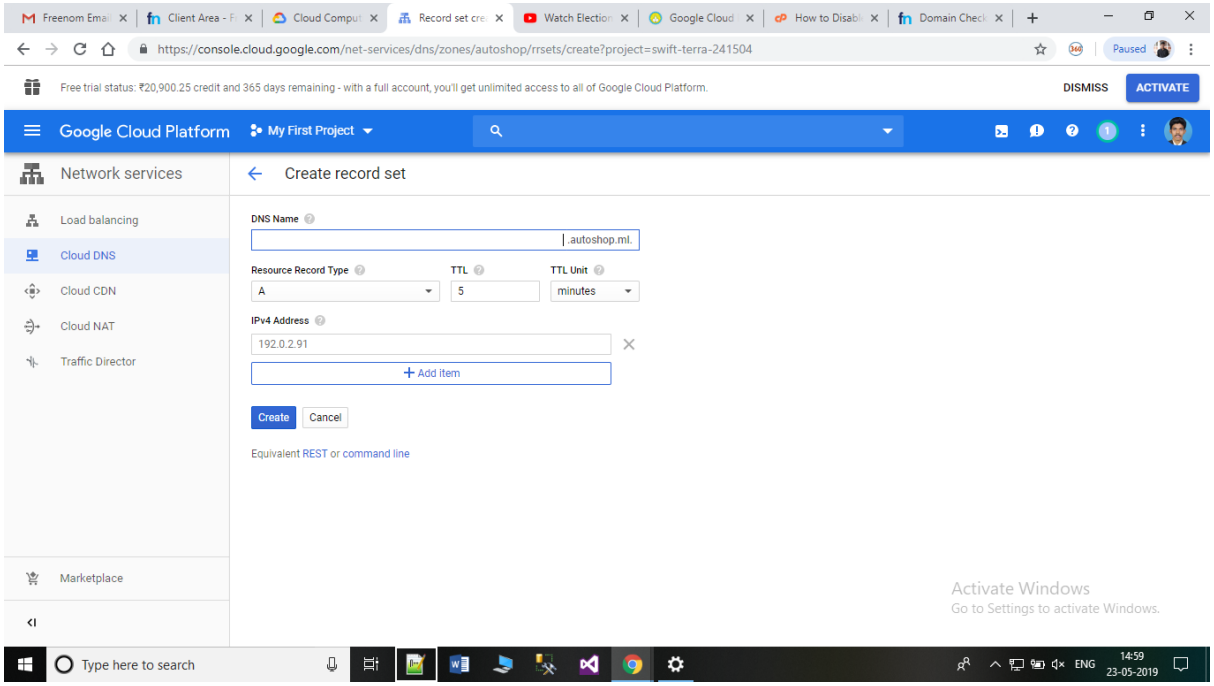
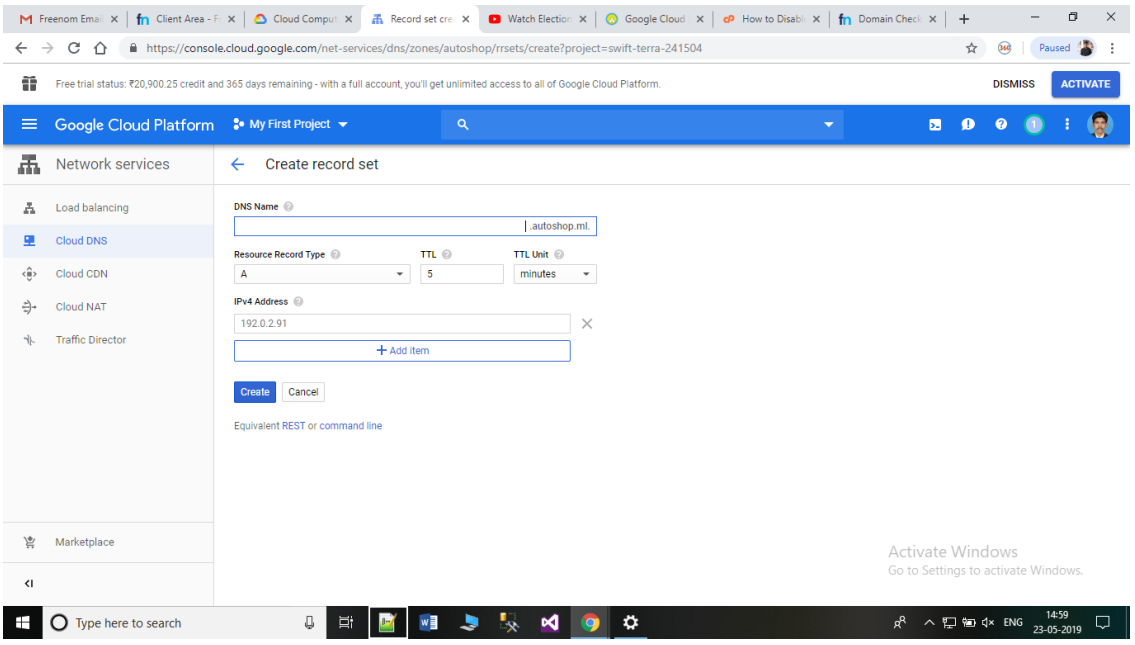
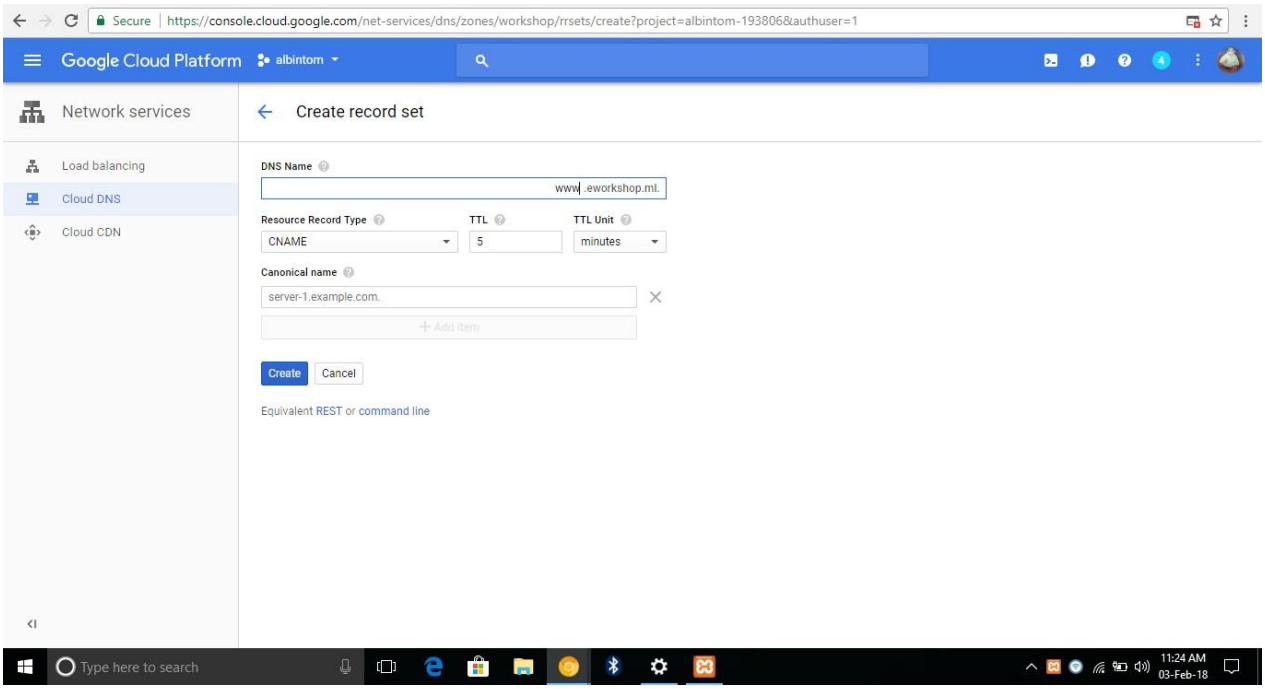
Step 9-Add Record set in that DNS Zone. Create a recordset as Type A and CNAME



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Google Cloud Platform
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Network services
Load balancing
Cloud DNS
Cloud CDN
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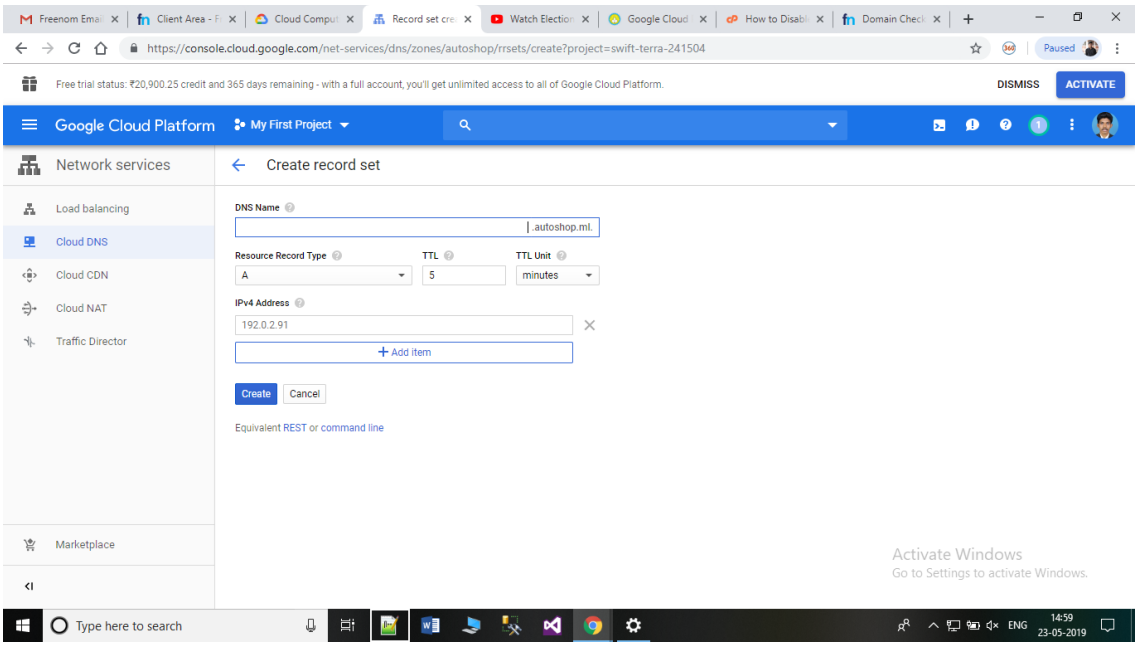
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Free trial status: ₹20,900.25 credit and 365 days remaining - with a full account, you'll get unlimited access to all of Google Cloud Platform.
DISMISS
ACTIVATE
Google Cloud Platform
My First Project
Network services
Load balancing
Cloud DNS
Cloud CDN
Cloud NAT
Traffic Director
Marketplace
Create record set
DNS Name
.autoshop.ml.
Resource Record Type
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IPv4 Address
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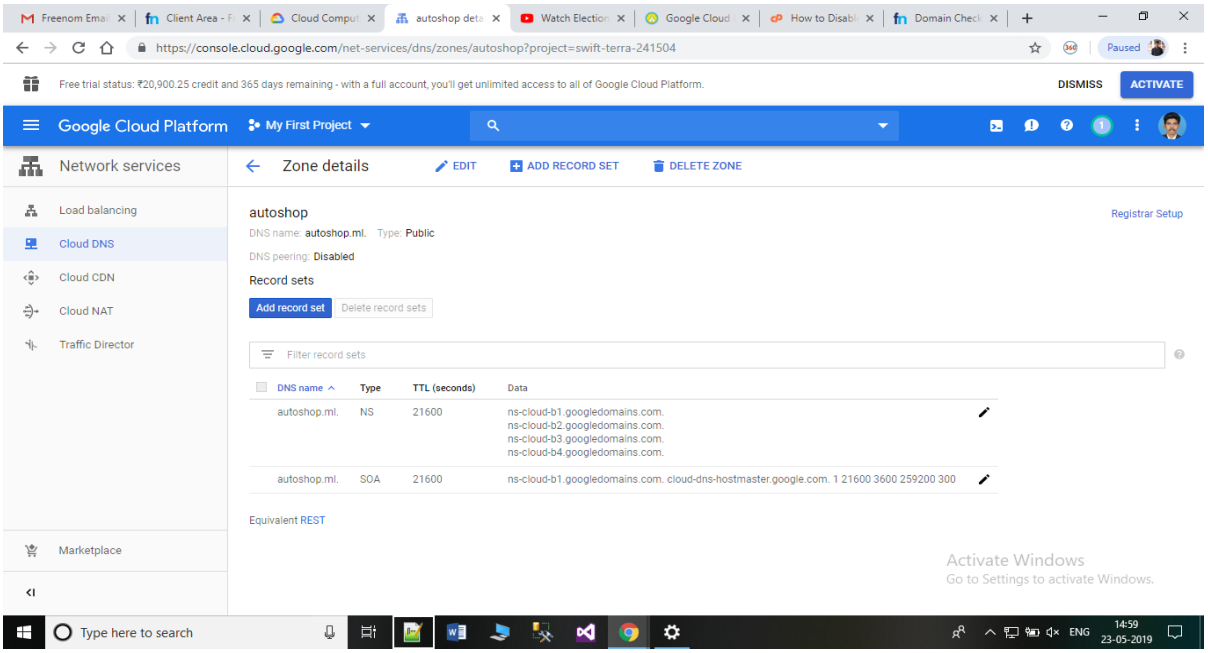
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DISMISS
ACTIVATE
Google Cloud Platform
My First Project
Network services
Load balancing
Cloud DNS
Cloud CDN
Cloud NAT
Traffic Director
Marketplace
Zone details
EDIT
ADD RECORD SET
DELETE ZONE
autoshop
DNS name: autoshop.ml. Type: Public
DNS peering: Disabled
Registrar Setup
Record sets
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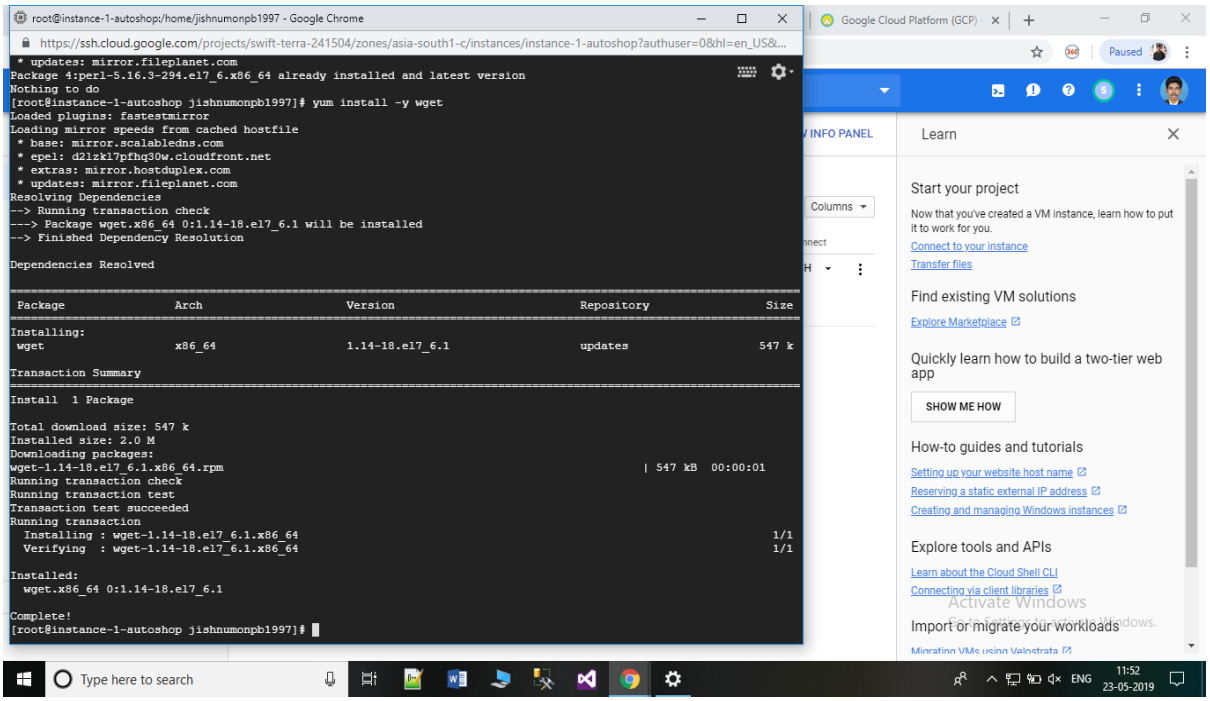
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https://ssh.cloud.google.com/projects/swift-terra-241504/zones/asia-south1-c/instances/instance-1-autoshop?authuser=0&hl=en_US&...
* updates: mirror.fileplanet.com
Package 4:perl-5.16.3-294.el7_6.x86_64 already installed and latest version
Nothing to do
[root@instance-1-autoshop jishnumonpb1997]# yum install -y wget
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: mirror.scalabledns.com
* epel: d2lzkl7pfhq30w.cloudfront.net
* extras: mirror.hostduplex.com
* updates: mirror.fileplanet.com
Resolving Dependencies
--> Running transaction check
---> Package wget.x86_64 0:1.14-18.el7_6.1 will be installed
--> Finished Dependency Resolution
Dependencies Resolved
Package Arch Version Repository Size
Installing:
wget x86_64 1.14-18.el7_6.1 updates 547 k
Transaction Summary
Install 1 Package
Total download size: 547 k
Installed size: 2.0 M
Downloading packages:
wget-1.14-18.el7_6.1.x86_64.rpm | 547 kB 00:00:01
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Installing : wget-1.14-18.el7_6.1.x86_64 1/1
Verifying : wget-1.14-18.el7_6.1.x86_64 1/1
Installed:
wget.x86_64 0:1.14-18.el7_6.1
Complete!
[root@instance-1-autoshop jishnumonpb1997]#
Google Cloud Platform (GCP)
Learn
Start your project
Now that you've created a VM instance, learn how to put it to work for you.
Connect to your instance
Transfer files
Find existing VM solutions
Explore Marketplace
Quickly learn how to build a two-tier web app
SHOW ME HOW
How-to guides and tutorials
Setting up your website host name
Reserving a static external IP address
Creating and managing Windows instances
Explore tools and APIs
Learn about the Cloud Shell CLI
Connecting via client libraries
Import or migrate your workloads
Activate Windows
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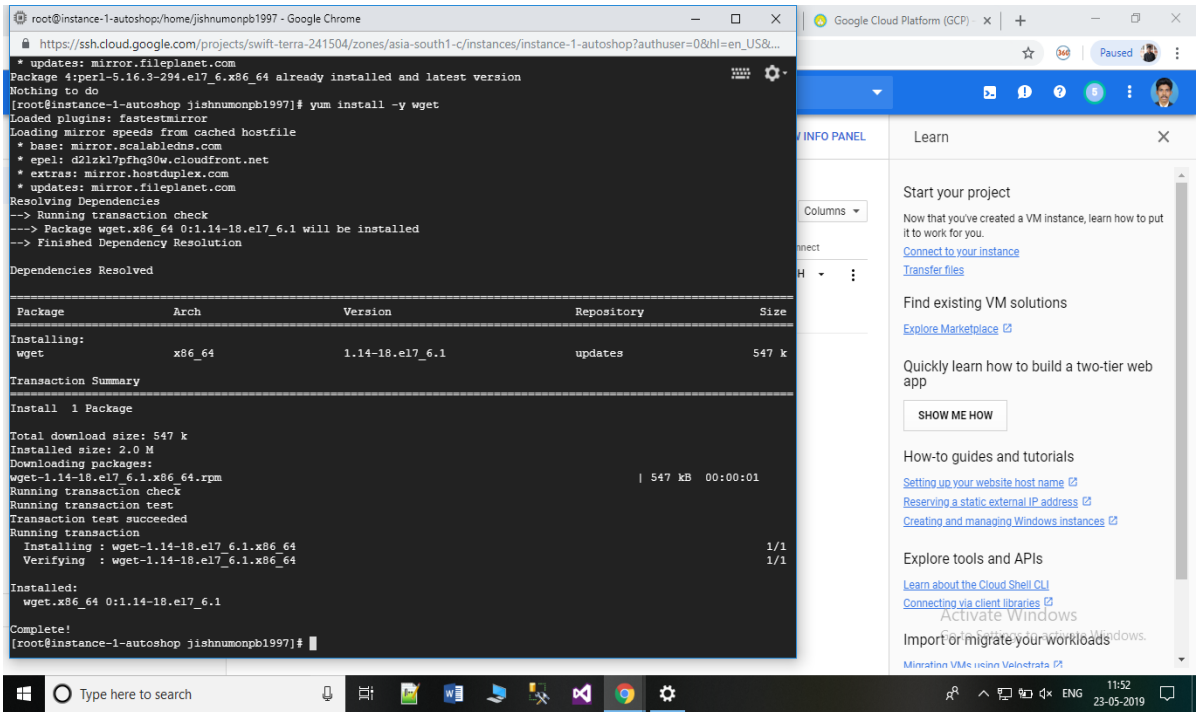
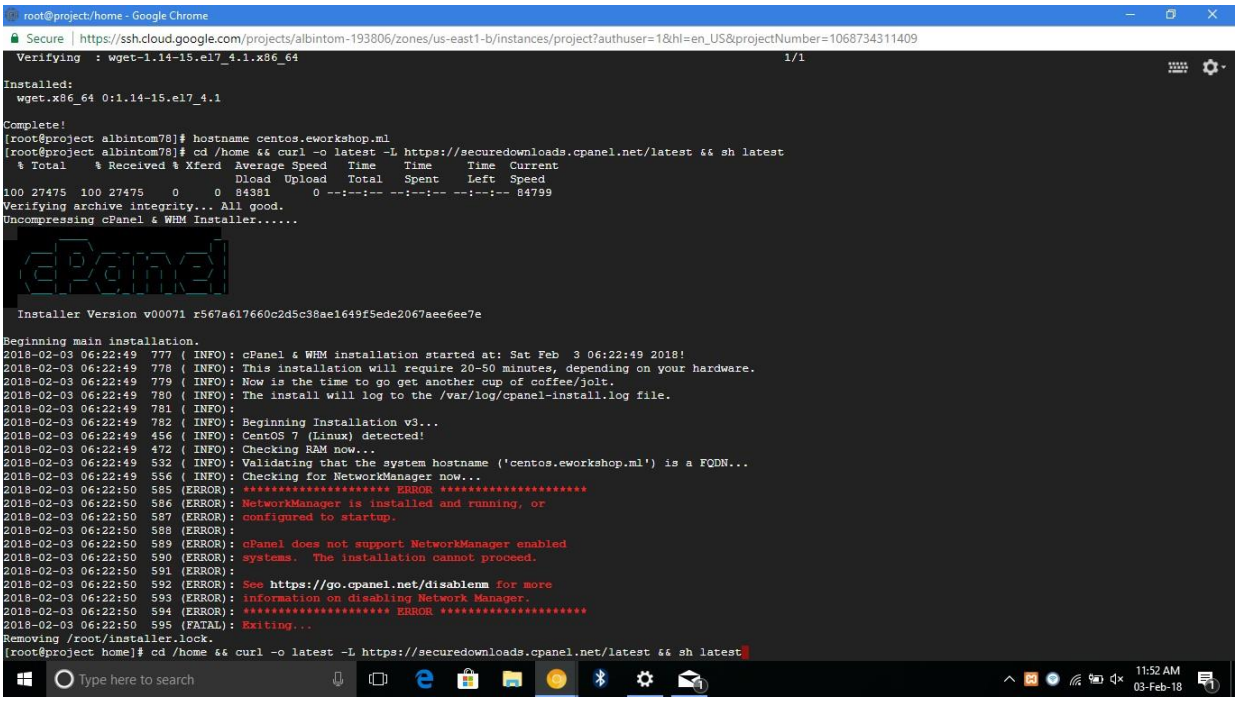
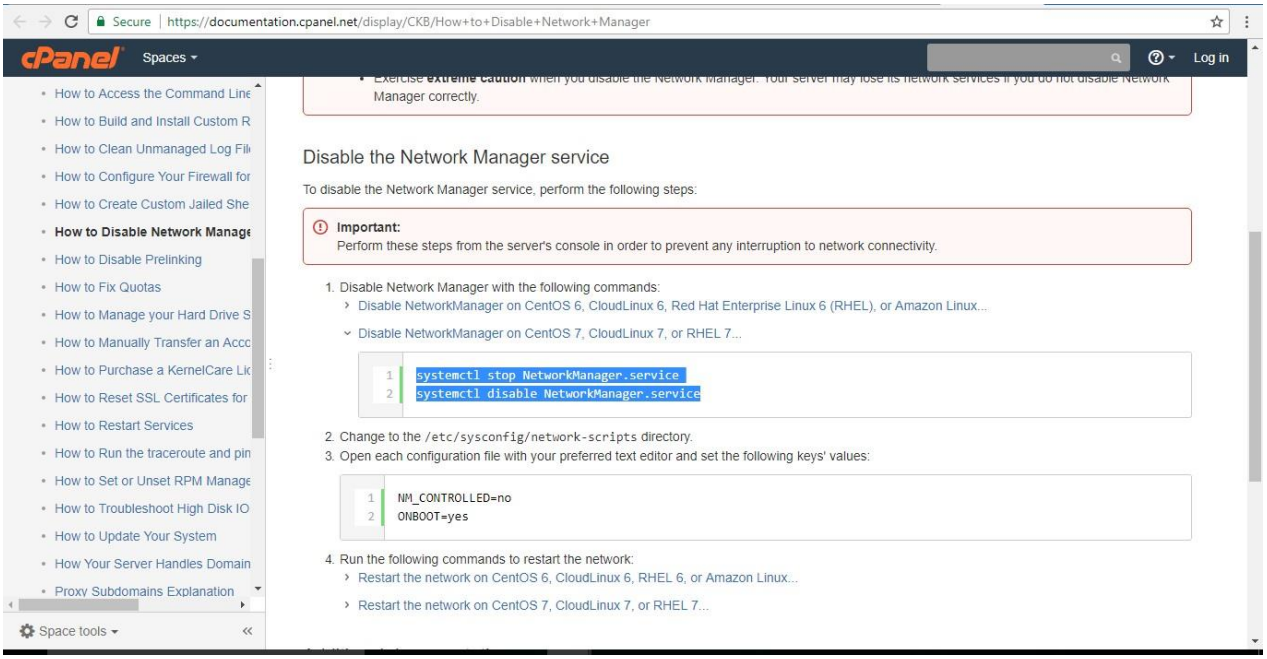
23-05-2019

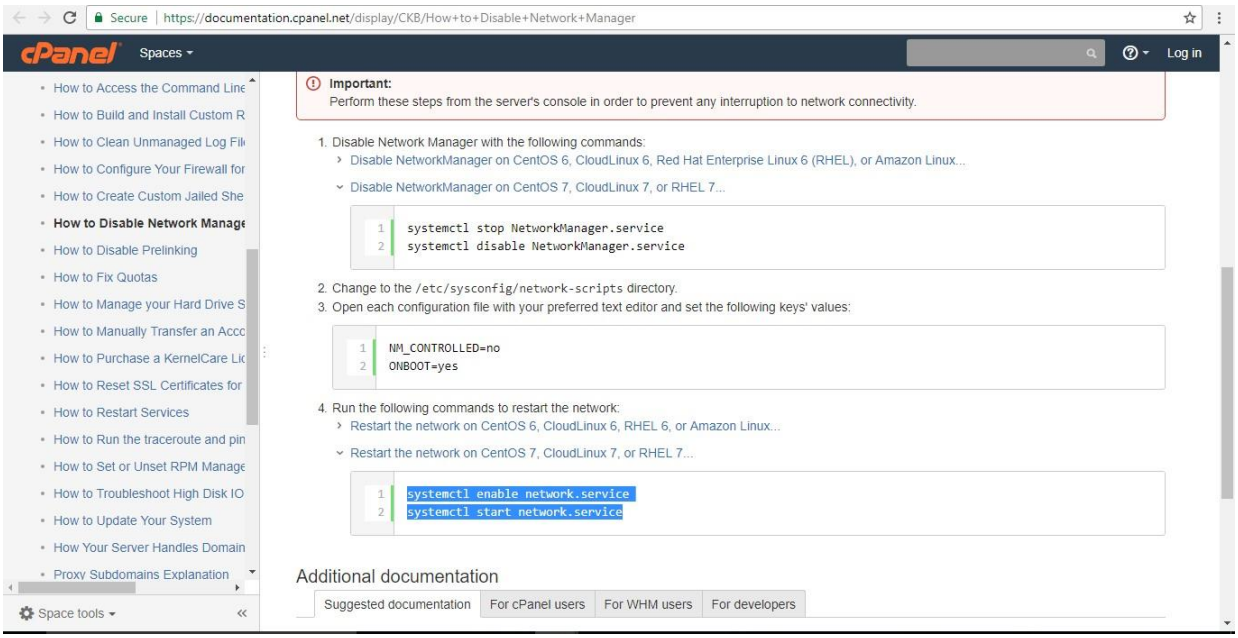
Step 10- Installation Of WHM and Cpanel



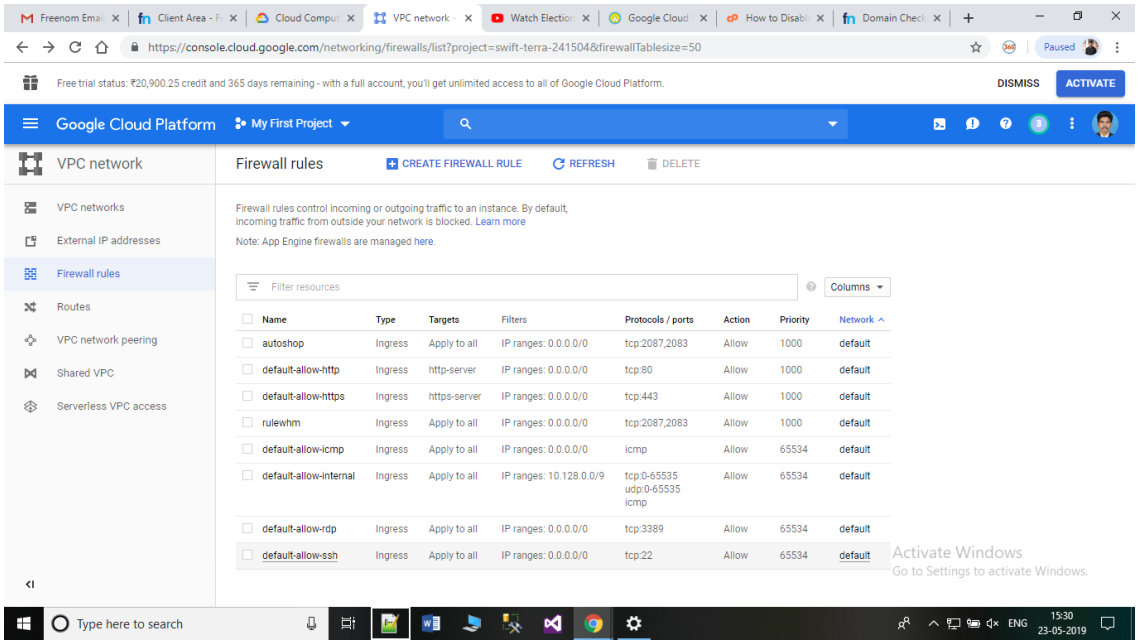


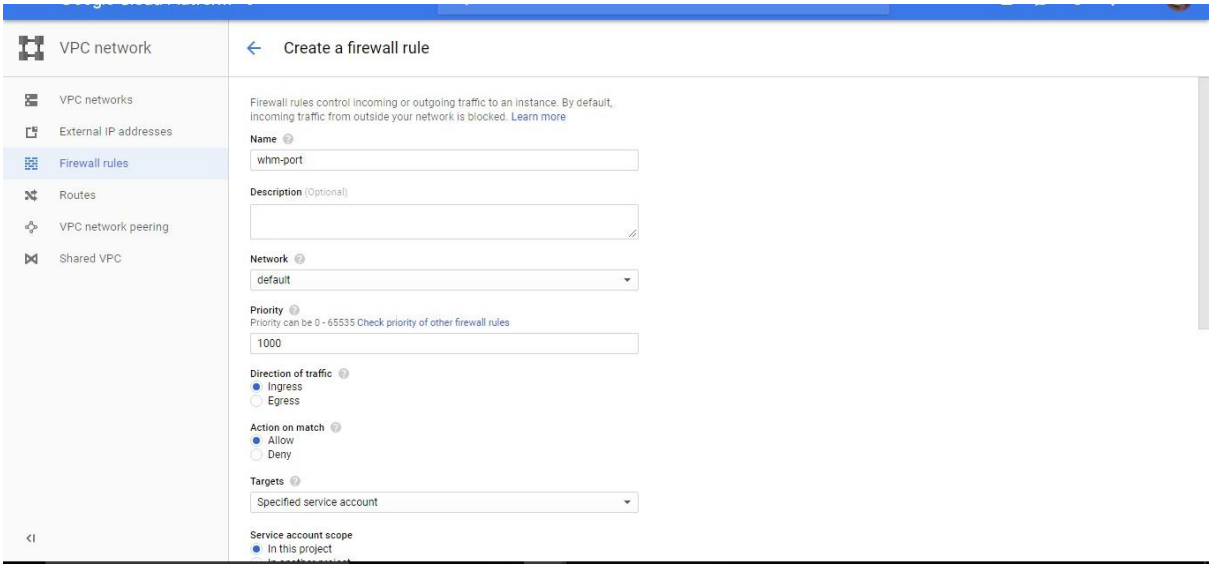
Step 11-Enable and restart services

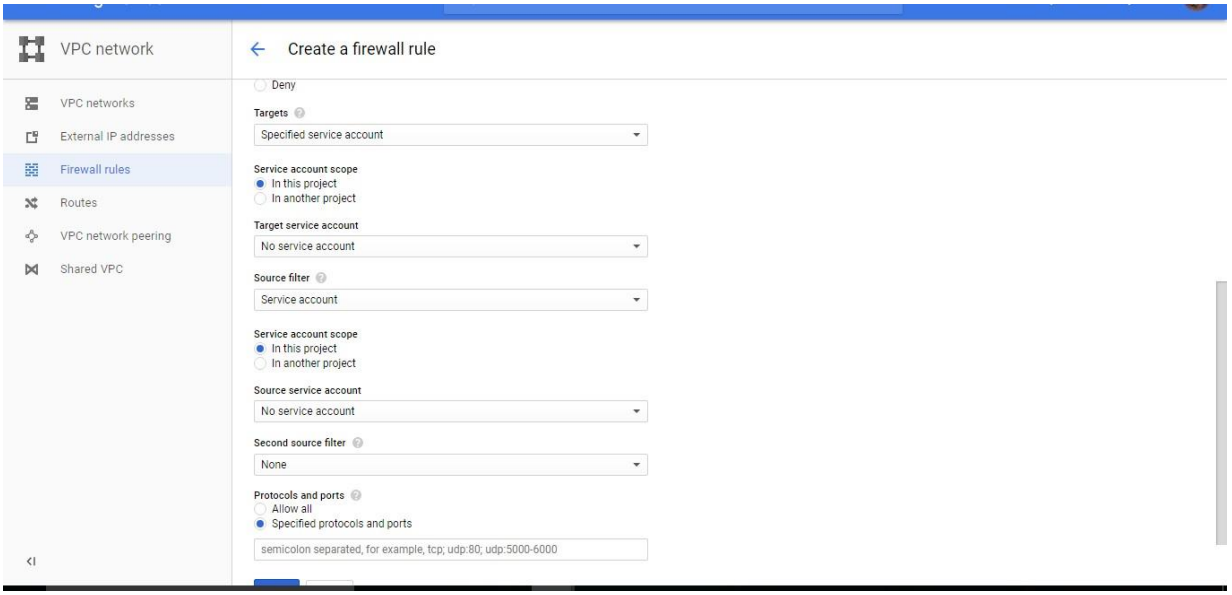


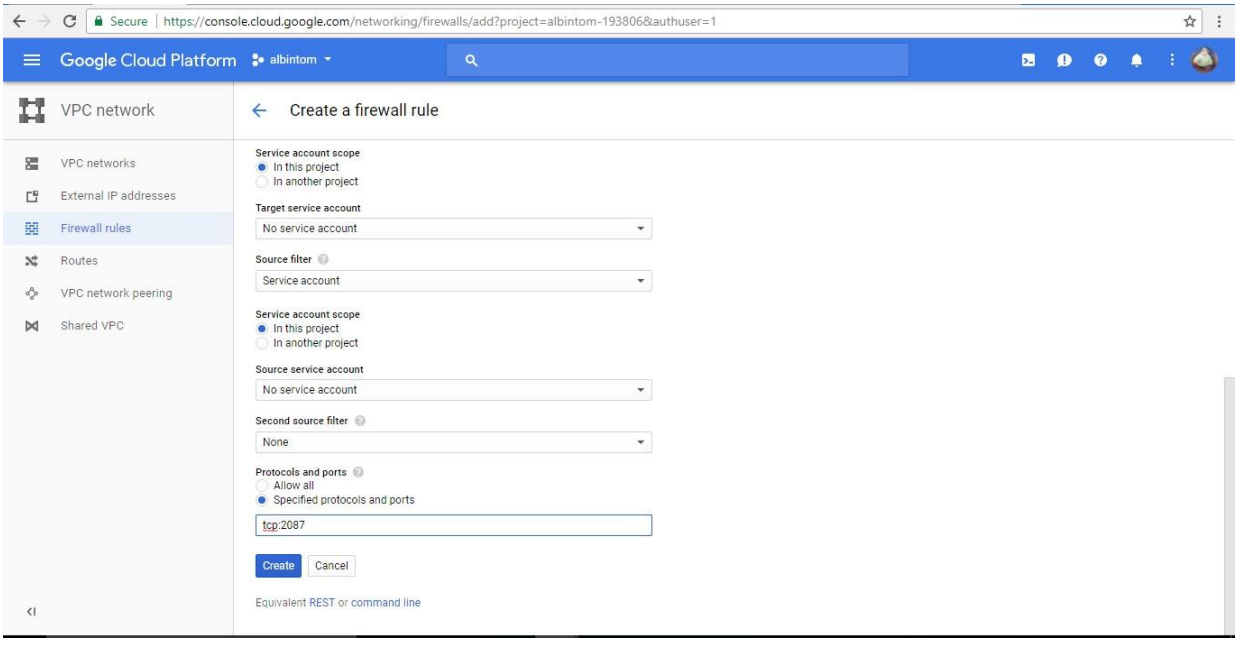


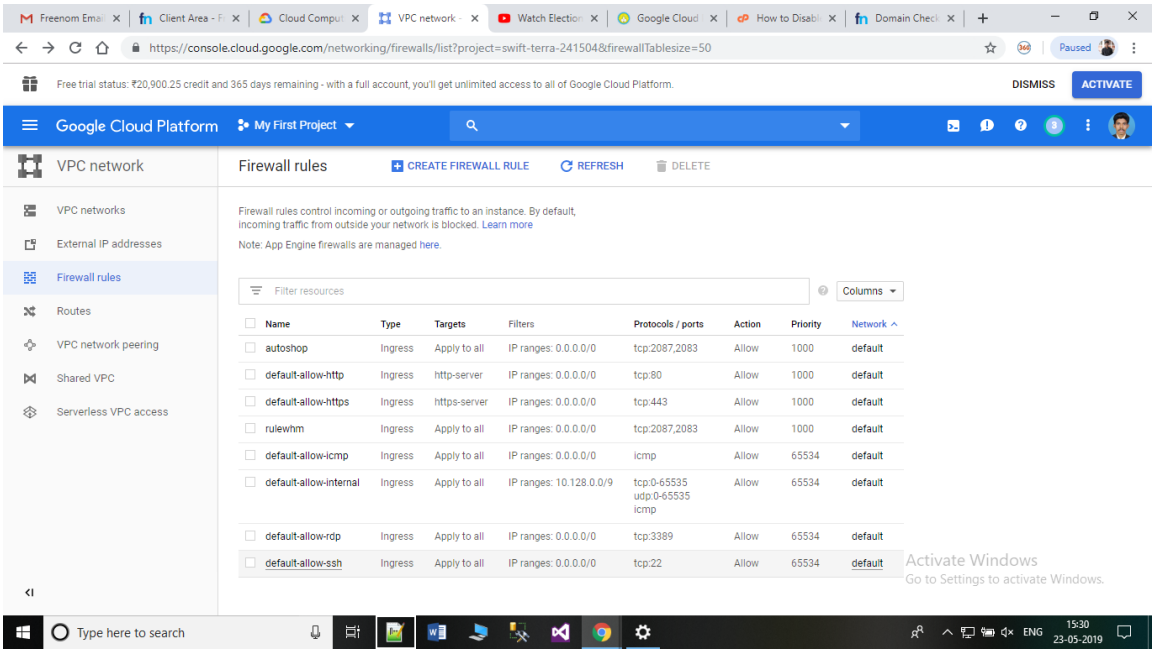
Step 12-Config: Firewall Rules-tcp: 2087 WHM



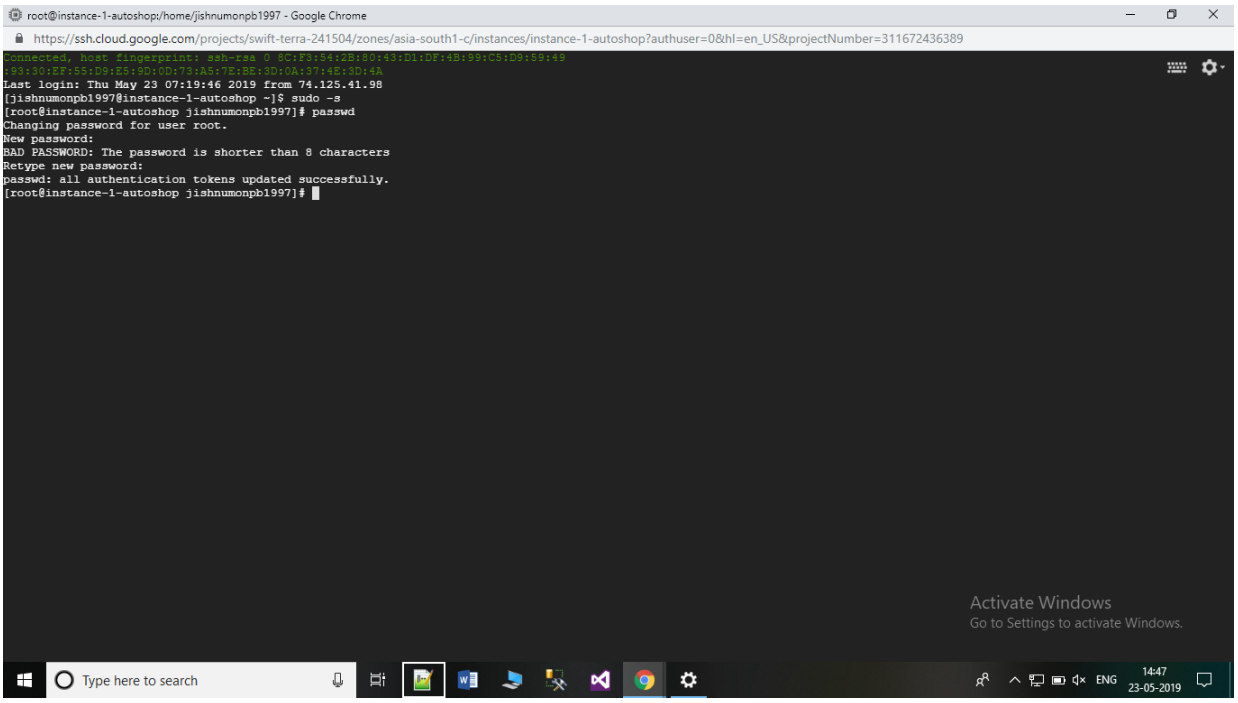



VPC network
Create a firewall rule
VPC networks
External IP addresses
Firewall rules
Routes
VPC network peering
Shared VPC
Deny
Targets
Specified service account
Service account scope
In this project
In another project
Target service account
No service account
Source filter
Service account
Service account scope
In this project
In another project
Source service account
No service account
Second source filter
None
Protocols and ports
Allow all
Specified protocols and ports
semicolon separated, for example, tcp; udp:80; udp:5000-6000

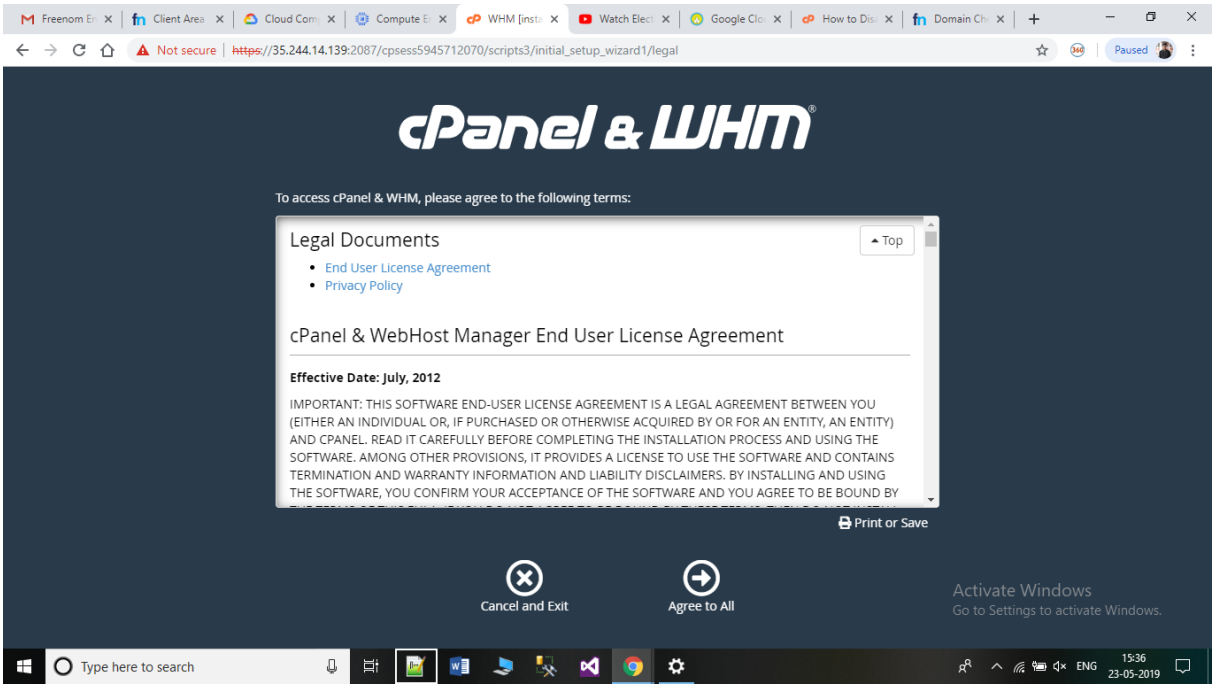

Secure | https://console.cloud.google.com/networking/firewalls/add?project=albintom-193806&authuser=1
Google Cloud Platform
albintom
VPC network
Create a firewall rule
VPC networks
External IP addresses
Firewall rules
Routes
VPC network peering
Shared VPC
Service account scope
In this project
In another project
Target service account
No service account
Source filter
Service account
Service account scope
In this project
In another project
Source service account
No service account
Second source filter
None
Protocols and ports
Allow all
Specified protocols and ports
tcp:2087
Create
Cancel
Equivalent REST or command line



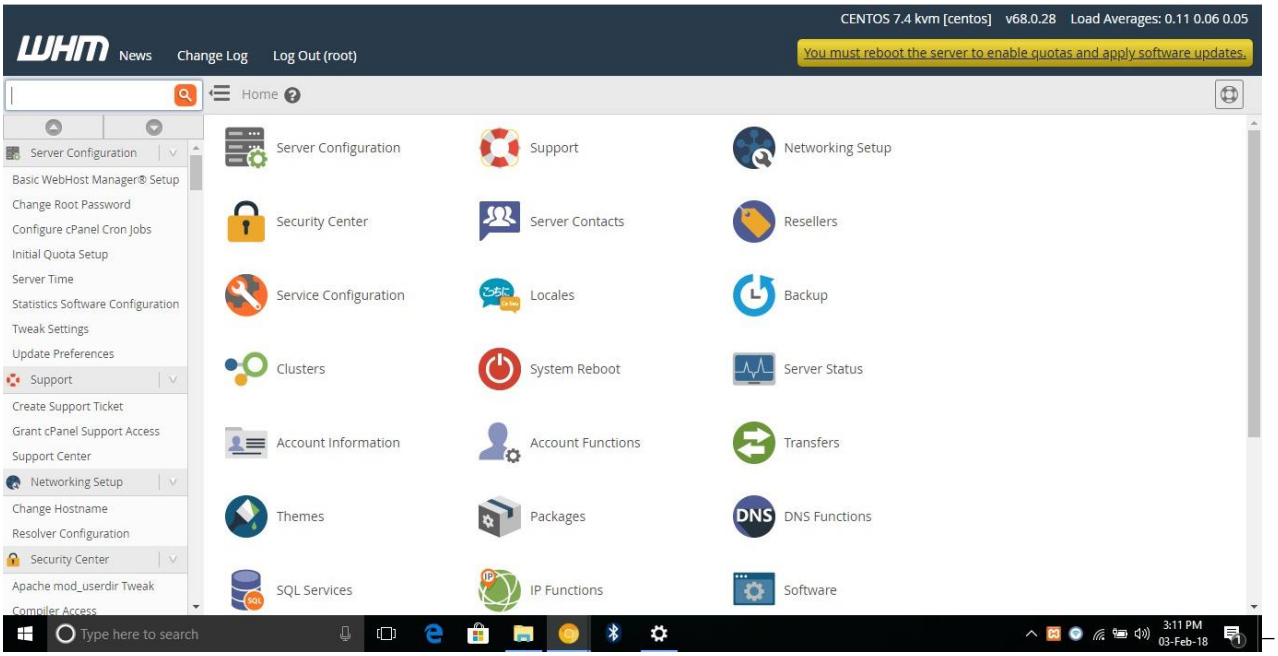
Successfully install whm and cpanel



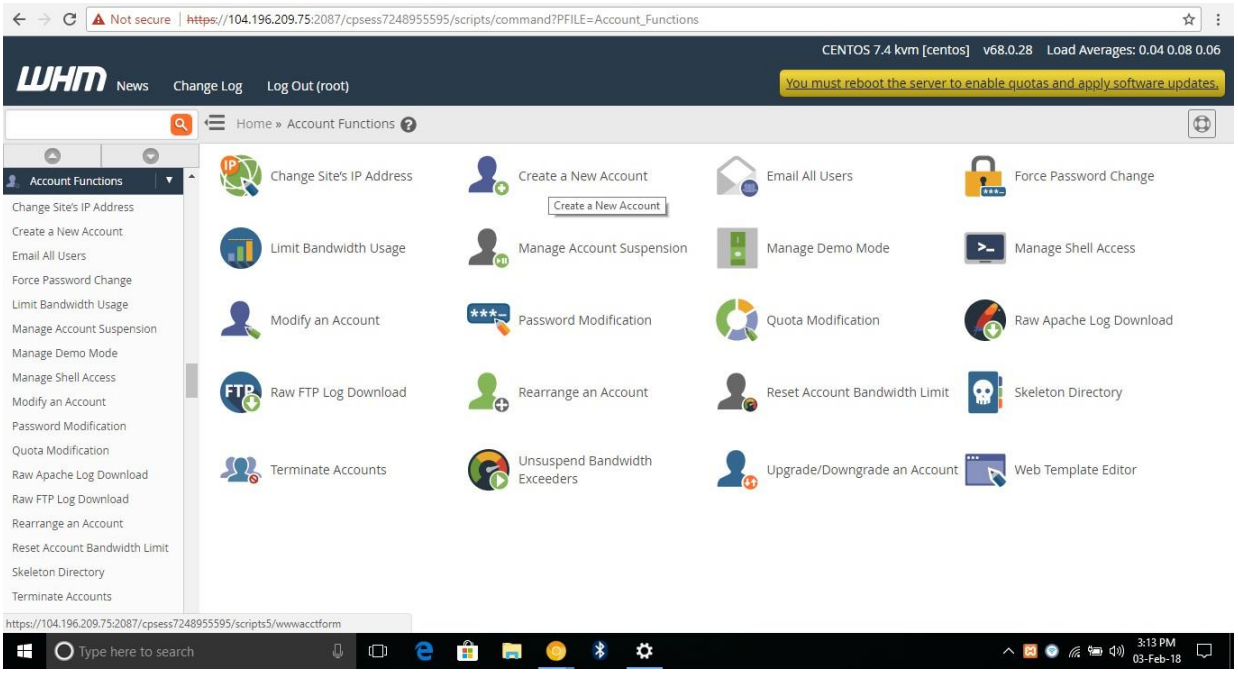
Login to WHM using Instance Ext.IP:2087



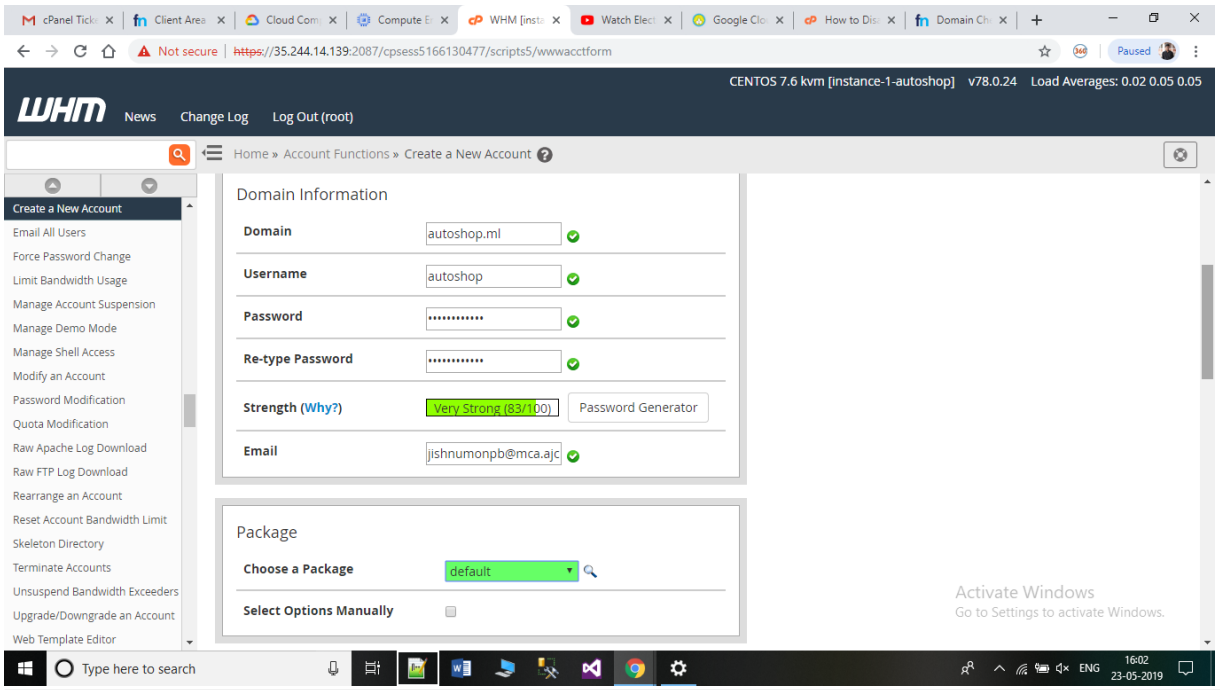
WHM Account Function select

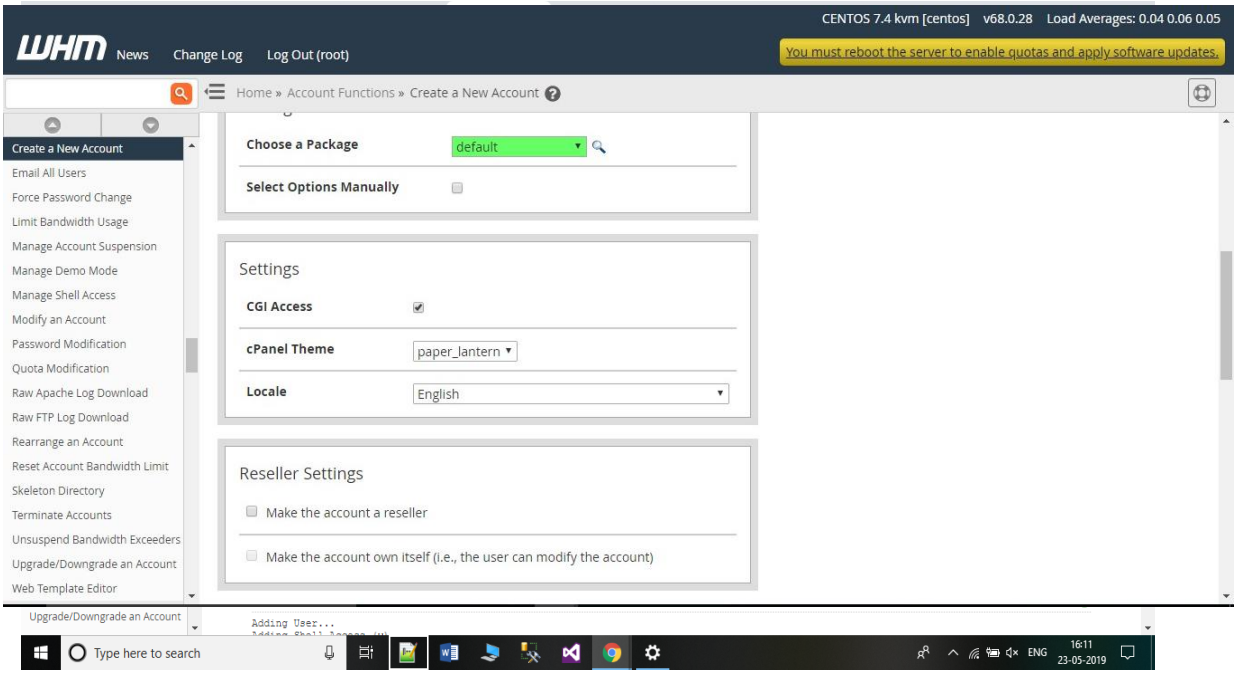


Once you access the WHM panel, you can Create a new cPanel Account

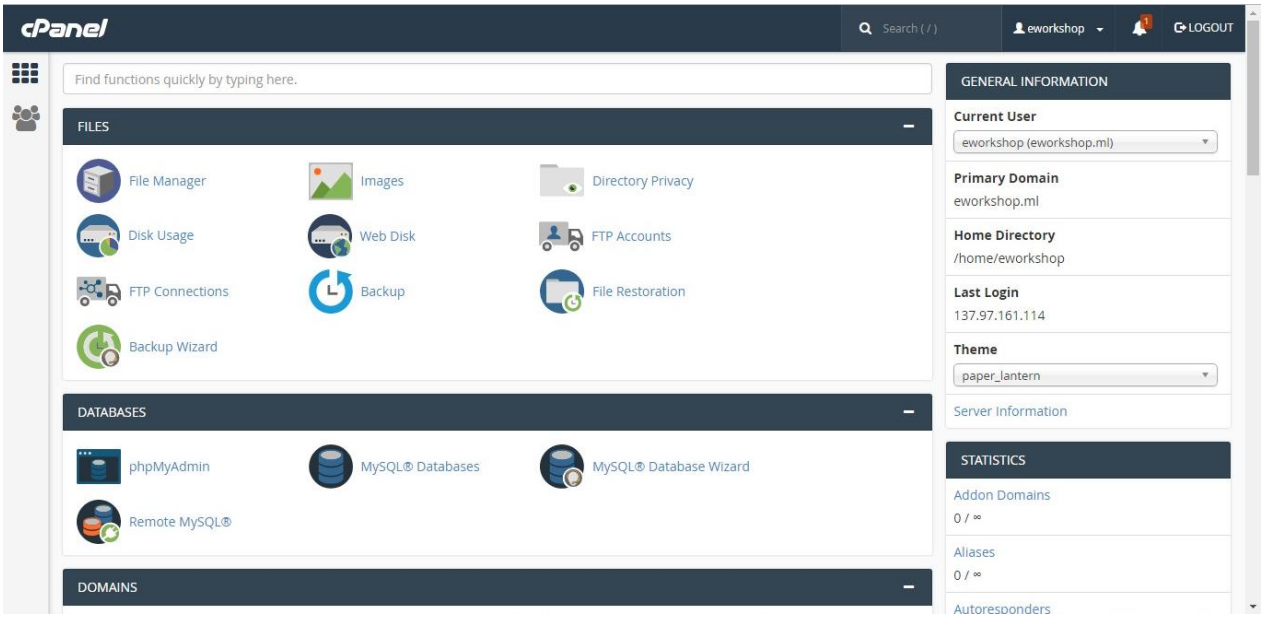


cPanel Account creation with your registered domain name

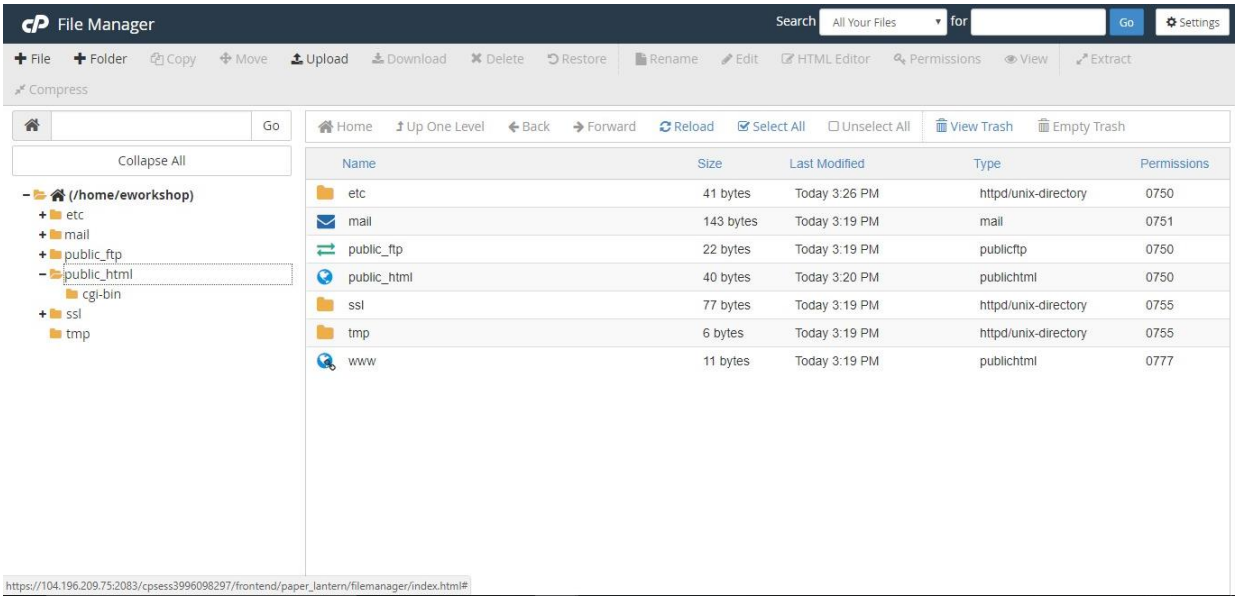




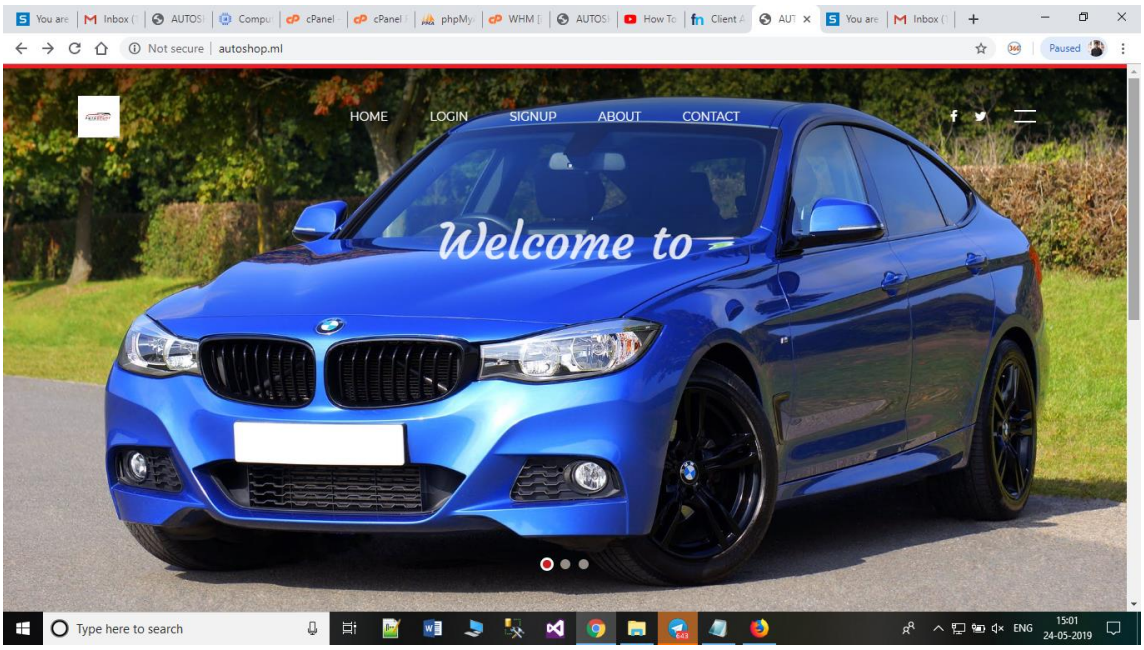
Step 14-Select File Manager Upload Project In Public HTML



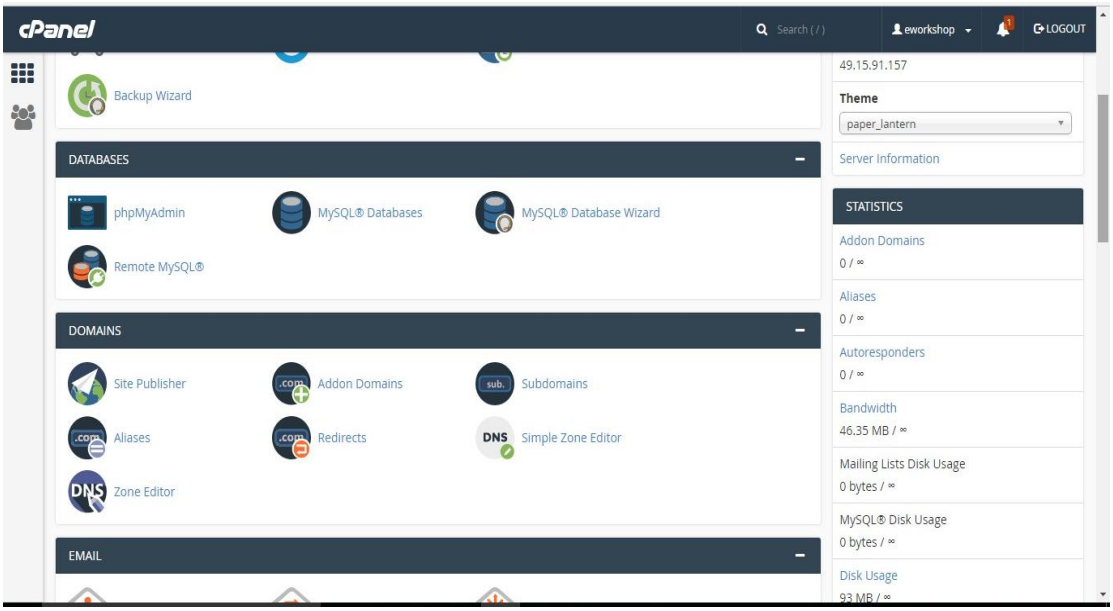
Open Public_html folder to store your project files.



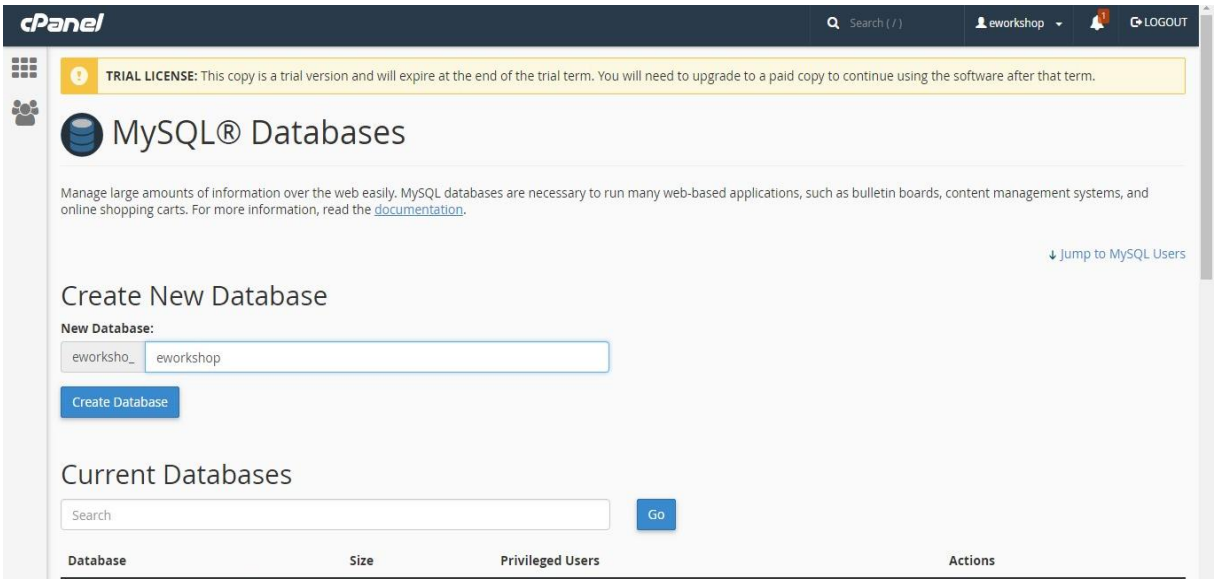
Successfully Hosted Project



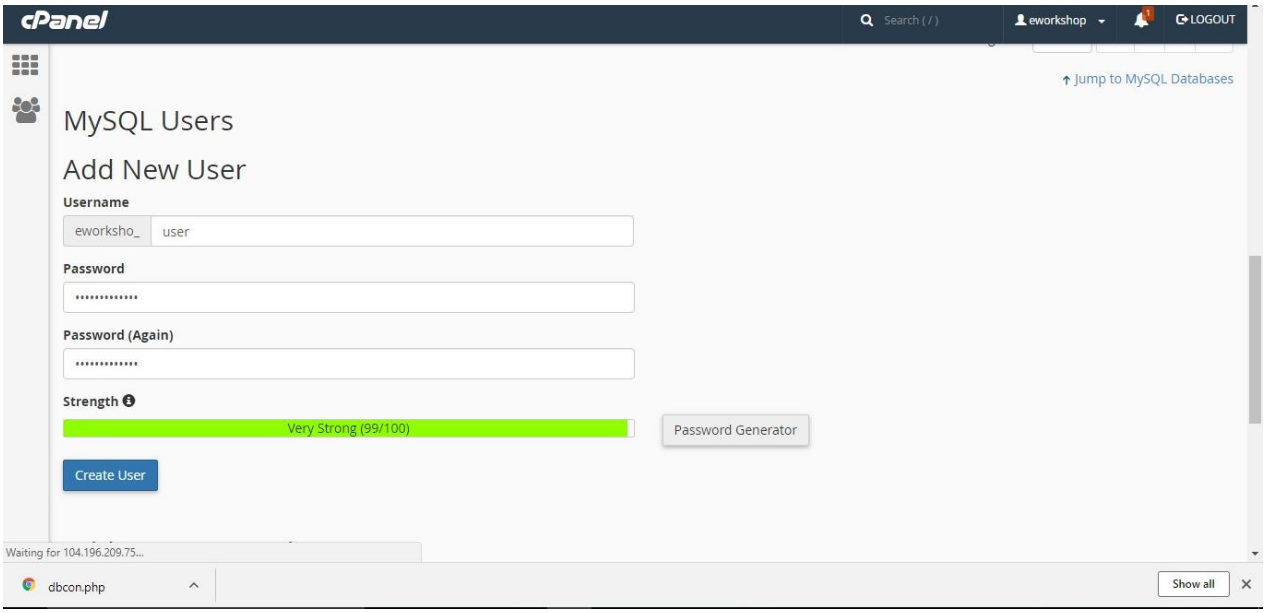
Connect Database go to mysql database

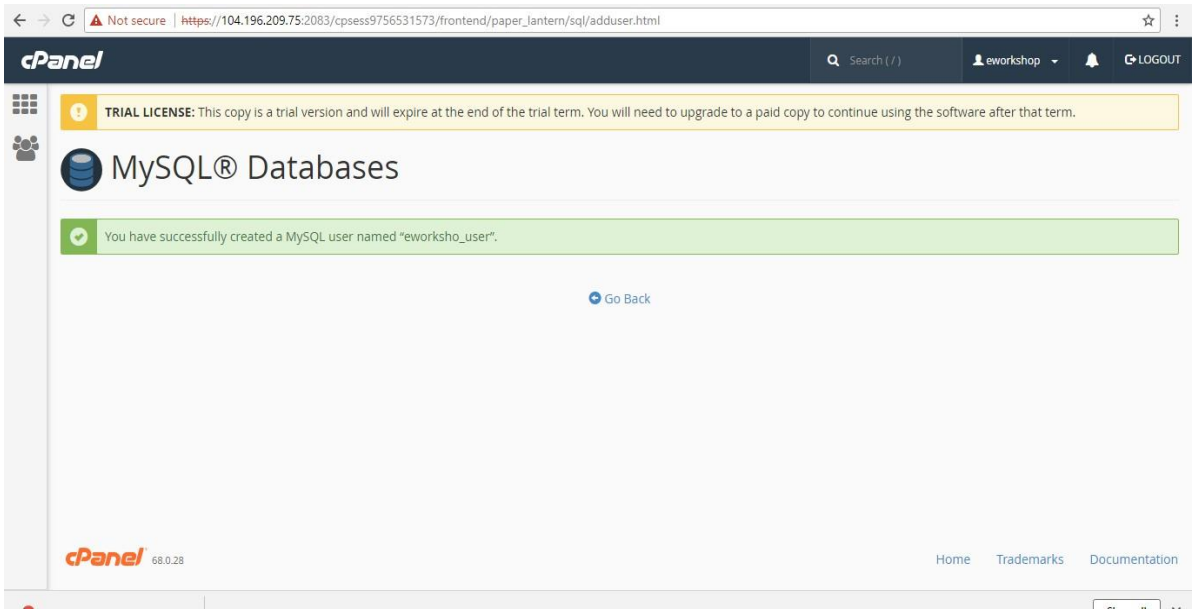


Create New Database

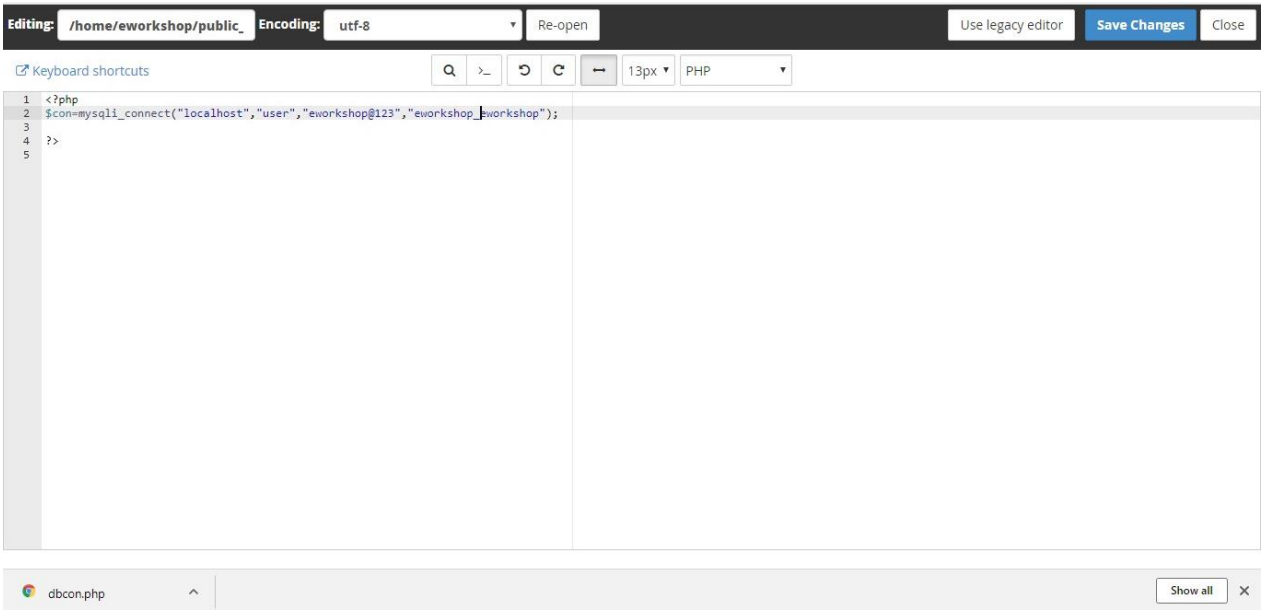


Create New User and Password

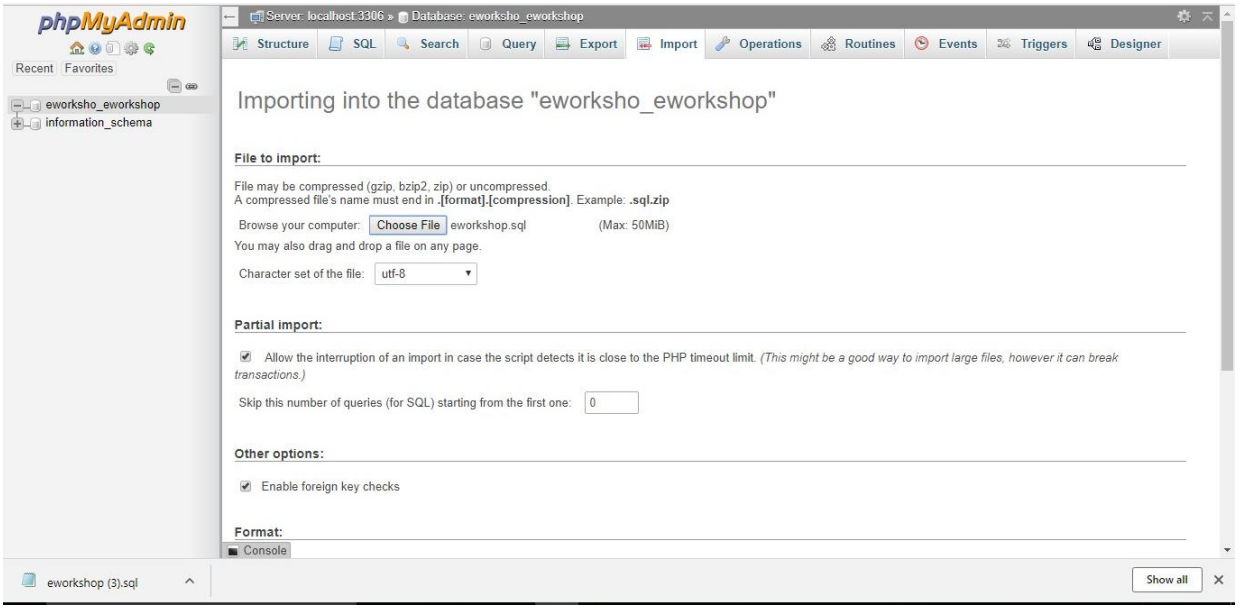


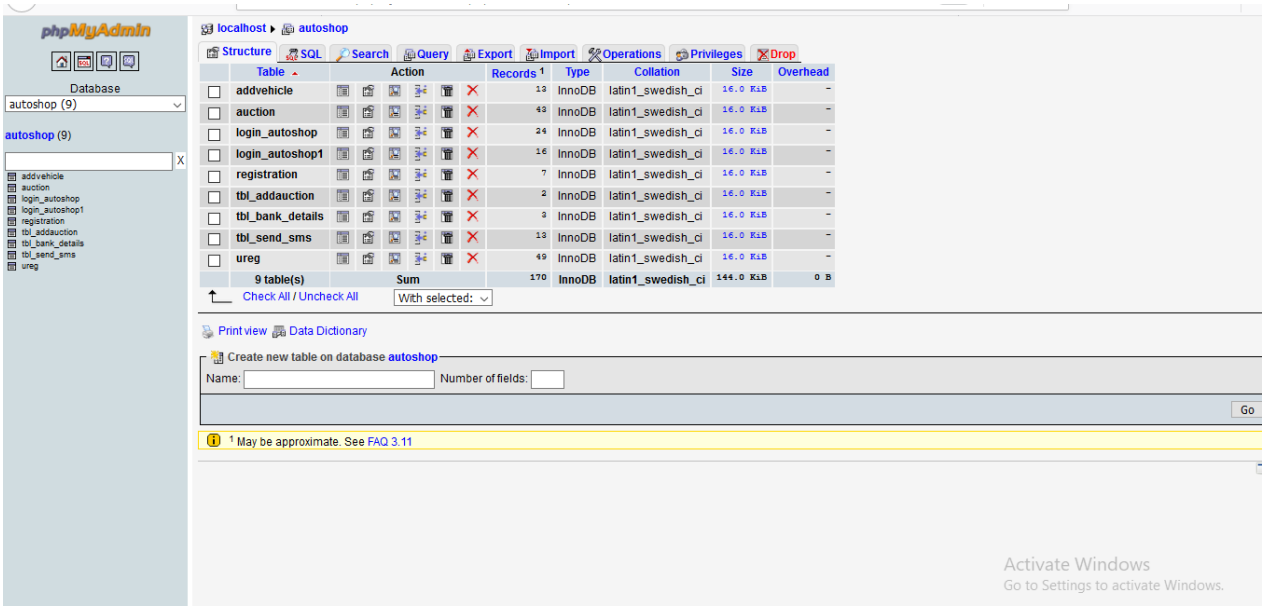


Set Connection Page

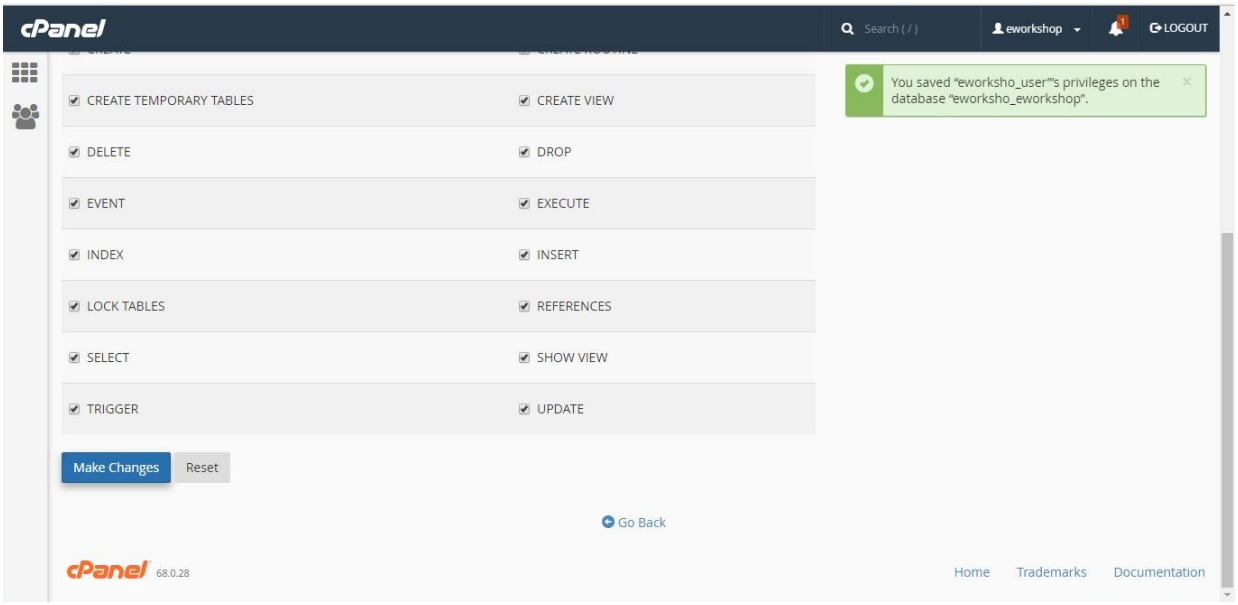


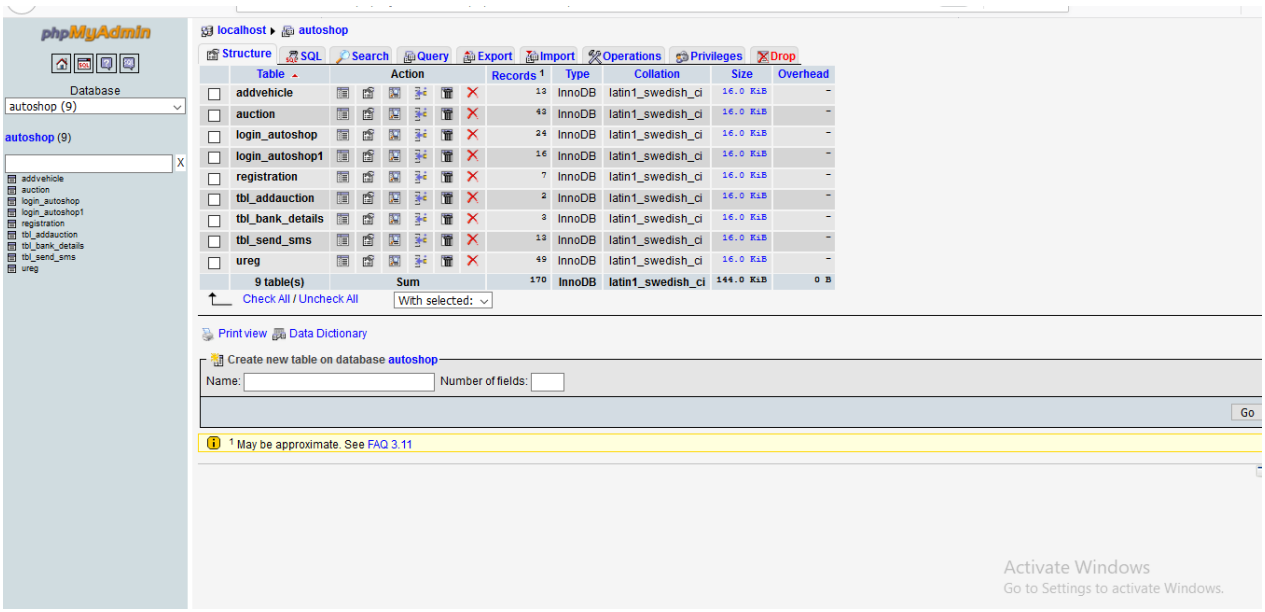
Upload Datbase File in Php Myadmin





Set Data Base privilages





Create Database In Cloud

P1.1.5 Web Host Management Tools P1.1.5.1 Web Host Manager(WHM)

Web Host Manager, or WHM, is a powerful program that allows administrative access to the back end of cPanel. There are two versions that Host Gator uses. Reseller accounts get basic WHM. Dedicated Servers and VPS accounts get root WHM (also called rWHM), which has features that require root access to the server enabled. Resellers cannot have rWHM. WHM gives you a lot more control and flexibility when managing either a few very popular and resource intensive sites, or large number of sites. On top of giving you the ability to sell hosting services to other people, WHM also gives you the option to create and manage multiple cPanels. There are lots of really good reasons, if you have business oriented or popular sites, to place them on separate cPanels. Here are a few of the more common reasons we see:

- If one of your sites is hacked or attacked, the odds that the hacker can get into your other sites is dramatically reduced, which increases your security.
- There is no way for someone to tell if accounts on different cPanels are attached to the same WHM account, which increases your privacy.
- If you have multiple sites that need to take credit cards, using WHM saves you a lot of time,

 stress, and money. To be able to process credit cards you need an SSL certificate.

 You have the ability to monitor and adjust your bandwidth and disk space, which can be key to keeping a quickly growing or popular site from being suspended or goingdown due to bandwidth overages.

 Managing a large number of domains in one cPanel can be frustrating, especially if you update the files regularly. While we allow unlimited domains on a shared cPanel account, that does not mean it is always pleasant to work on that many domains in one cPanel.

 You need to have several web sites that take credit cards, and each one needs its own cPanel for its own dedicated IP address.

WHM gives you a suite of tools to easily do the following things:

 Create, delete, and suspend your cPanel accounts.

 Manage and monitor your sites (password resets).

 Access to check and change all of your domains' DNS zones.

 The ability to configure your own customers' support requests through cPanel.

 Permission to check the server information and status.

 Ability to create your own default page when you create a new account.

 Access to customize your hosting and control panel with extensive branding.

 Ability to change your client domain names and user names.

 Hop between every cPanel on your account and access/change anything that does not require SQL access.

P1.1.5.1 Control Panel (cPanel)

cPanel is an online Linux-based web hosting control panel that provides a graphical interface and automation tools designed to simplify the process of hosting a web site. cPanel utilizes a 3-tier structure that provides capabilities for administrators, resellers, and end-user website owners to control the various aspects of website and server administration through a standard web browser.

In addition to the GUI, cPanel also has command line and API-based access that allows third party software vendors, web hosting organizations, and developers to automate standard system administration processes.

cPanel is designed to function either as a dedicated server or virtual private server. The latest cPanel version supports installation on CentOS, Red Hat Enterprise Linux (RHEL), and CloudLinux OS. cPanel 11.30 is the last major version to support FreeBSD. Application-based support includes Apache, PHP, MySQL, PostgreSQL, Perl, and BIND (DNS). Email based support includes POP3, IMAP, and SMTP services. cPanel is accessed via https on port 2083.

Once installed, cPanel cannot be easily removed. cPanel's FAQ states that the best way to uninstall cPanel is by reformatting the server. However, uninstall guides are available online for expert server administrators who do not wish to reformat their server. Similarly, it should only be installed on a freshly installed operating system with minimal prior configuration.

The tools provided are designed to simplify running and controlling a website. It uses a tiered structure that allows different levels of access. Administrators and end users can control the different aspects of the server and the website directly through their browser. cPanel is generally accessed using https on port 2083 or simply by adding "/cpanel" to the end of the host name.

Depending on the hosting provider the cPanel will generally have some sort of auto installer or package dedicated to content management systems like WordPress.

Some of the great features that cPanel includes are:

- Email: Within cPanel you can create new email accounts, view/modify your existing accounts, modify your MX records, change email passwords, set up mail box quotas and much more.
- Domains: Under the domains section of cPanel, you can configure new domains to your account, set up parked domains, create subdomains, setup redirects, and much more.
- File Management: In the files section of cPanel, you can back up your cpanel account, access/ modify files stored in your account, review your disk usage, and create/manage FTP accounts
- Databases: Here you can create new databases, set up remote access to MySQL, access the

- databases using phpMyAdmin, and much more

cPanel is very user friendly and is quite robust. There's numerous tools within cPanel to handle a wide variety of tasks. It contains a full help menu that is easy to use.

P1.1.5.3 Plesk Panel

Plesk is the leading WebOps hosting platform to run, automate and grow applications, websites and hosting businesses. Being the only OS-agnostic platform, Plesk is running on more than 380,000 servers, automating 11M+ websites and 19M mailboxes. Available in more than 32 languages across 140 countries, 50% of the top 100 service providers worldwide are partnering with Plesk today. Plesk has simplified the life of SysAdmins and SMBs since the early 2000's and continues to add value across multiple cloud services. The Plesk hosting platform effectively enables application developers by providing access to a simple and more secure web infrastructure managed by web pros and hosting companies.

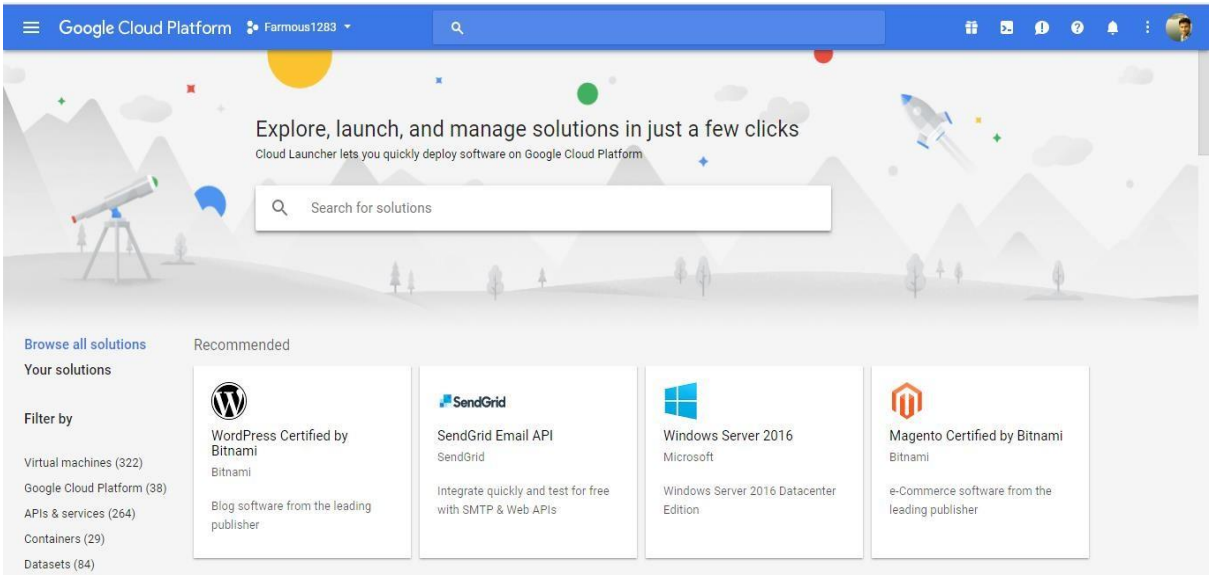
The worldwide developer market consists of over 20M cloud developers who are looking for access to faster, more secure and efficient infrastructures. The Plesk vision is to constantly elevate customer and partner profitability by providing them with a cloud platform that grants application developers a ready-to-code environment. Besides simplifying complexity, Plesk increases its efforts to enable customers and partners alike to extend and customize Plesk as an open hosting platform. The rich ecosystem of Plesk extensions not only provides access to even more relevant features targeted at specific audiences but also allows service providers of any size to generate unique upsell opportunities.

Plesk culture

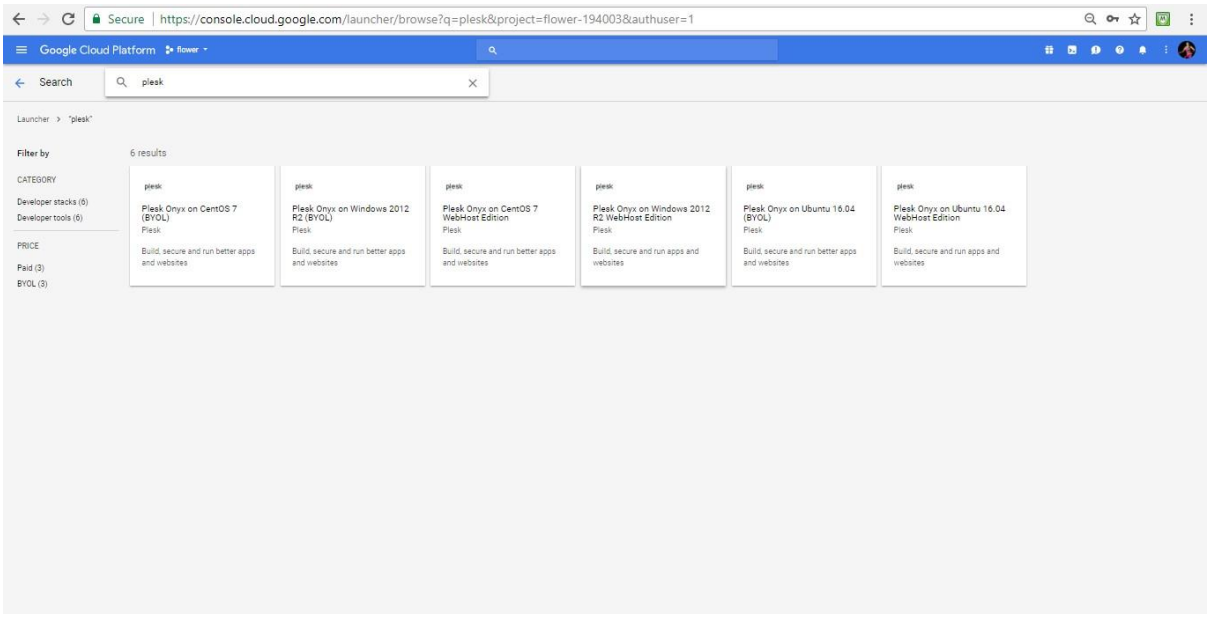
As a team, we thrive on excellence, innovation, collaboration, and efficiency. We enjoy what we do, understand our customers and build a hosting platform that clients love and need. The relentless commitment of our team to accept new business challenges guarantees that we are creative and respectful of time and resources as well as the environment. We keep our actions and goals transparent, cultivate a culture of leadership, inclusion, execution, and respect. As a former member of the Parallels group of companies, our background is global, innovative and diverse. January 2016 was the right time for Plesk to become a separate business, enabling us to accelerate development cycles, drive innovation and focus on the needs of our partners, customers and employees.

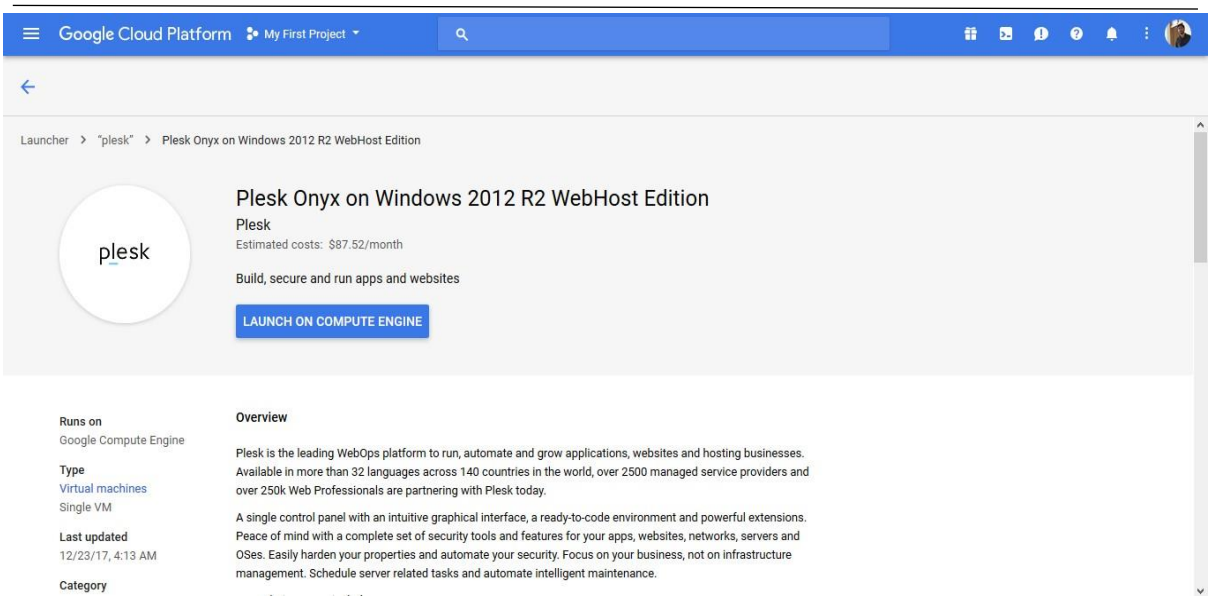
lunching Plesk on google cloud

- Go to Google Cloud Launcher

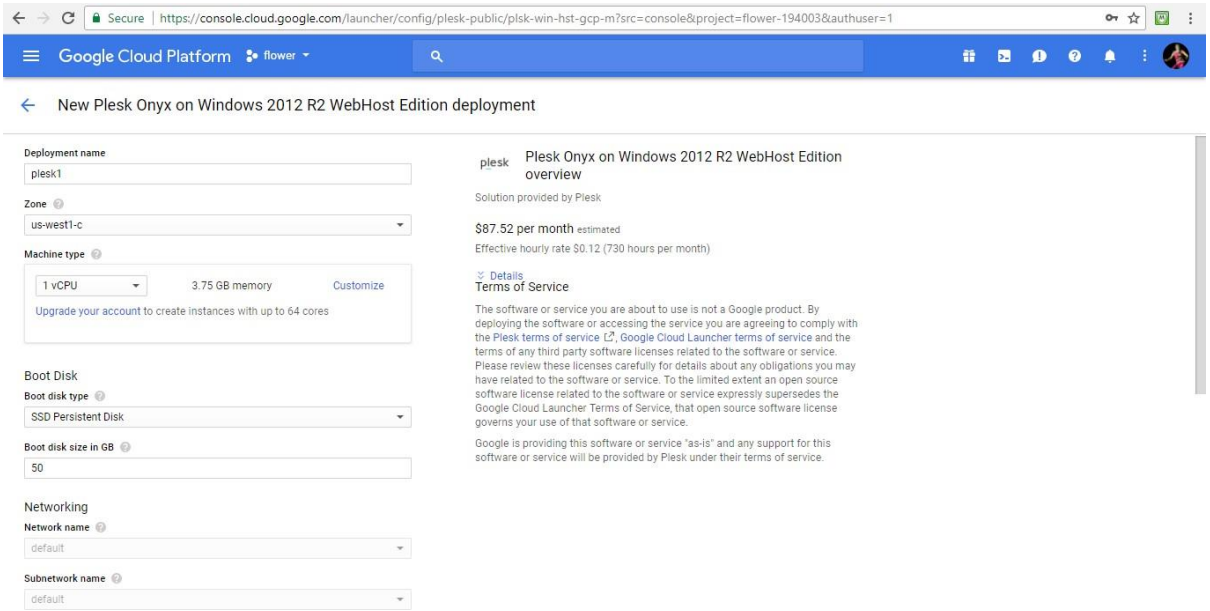


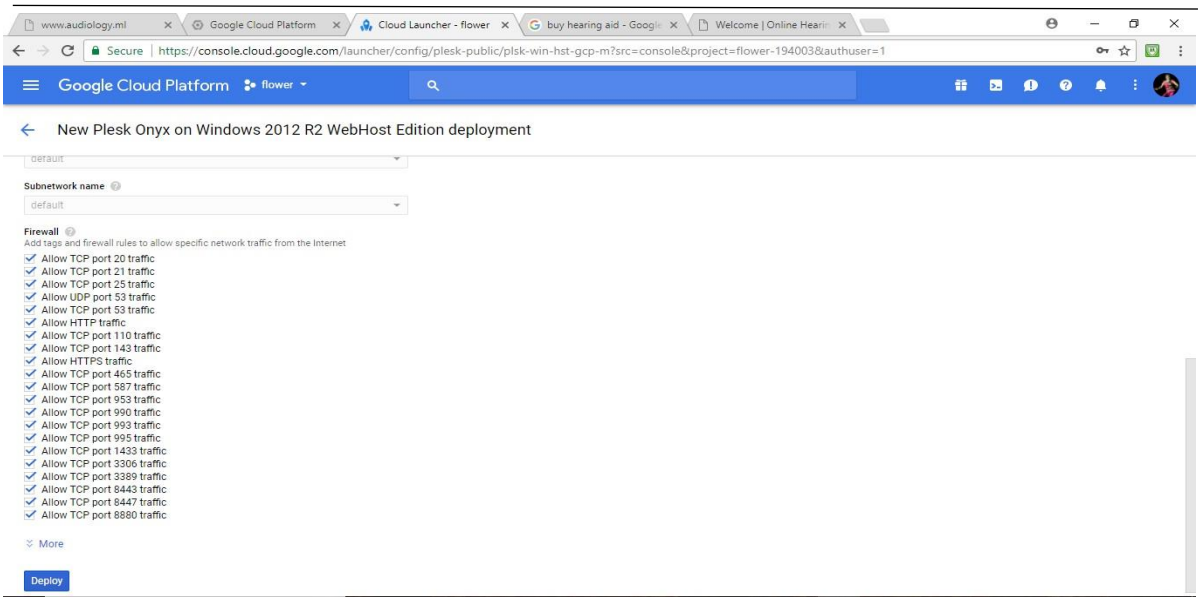
Search for Plesk or choose Plesk Onyx on Windows 2012 R2 Webhost Edition from the solutions

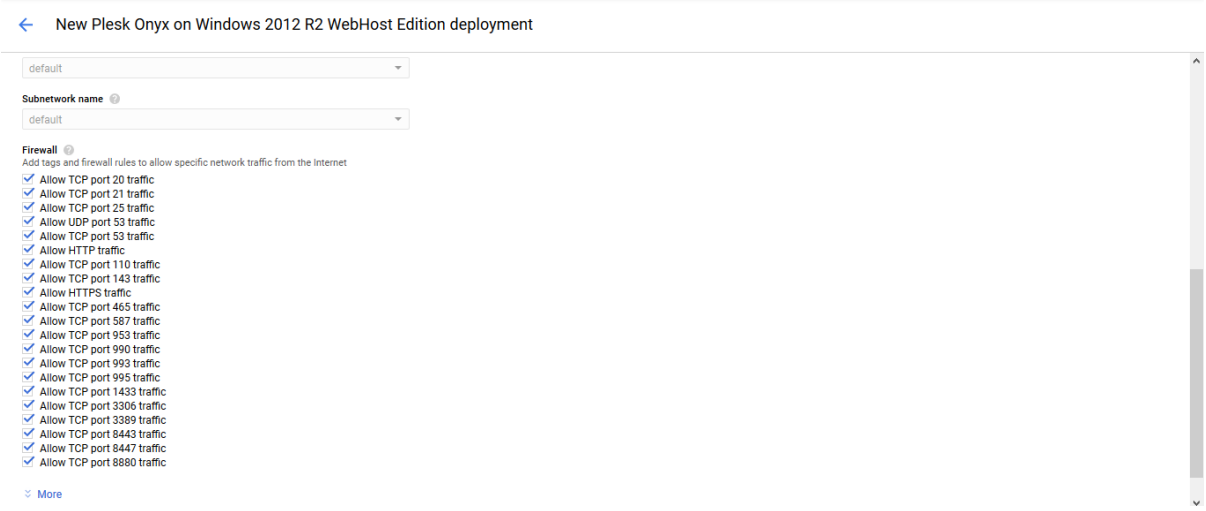




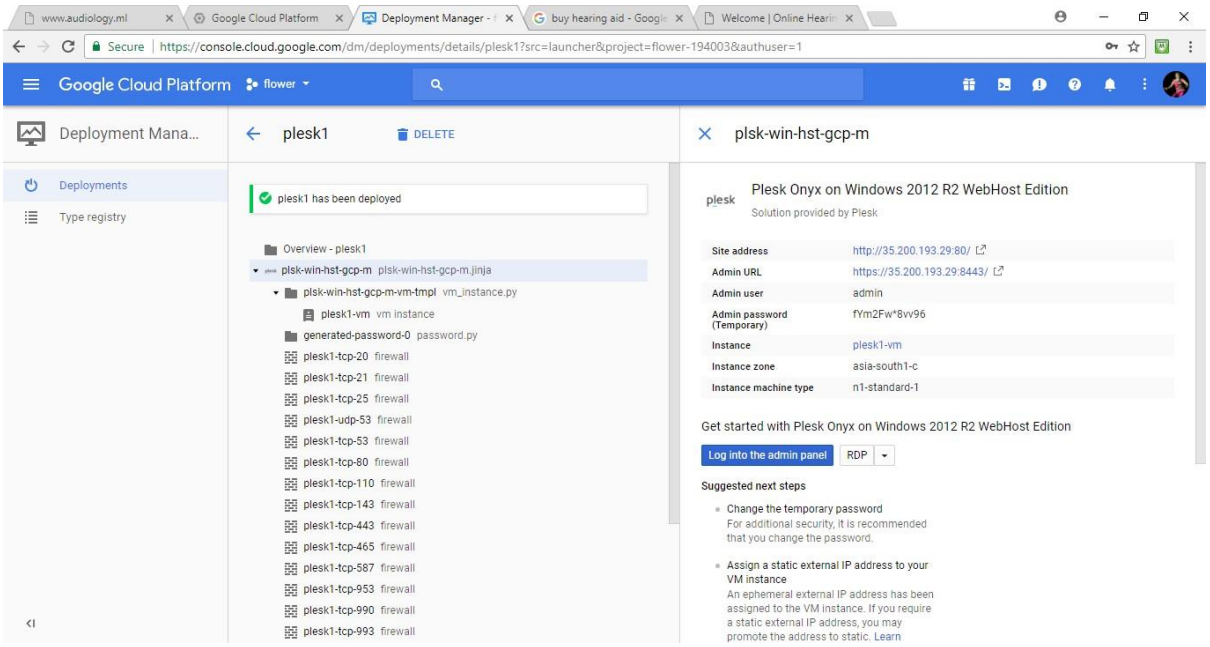
Deploying new Plesk instance



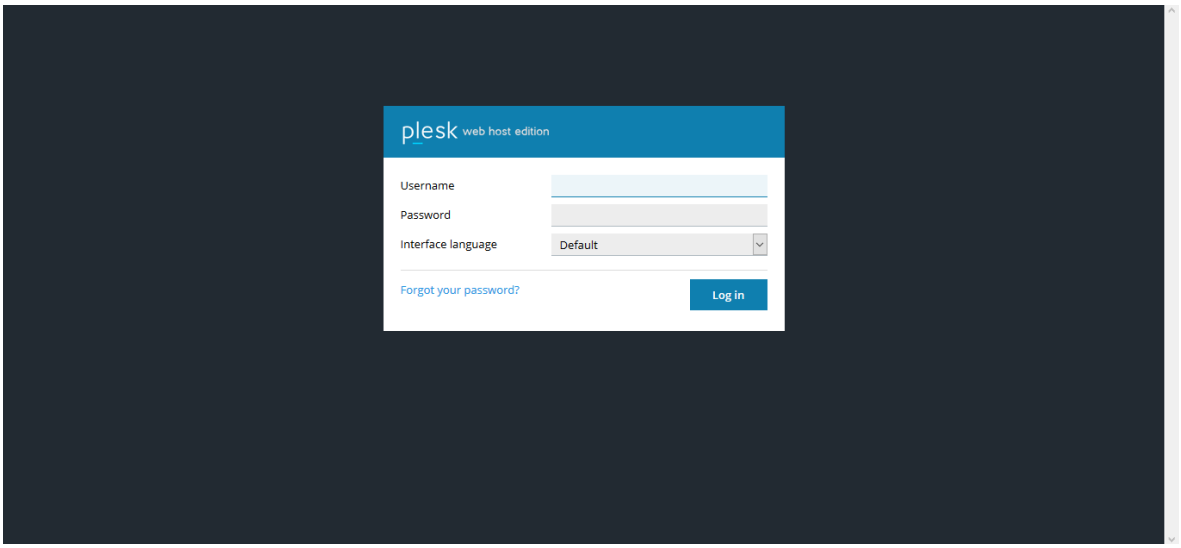

www.audiology.ml
Google Cloud Platform
Cloud Launcher - flower
buy hearing aid - Google
Welcome | Online Hearing
Secure | https://console.cloud.google.com/launcher/config/plesk-public/plsk-win-hst-gcp-m?src=console&project=flower-194003&authuser=1
Google Cloud Platform
flower
New Plesk Onyx on Windows 2012 R2 WebHost Edition deployment
default
Subnetwork name
default
Firewall
Add tags and firewall rules to allow specific network traffic from the Internet
Allow TCP port 20 traffic
Allow TCP port 21 traffic
Allow TCP port 25 traffic
Allow UDP port 53 traffic
Allow TCP port 53 traffic
Allow HTTP traffic
Allow TCP port 110 traffic
Allow TCP port 143 traffic
Allow HTTPS traffic
Allow TCP port 465 traffic
Allow TCP port 587 traffic
Allow TCP port 953 traffic
Allow TCP port 990 traffic
Allow TCP port 993 traffic
Allow TCP port 995 traffic
Allow TCP port 1433 traffic
Allow TCP port 3306 traffic
Allow TCP port 3389 traffic
Allow TCP port 8443 traffic
Allow TCP port 8447 traffic
Allow TCP port 8880 traffic
More
Deploy


New Plesk Onyx on Windows 2012 R2 WebHost Edition deployment
default
Subnetwork name
default
Firewall
Add tags and firewall rules to allow specific network traffic from the Internet
Allow TCP port 20 traffic
Allow TCP port 21 traffic
Allow TCP port 25 traffic
Allow UDP port 53 traffic
Allow TCP port 53 traffic
Allow HTTP traffic
Allow TCP port 110 traffic
Allow TCP port 143 traffic
Allow HTTPS traffic
Allow TCP port 465 traffic
Allow TCP port 587 traffic
Allow TCP port 953 traffic
Allow TCP port 990 traffic
Allow TCP port 993 traffic
Allow TCP port 995 traffic
Allow TCP port 1433 traffic
Allow TCP port 3306 traffic
Allow TCP port 3389 traffic
Allow TCP port 8443 traffic
Allow TCP port 8447 traffic
Allow TCP port 8880 traffic
More

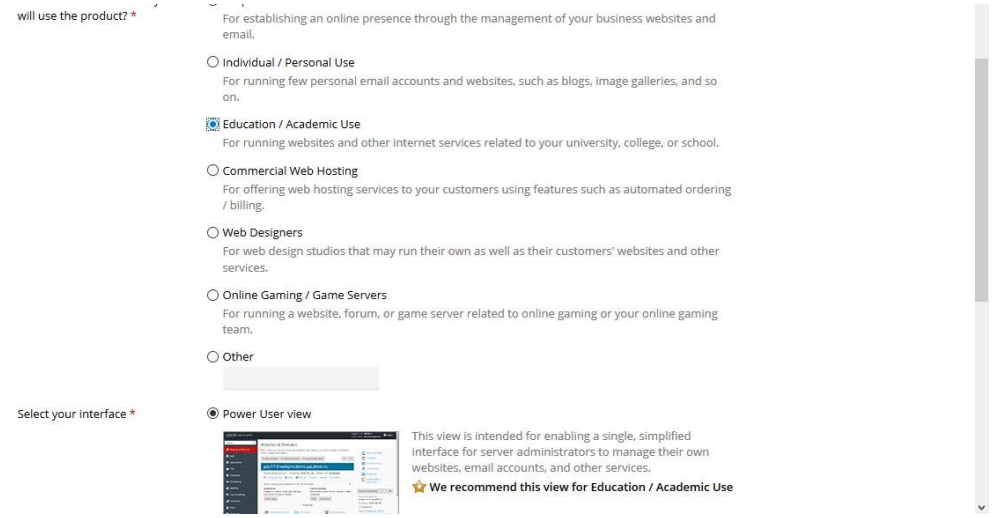
Once successfully deployed, you will be redirected to Deployment Manager window



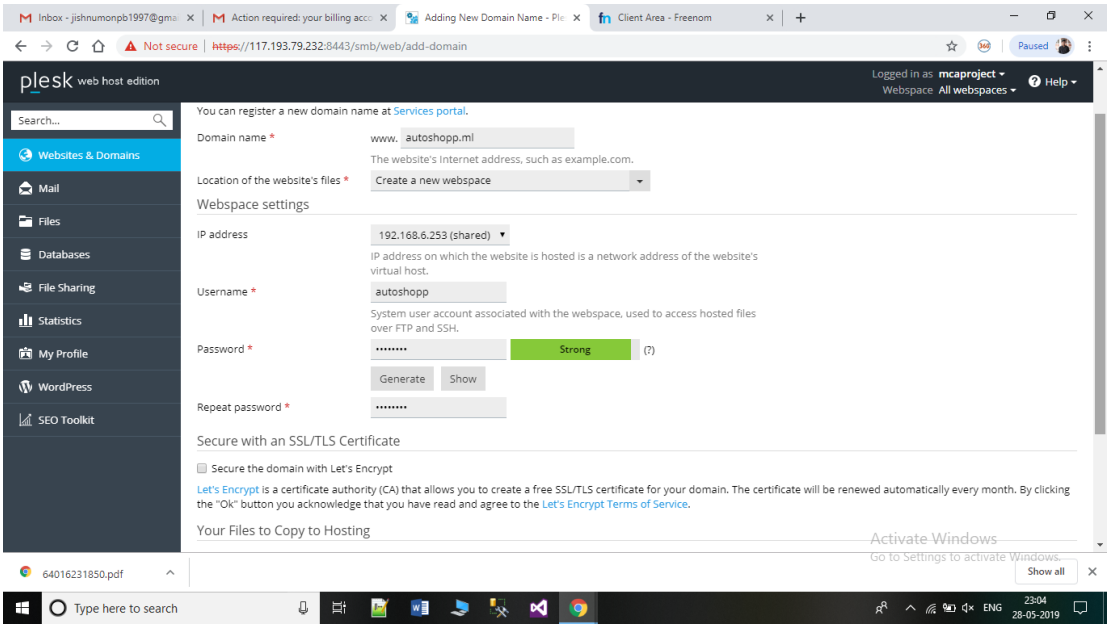
Use the Login credentials provided by the Deployment Manager to access the Admin panel. Use the Admin URL to log in, with Admin user and Admin password(temporary)



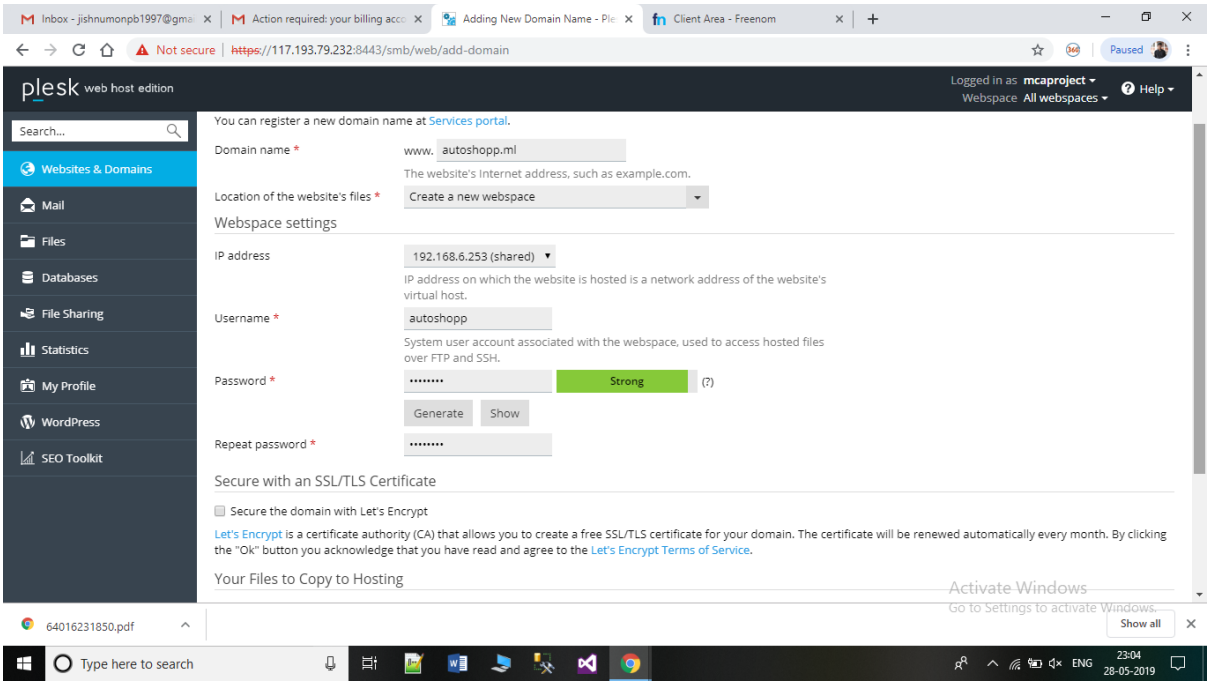
Choosing compatible edition



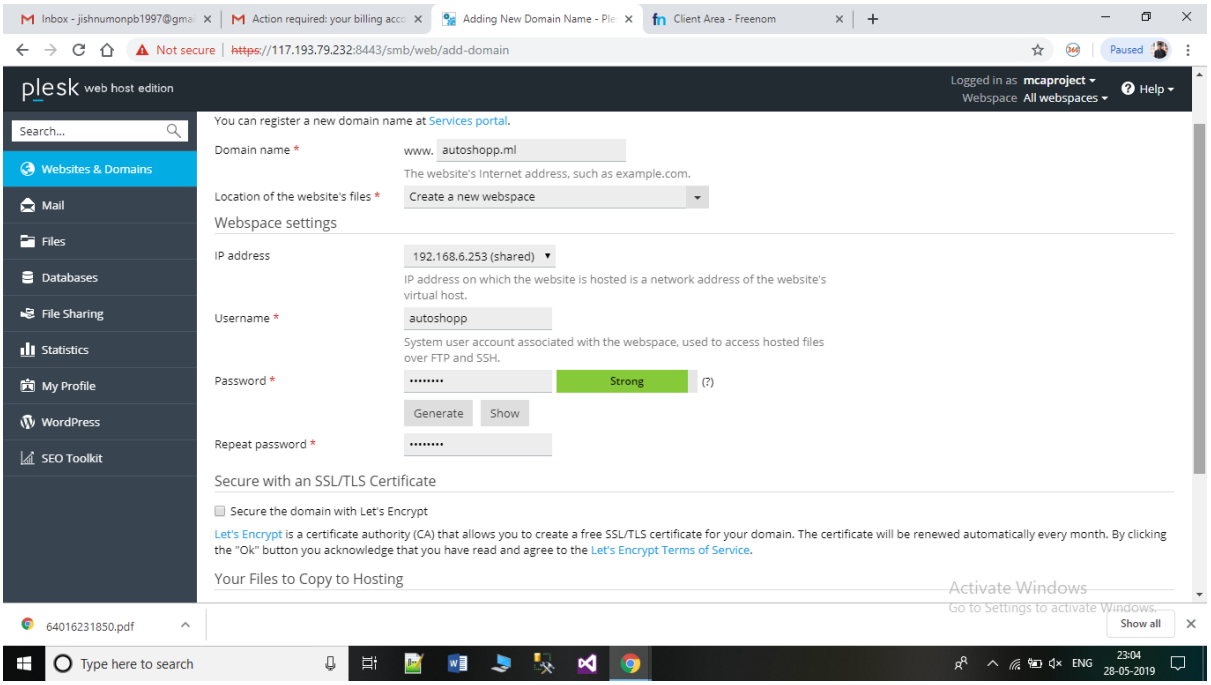
Create a dns zone and record



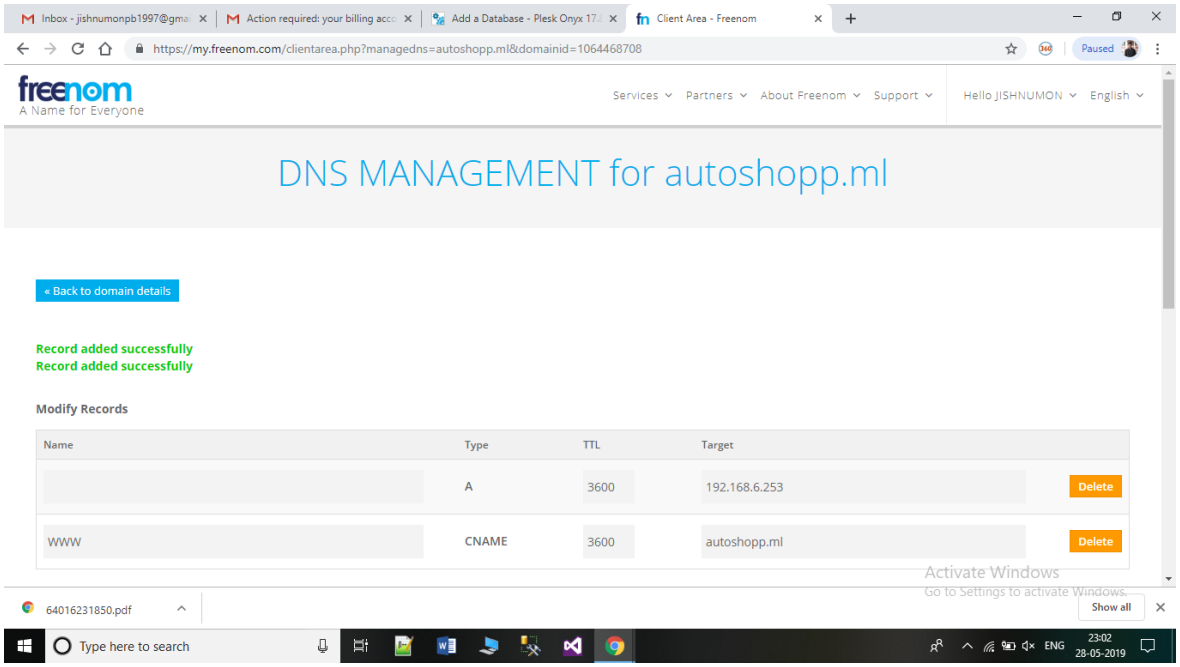
Add Record Set

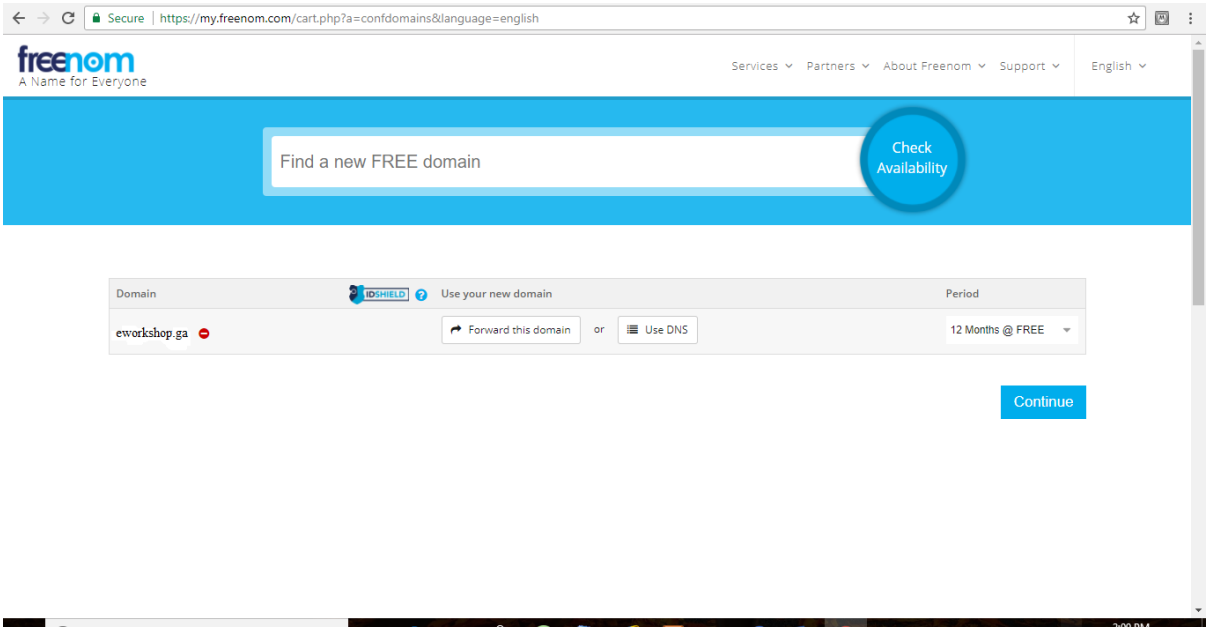


Specify Plesk panel settings

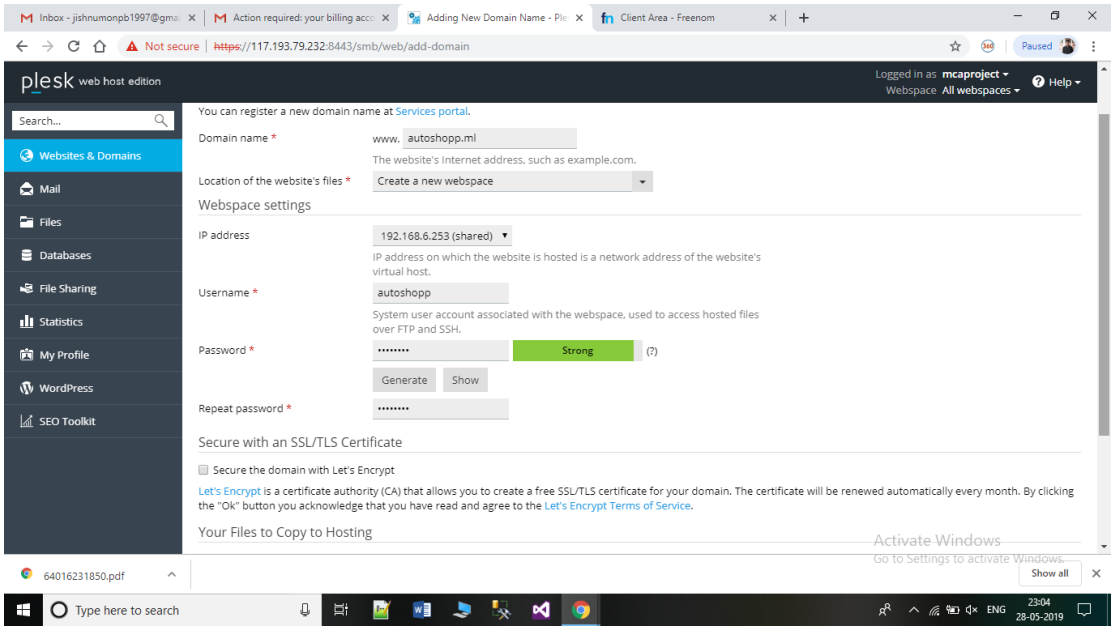


Create a new domain for hosting

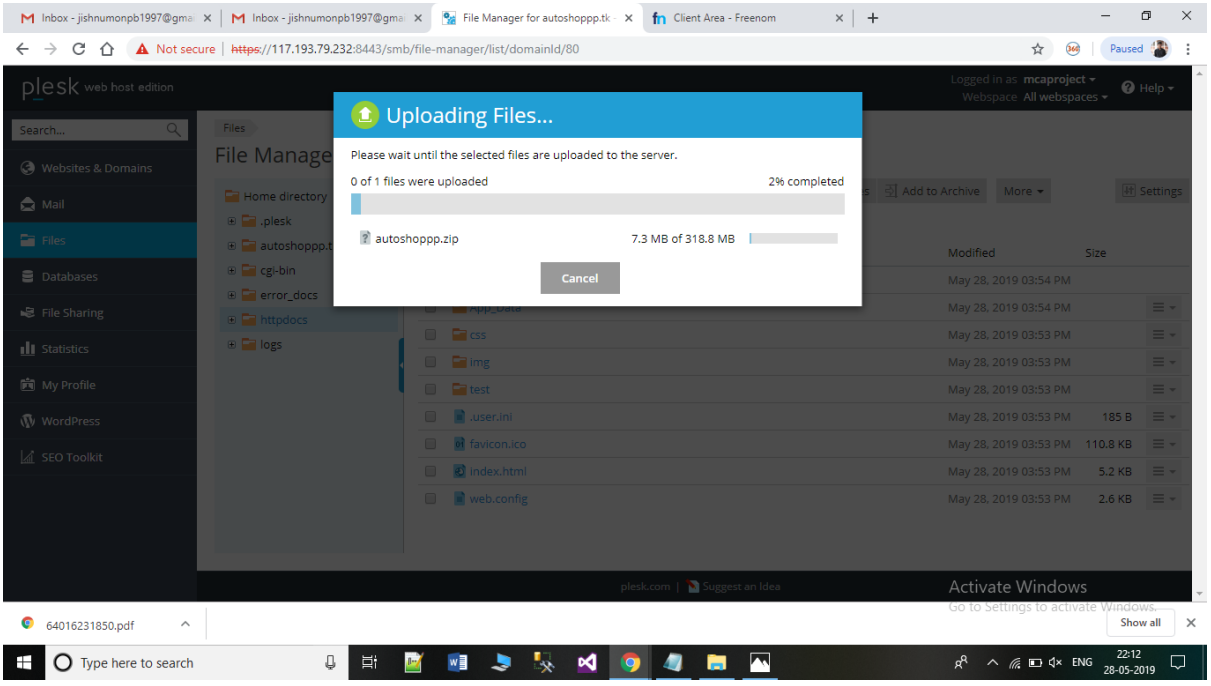


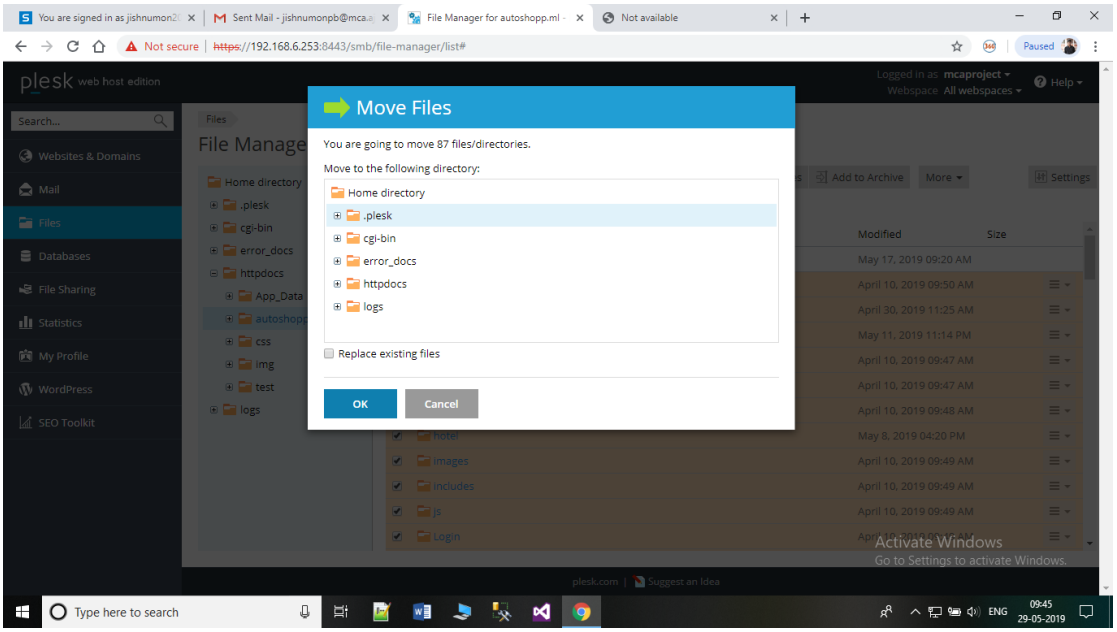


Create webspace

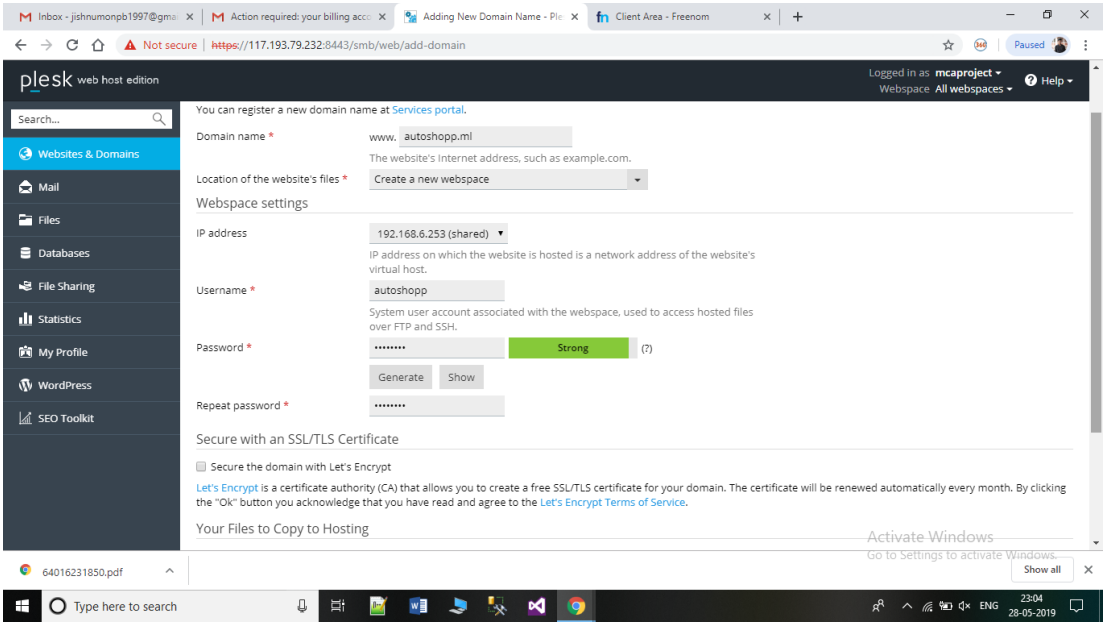


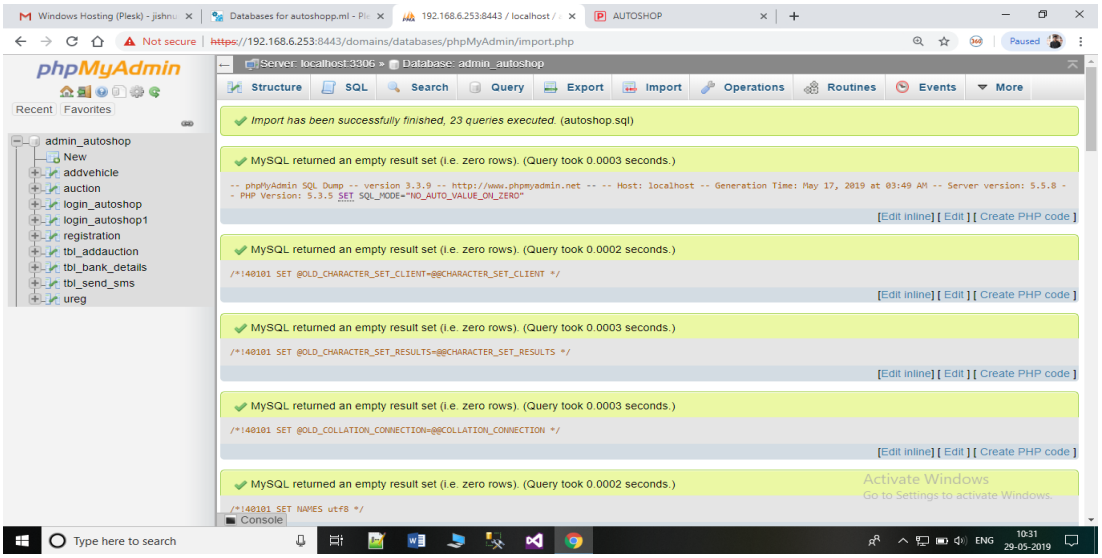
Upload project file



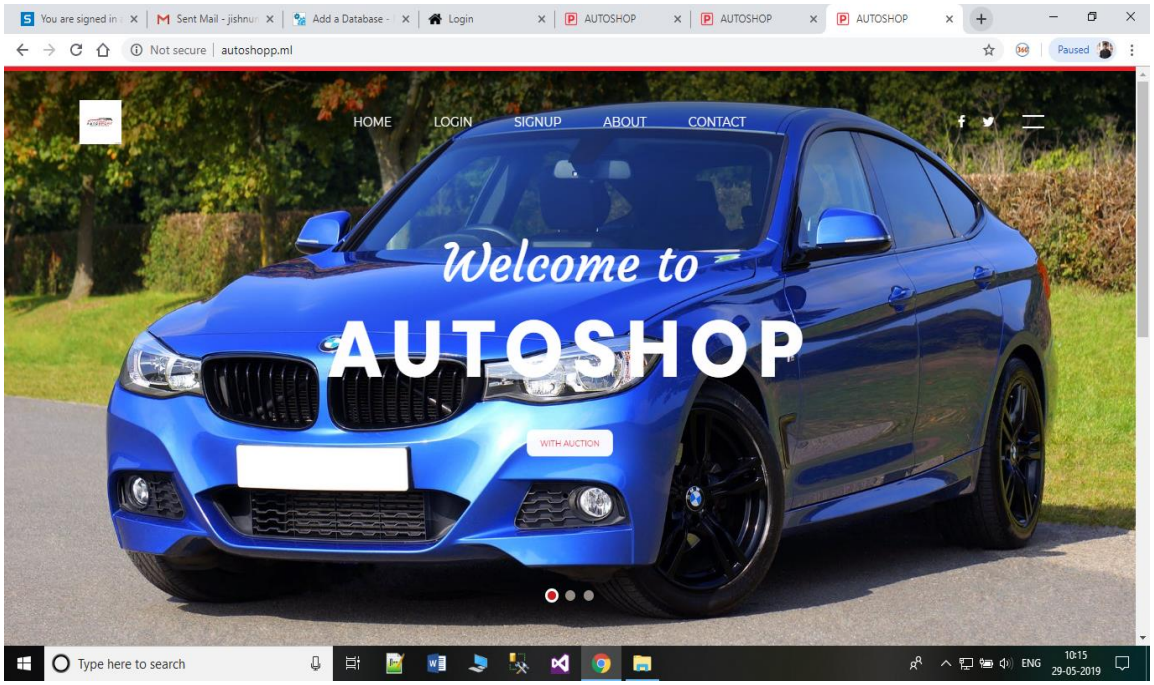


Add Database to the project




phpMyAdmin
Recent Favorites
admin_autoshop
New
addvehicle
auction
login_autoshop
login_autoshop1
registration
tbl_addauction
tbl_bank_details
tbl_send_sms
ureg
Server: localhost:3306 » Database: admin_autoshop
Structure SQL Search Query Export Import Operations Routines Events More
Import has been successfully finished, 23 queries executed. (autoshop.sql)
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)
Activate Windows
Type here to search

Site Hosted


Not secure autoshopp.ml
HOME LOGIN SIGNUP ABOUT CONTACT
Welcome to
AUTOSHOP
WITH AUCTION
Type here to search

P1.2 AWS (AMAZON WEB SERVICES)

P1.2.1 INTRODUCTION AMAZON WEB SERVICES CLOUD

In 2006, Amazon Web Services (AWS) began offering IT infrastructure services to businesses in the form of web services -- now commonly known as cloud computing. One of the key benefits of cloud computing is the opportunity to replace up-front capital infrastructure expenses with low variable costs that scale with your business. With the Cloud, businesses no longer need to plan for and procure servers and other IT infrastructure weeks or months in advance. Instead, they can instantly spin up hundreds or thousands of servers in minutes and deliver results faster.

Today, Amazon Web Services provides a highly reliable, scalable, low-cost infrastructure platform in the cloud that powers hundreds of thousands of businesses in 190 countries around the world. With data center locations in the U.S., Europe, Brazil, Singapore, Japan, and Australia, customers across all industries are taking advantage of the following benefits:

Low Cost

AWS offers low, pay-as-you-go pricing with no up-front expenses or long-term commitments. We are able to build and manage a global infrastructure at scale and pass the cost saving benefits onto you in the form of lower prices. With the efficiencies of our scale and expertise, we have been able to lower our prices on 15 different occasions over the past four years. Visit the Economics Centre to learn more.

Agility and Instant Elasticity

AWS provides a massive global cloud infrastructure that allows you to quickly innovate, experiment and iterate. Instead of waiting weeks or months for hardware, you can instantly deploy new applications, instantly scale up as your workload grows, and instantly scale down based on demand. Whether you need one virtual server or thousands, whether you need them for a few hours or 24/7, you still only pay for what you use. Visit the Architecture Centre to learn more.

Open and Flexible

AWS is a language and operating system agnostic platform. You choose the development platform or programming model that makes the most sense for your business. You can choose which services you use, one or several, and choose how you use them. This flexibility allows you to focus on innovation, not infrastructure. Download the AWS Overview Whitepaper.

Secure

AWS is a secure, durable technology platform with industry-recognized certifications and audits: PCI DSS Level 1, ISO 27001, FISMA Moderate, FedRAMP, HIPAA, and SOC 1 (formerly referred to as SAS 70 and/or SSAE 16) and SOC 2 audit reports. Our services and data centers have multiple layers of operational and physical security to ensure the integrity and safety of your data. Visit the Security Centre to learn more.

Solutions

The AWS cloud computing platform provides the flexibility to launch your application regardless of your use case or industry. Learn more about popular solutions customers are running on AWS.

Application Hosting

Use reliable, on-demand infrastructure to power your applications, from hosted internal applications to SaaS offerings.

Websites

Satisfy your dynamic web hosting needs with AWS's scalable infrastructure platform.

Backup and Storage

Store data and build dependable backup solutions using AWS's inexpensive data storage services.

Enterprise IT

Host internal- or external-facing IT applications in AWS's secure environment.

Content Delivery

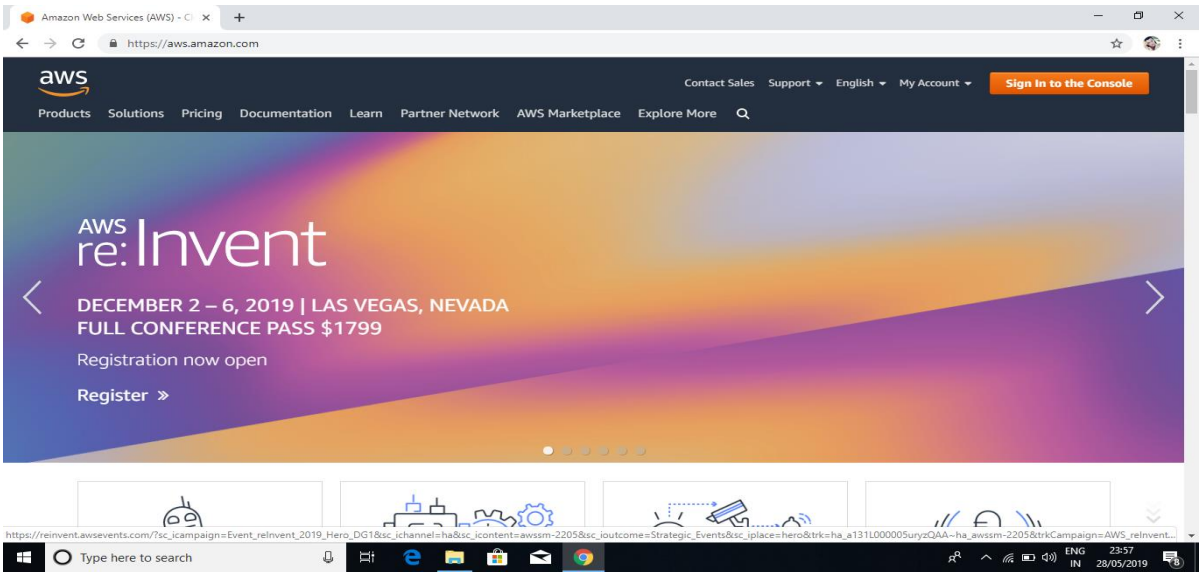
Quickly and easily distribute content to end users worldwide, with low costs and high data transfer speeds.

Databases

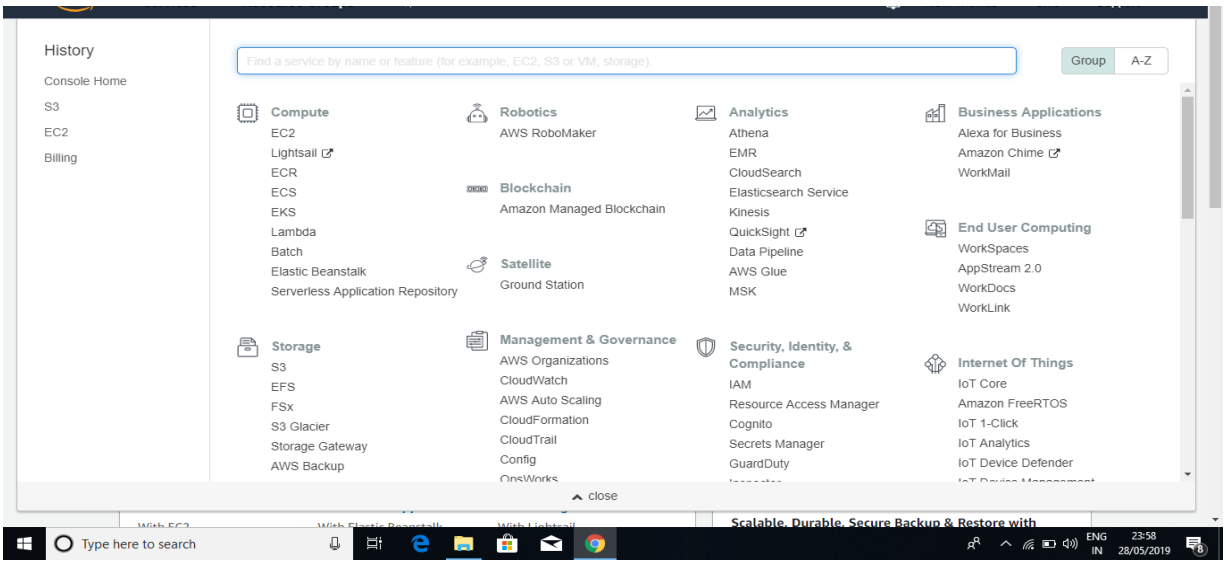
Take advantage of a variety of scalable database solutions, from hosted enterprise database software or non-relational database solutions.

Get Started

- Sign up for AWS, by signing up for AWS, you have access to Amazon's cloud computing services.



- Once you successfully logged in, you will be redirected to AWS Dashboard.

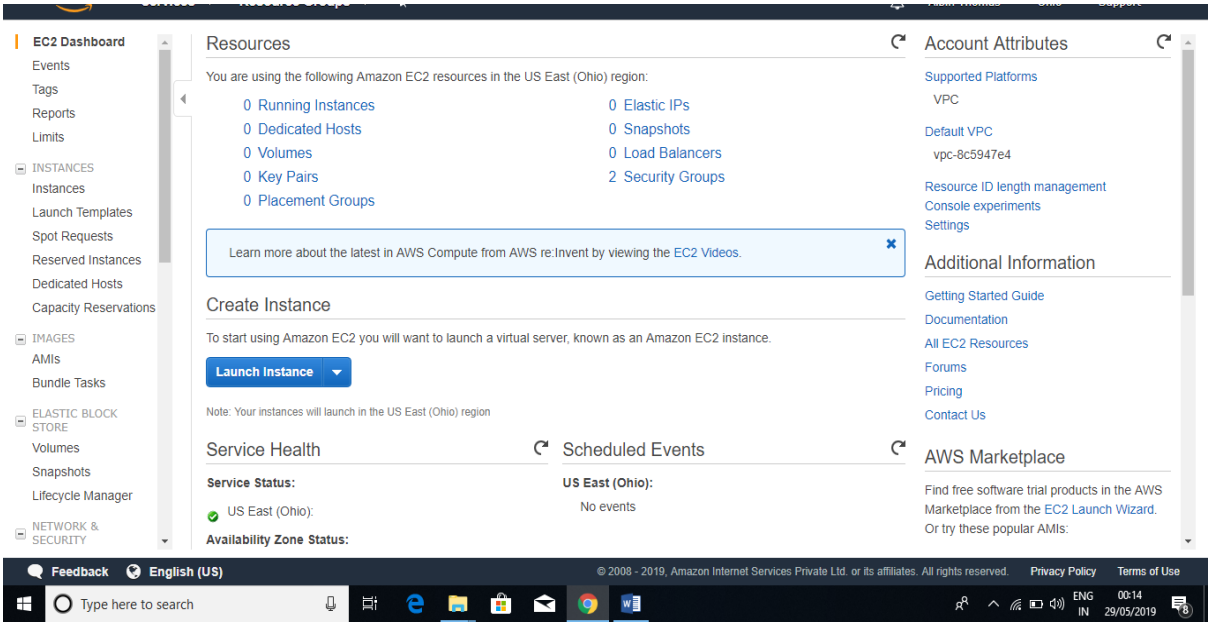


P1.2.2 AMAZON ELASTIC COMPUTE CLOUD (EC2)

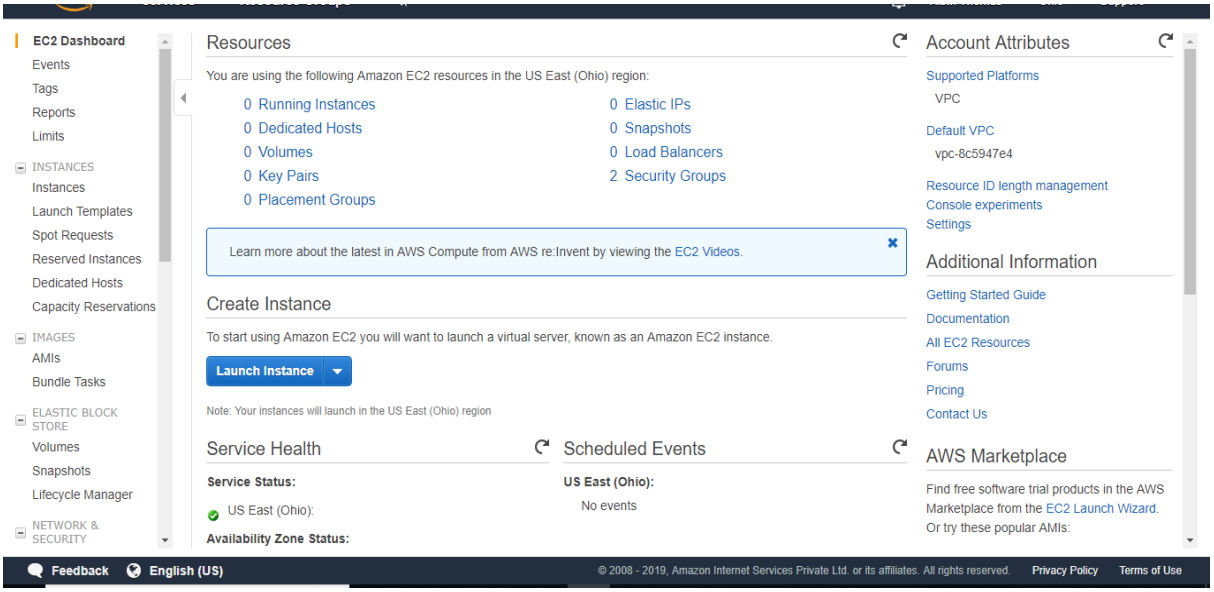
Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud. It is designed to make web-scale cloud computing easier for developers.

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. Amazon EC2 reduces the time required to obtain and boot new server instances to minutes, allowing you to quickly scale capacity, both up and down, as your computing requirements change. Amazon EC2 changes the economics of computing by allowing you to pay only for capacity that you actually use. Amazon EC2 provides developers the tools to build failure resilient applications and isolate them from common failure scenarios.

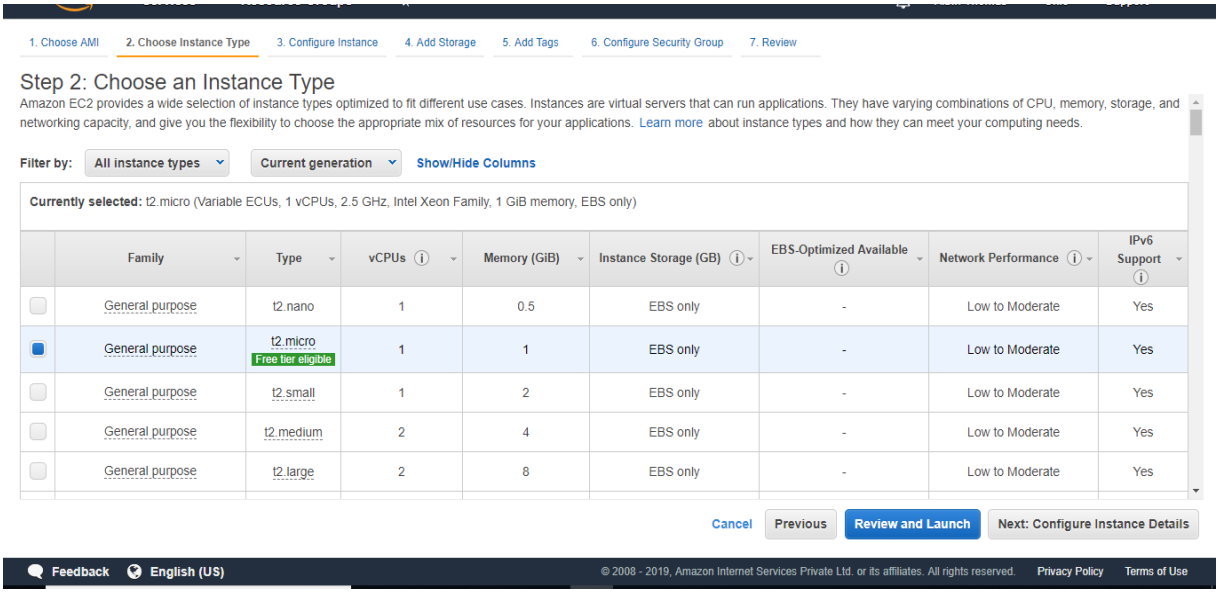
Step 1: Go to EC2 Console and then press 'Launch Instance'

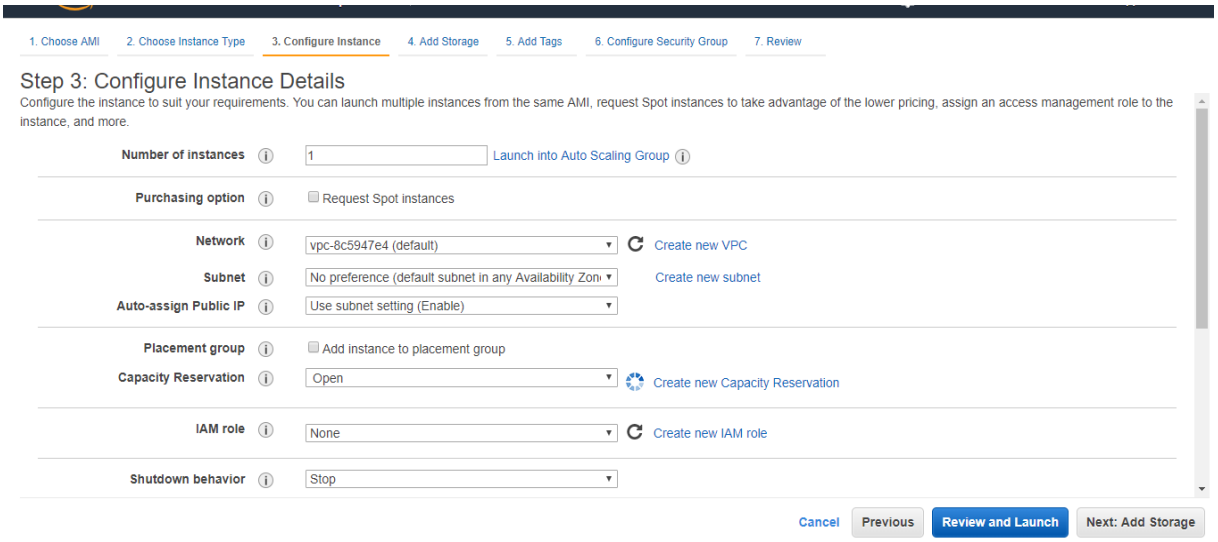


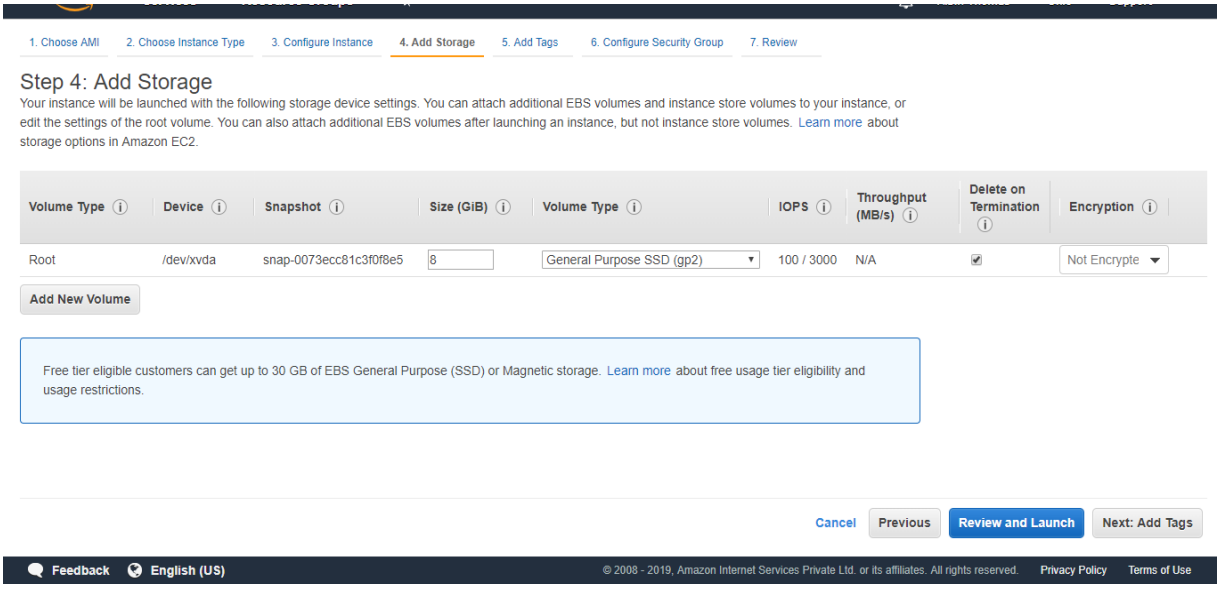
Step 2: We are Creating a Windows Server Instance



Step 3: Continue the Installation Step as follows




1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 3: Configure Instance Details
Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.
Number of instances
1
Launch into Auto Scaling Group
Purchasing option
Request Spot instances
Network
vpc-8c5947e4 (default)
Create new VPC
Subnet
No preference (default subnet in any Availability Zon
Create new subnet
Auto-assign Public IP
Use subnet setting (Enable)
Placement group
Add instance to placement group
Capacity Reservation
Open
Create new Capacity Reservation
IAM role
None
Create new IAM role
Shutdown behavior
Stop
Cancel
Previous
Review and Launch
Next: Add Storage


1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 4: Add Storage
Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. Learn more about storage options in Amazon EC2.
Volume Type
Device
Snapshot
Size (GiB)
Volume Type
IOPS
Throughput (MB/s)
Delete on Termination
Encryption
Root
/dev/xvda
snap-0073ecc81c3f0f8e5
8
General Purpose SSD (gp2)
100 / 3000
N/A
Not Encrypte
Add New Volume
Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. Learn more about free usage tier eligibility and usage restrictions.
Cancel
Previous
Review and Launch
Next: Add Tags
Feedback
English (US)
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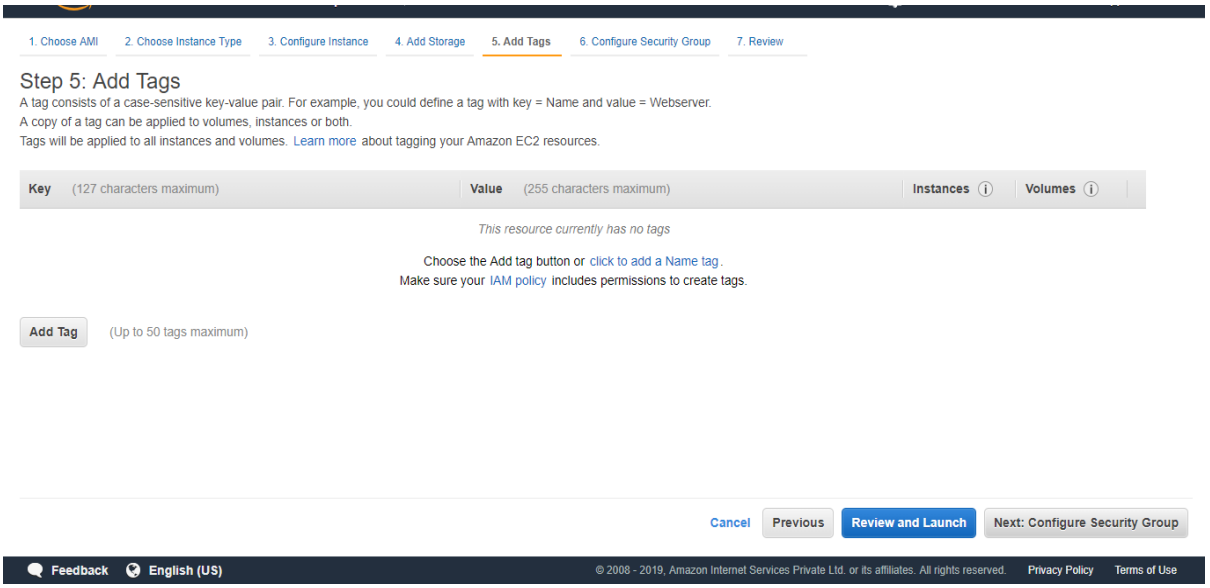
Privacy Policy
Terms of Use


1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
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 (127 characters maximum)
Value (255 characters maximum)
Instances
Volumes
This resource currently has no tags
Choose the Add tag button or click to add a Name tag.
Make sure your IAM policy includes permissions to create tags.
Add Tag
(Up to 50 tags maximum)
Cancel
Previous
Review and Launch
Next: Configure Security Group
Feedback
English (US)
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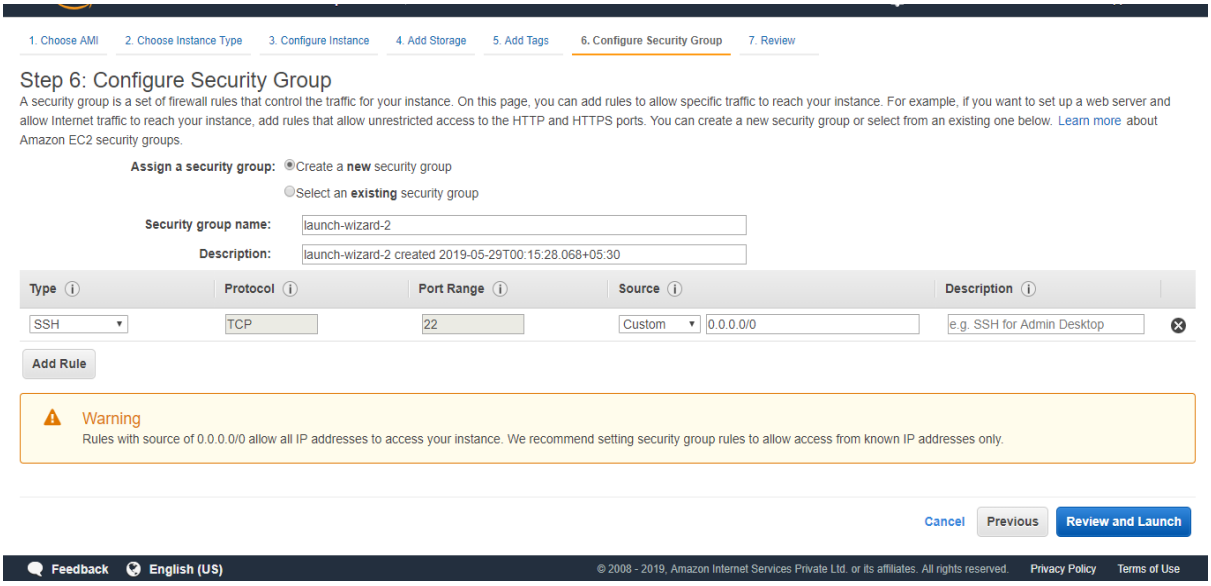
Privacy Policy
Terms of Use


1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 6: Configure Security Group
A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. Learn more about Amazon EC2 security groups.
Assign a security group:
Create a new security group
Select an existing security group
Security group name:
launch-wizard-2
Description:
launch-wizard-2 created 2019-05-29T00:15:28.068+05:30
Type
Protocol
Port Range
Source
Description
SSH
TCP
22
Custom
0.0.0.0/0
e.g. SSH for Admin Desktop
Add Rule
Warning
Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.
Cancel
Previous
Review and Launch
Feedback
English (US)
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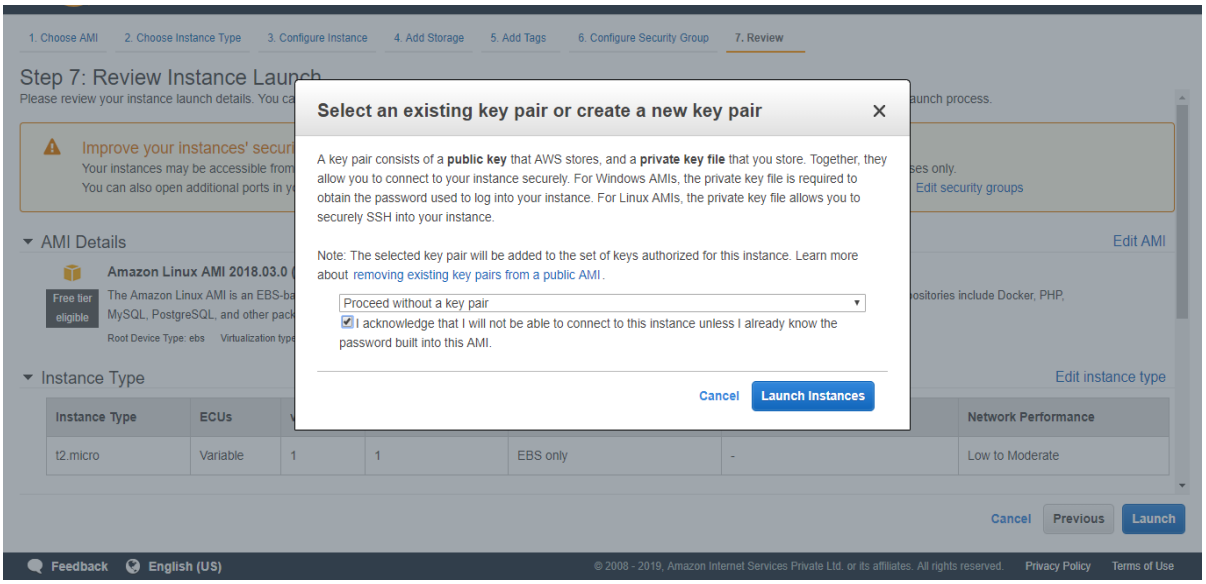
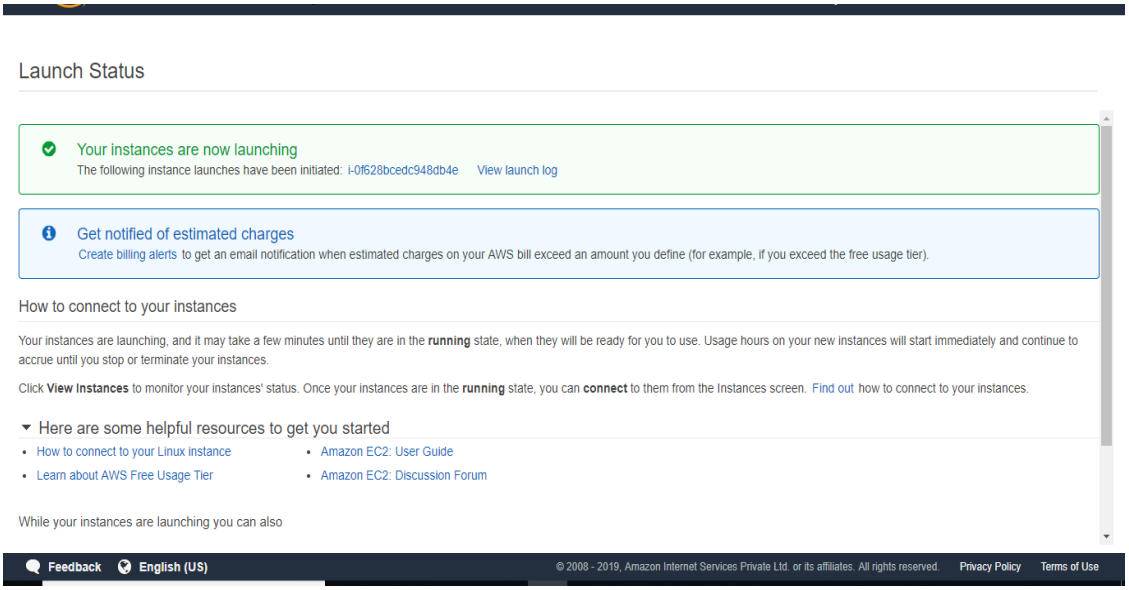
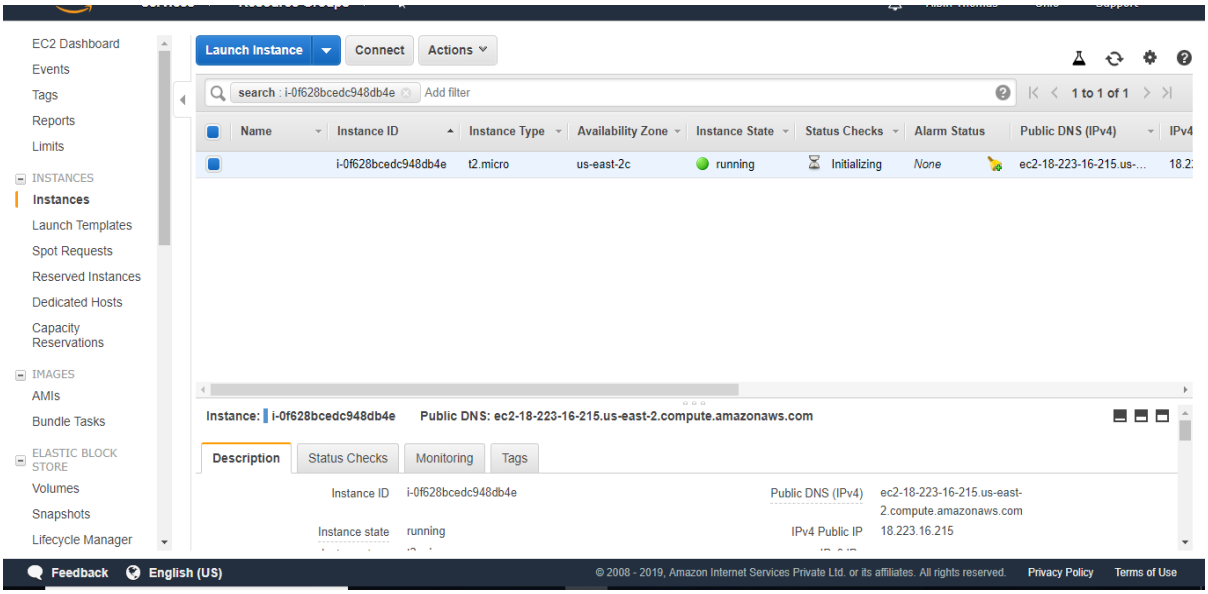
Privacy Policy
Terms of Use

Step 4: Create a New Key Pair

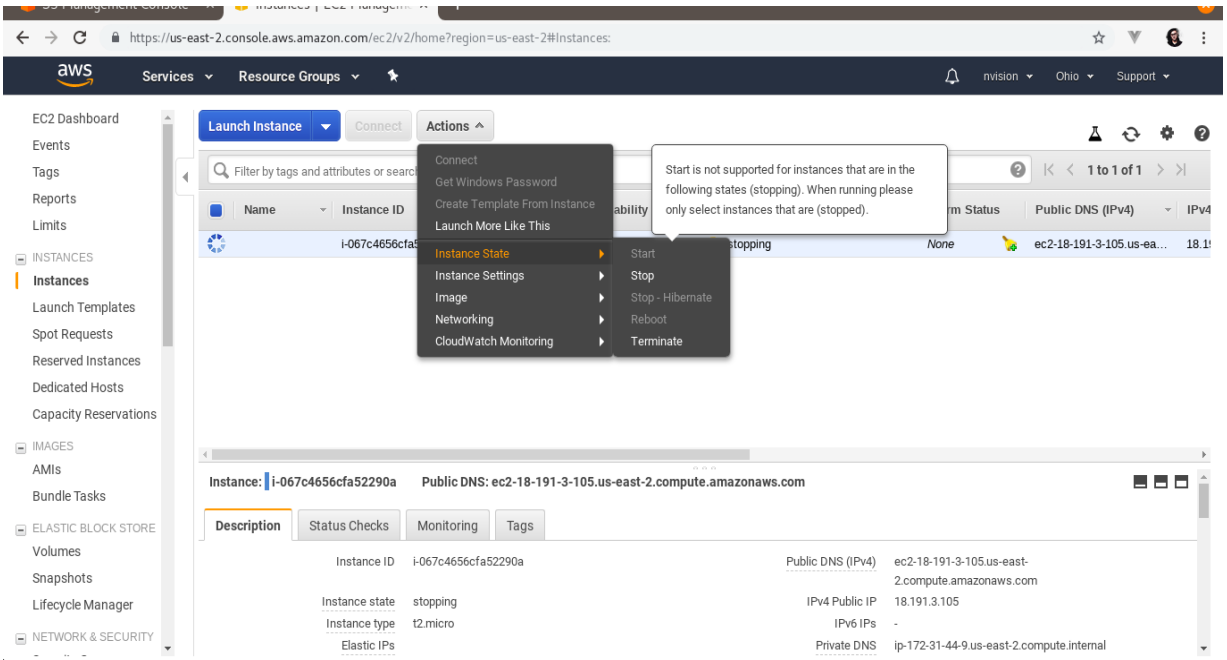


Step 5: The Instance will be Created.





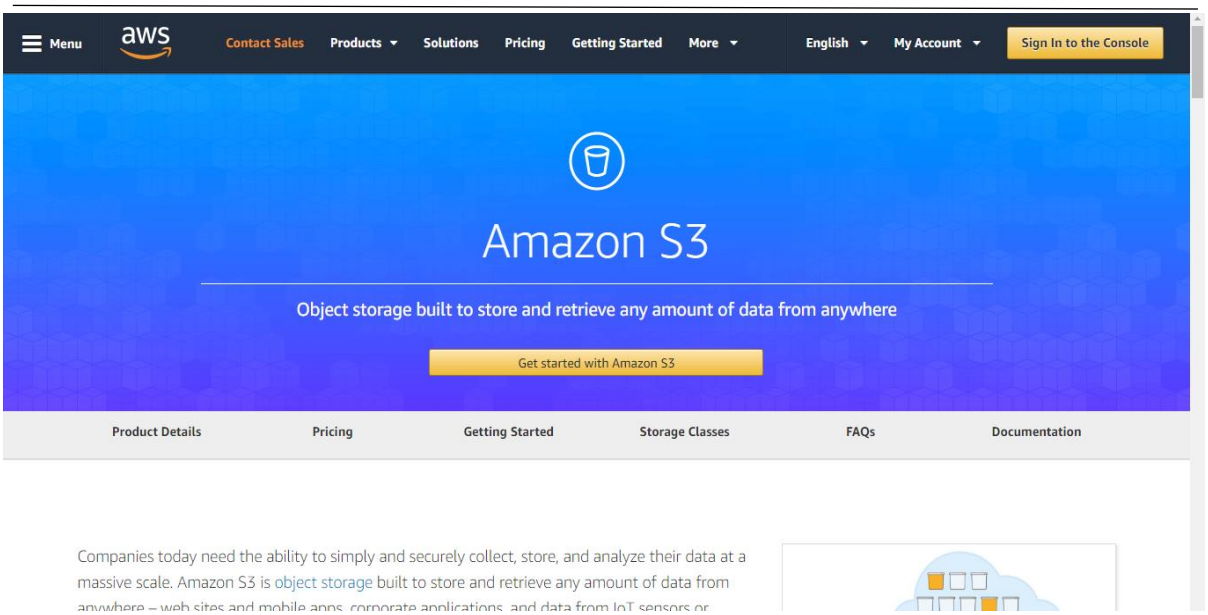
You can remove the instance by selecting the instance and choose stop then terminate from instance state from dropdown.



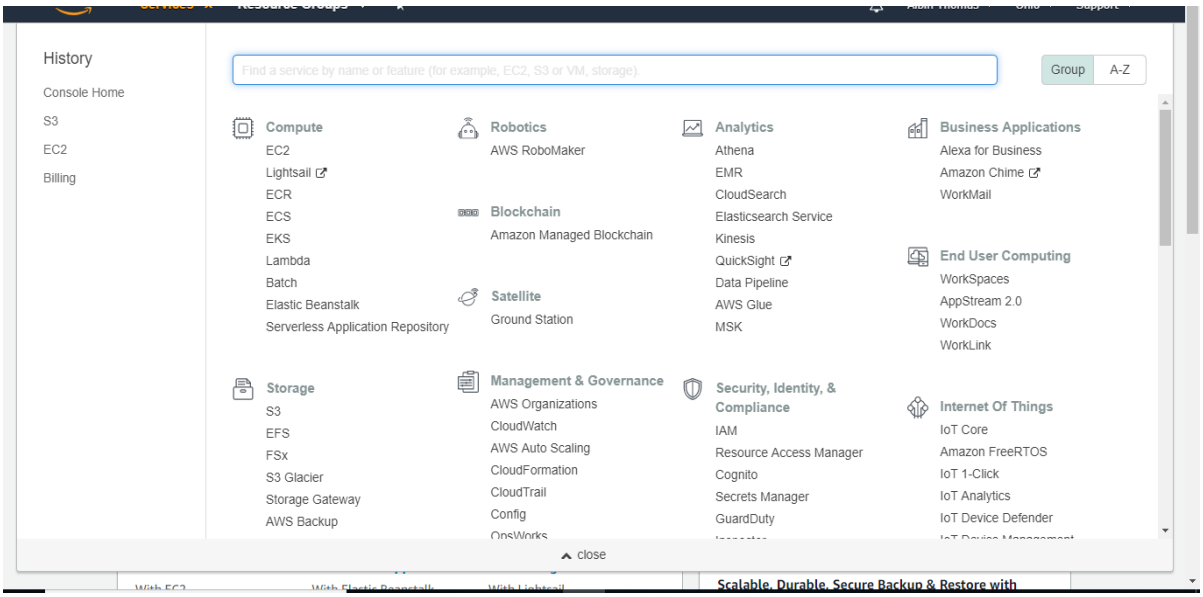
P1.2.3 AMAZON SIMPLE STORAGE SERVICE (S3)

Amazon S3 is a web service offered by Amazon Web Services. Amazon S3 provides storage through web services interfaces. S3 is a scalable, high-speed, low-cost, web-based cloud storage service designed for online backup and archiving of data and application programs. S3 was designed with a minimal feature set and created to make web-scale computing easier for developers. Amazon S3 is an object storage service, which differs from block and file cloud storage. Each object is stored as a file with its metadata included and given an ID number. Applications use this ID number to access an object. Unlike file and block cloud storage, a developer can access an object via a rest API.

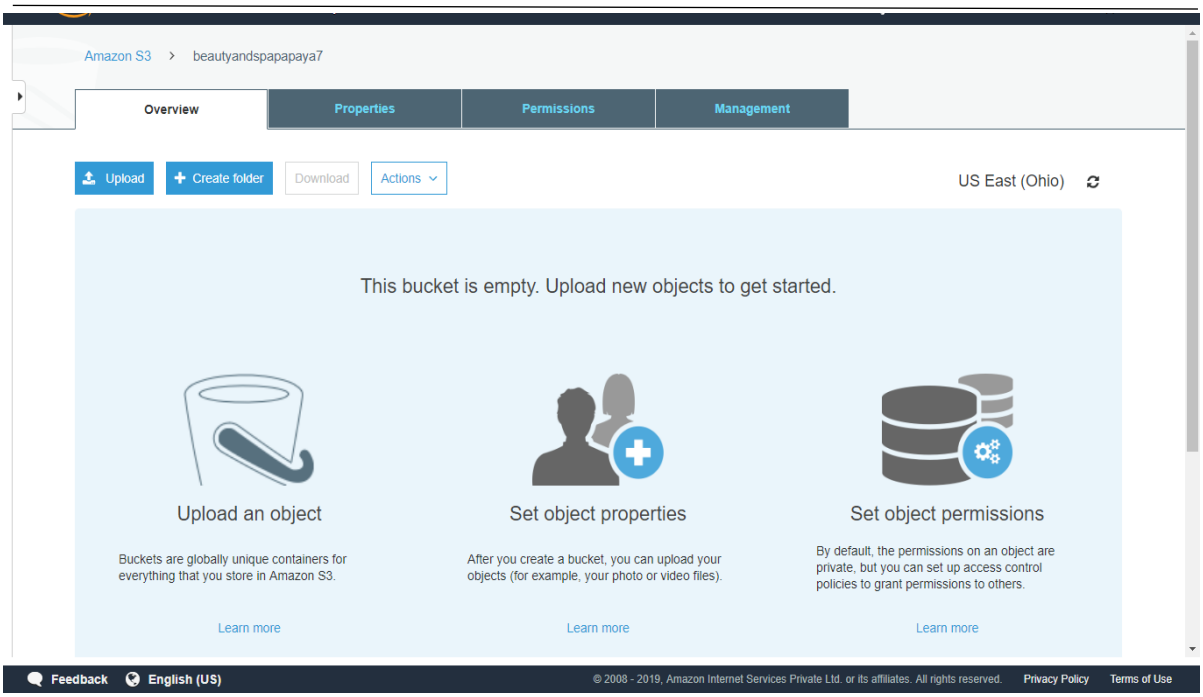
The S3 cloud storage service gives a subscriber access to the same systems that Amazon uses to run its own websites. S3 enables a customer to upload, store and download practically any file or object that is up to five gigabytes (5 GB) in size. Amazon S3 comes in two storage classes: S3 Standard and S3 Infrequent Access. S3 Standard is suitable for frequently accessed data that needs to be delivered with low latency and high throughput. S3 Standard targets applications, dynamic websites, content distribution and big data workloads. S3 Infrequent Access offers a lower storage price for backups and long-term data storage.



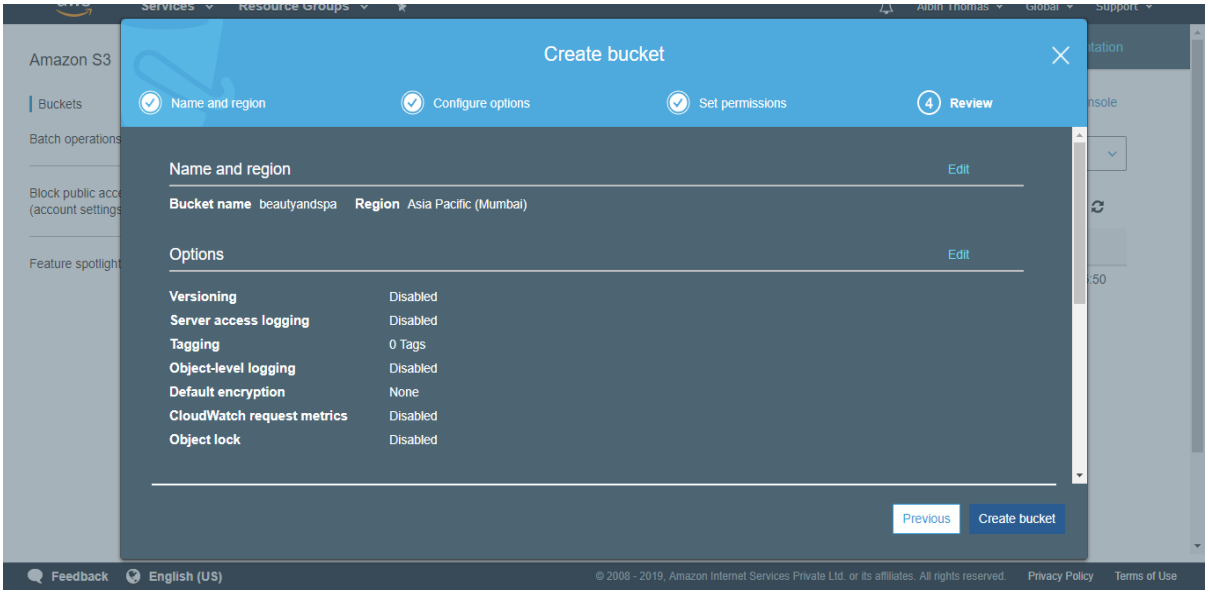
Step 1: Login into the AWS platform



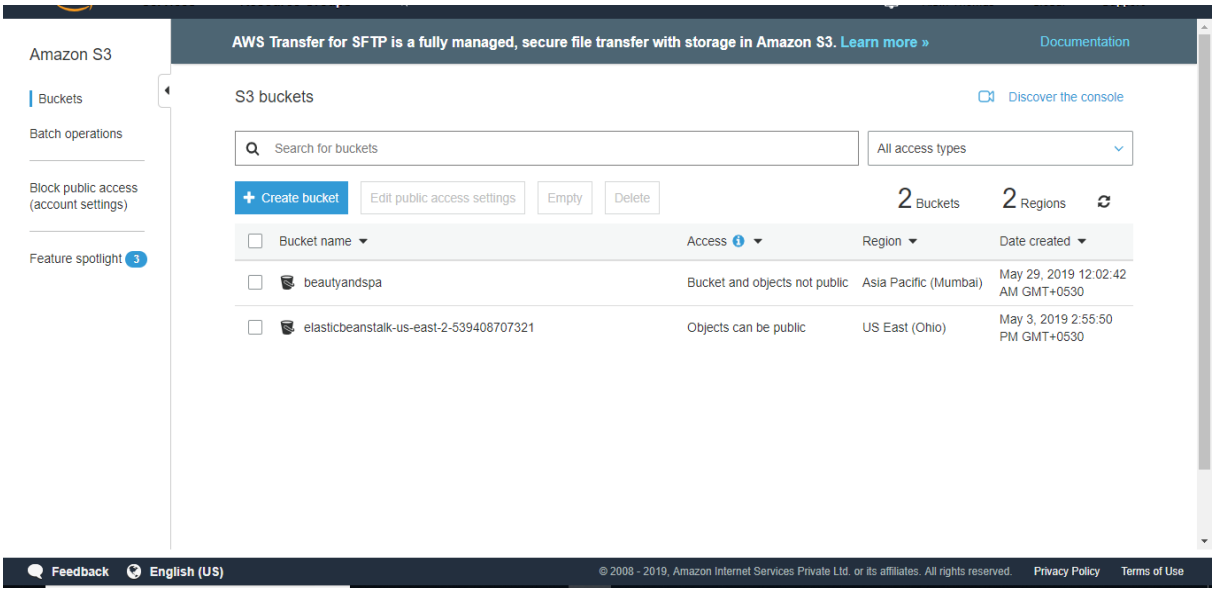
Step 2: We are going to create an Amazon S3 Bucket



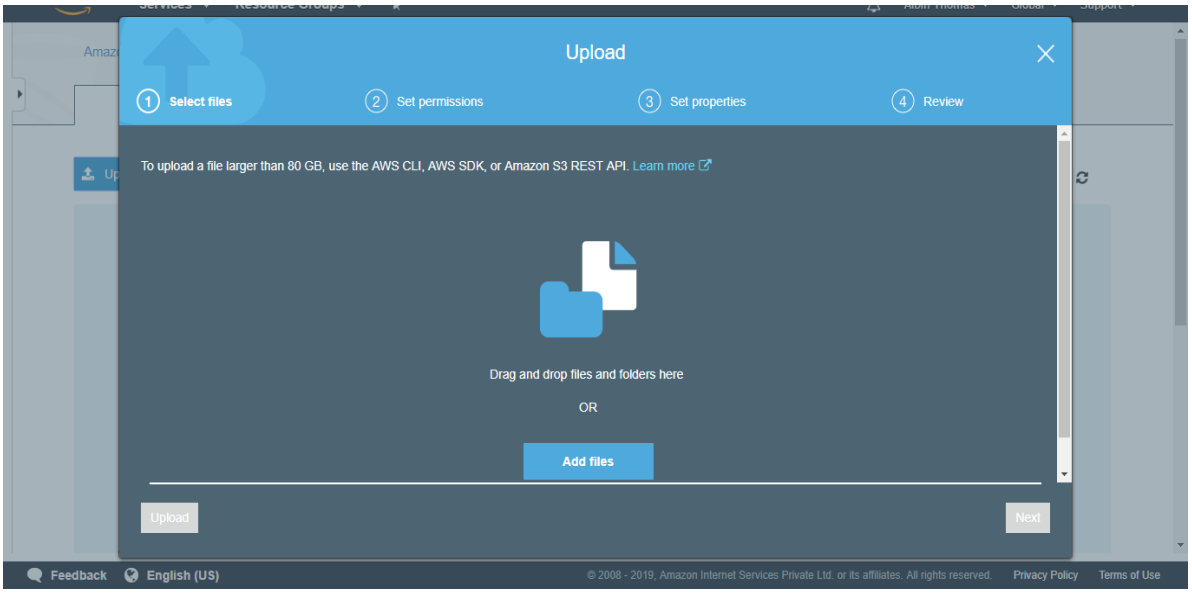
Review the Changes



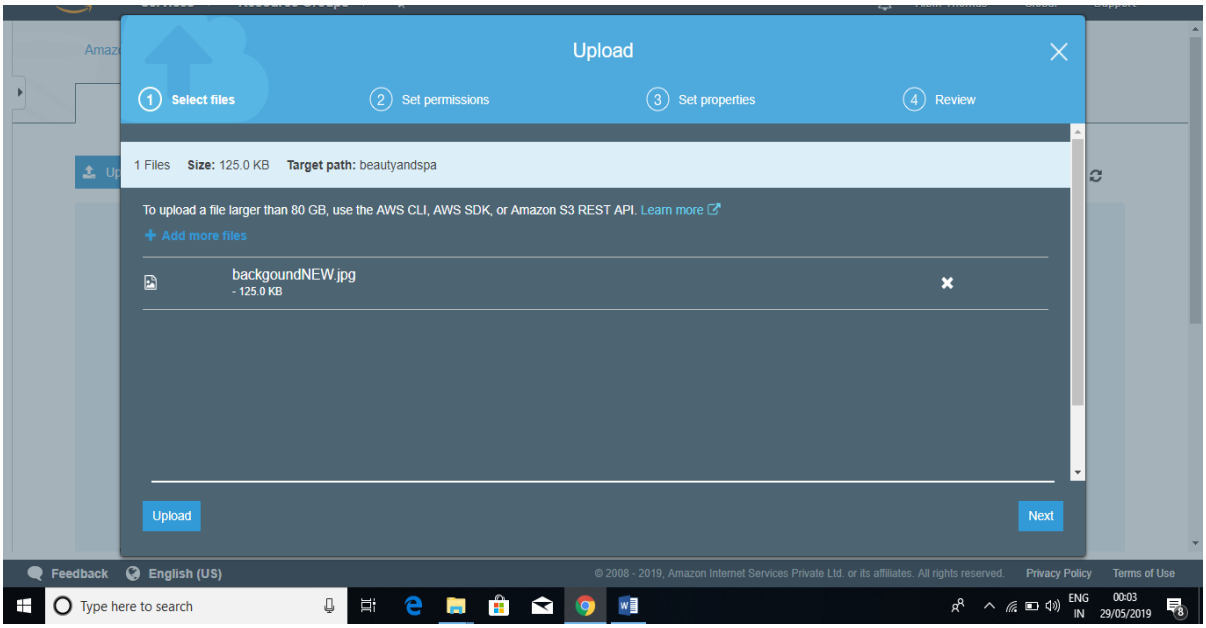
Our Bucket has been created



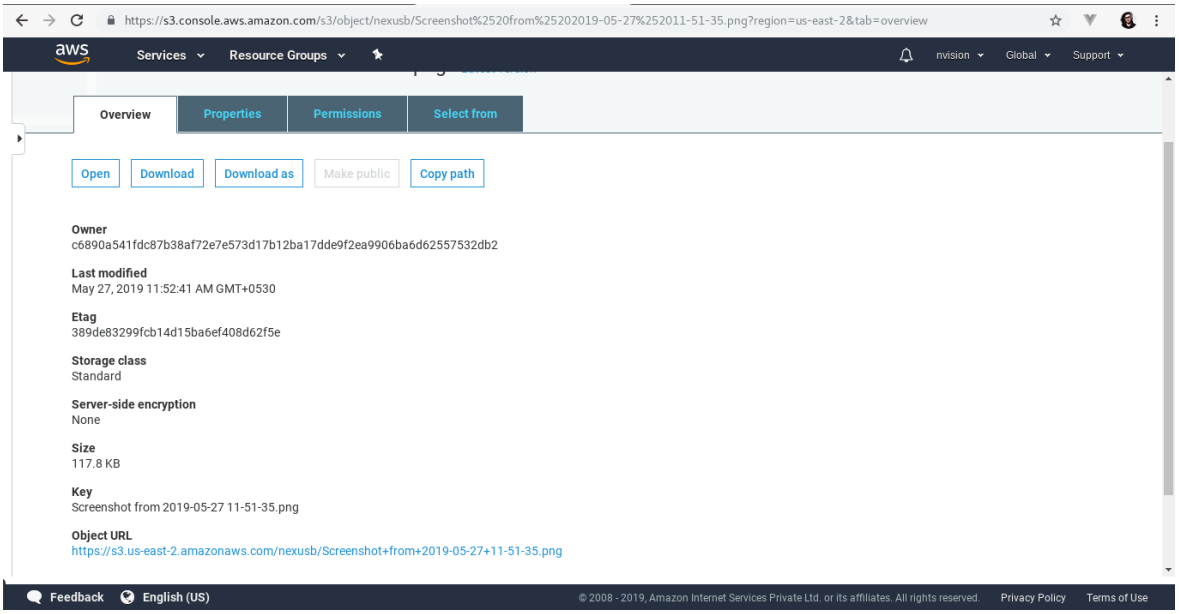
Step 3: We can upload files to this Bucket.

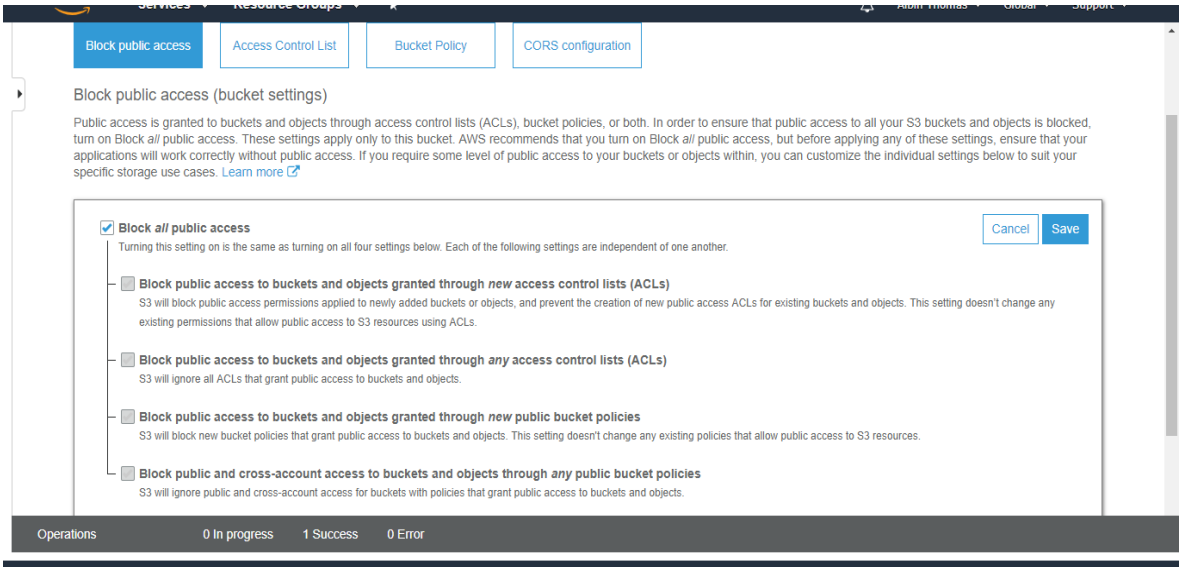


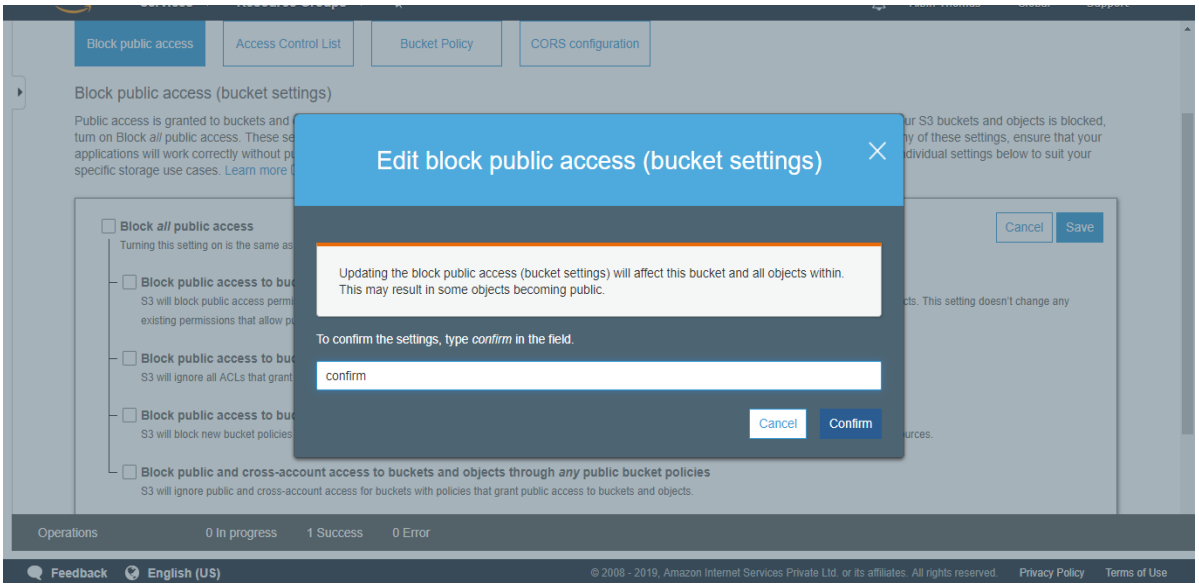
Just drag and drop the files, that we need to upload.



We have to set the permissions. Otherwise it will not be publicly available.




Block public access
Access Control List
Bucket Policy
CORS configuration
Block public access (bucket settings)
Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, or both. In order to ensure that public access to all your S3 buckets and objects is blocked, turn on Block all public access. These settings apply only to this bucket. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to your buckets or objects within, you can customize the individual settings below to suit your specific storage use cases. Learn more
Block all public access
Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.
Cancel
Save
Block public access to buckets and objects granted through new access control lists (ACLs)
S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.
Block public access to buckets and objects granted through any access control lists (ACLs)
S3 will ignore all ACLs that grant public access to buckets and objects.
Block public access to buckets and objects granted through new public bucket policies
S3 will block new bucket policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.
Block public and cross-account access to buckets and objects through any public bucket policies
S3 will ignore public and cross-account access for buckets with policies that grant public access to buckets and objects.
Operations
0 In progress
1 Success
0 Error


Block public access
Access Control List
Bucket Policy
CORS configuration
Block public access (bucket settings)
Edit block public access (bucket settings)
Updating the block public access (bucket settings) will affect this bucket and all objects within.
This may result in some objects becoming public.
To confirm the settings, type confirm in the field.
confirm
Cancel
Confirm
Block all public access
Cancel
Save
Block public access to buckets and objects granted through any public bucket policies
S3 will ignore public and cross-account access for buckets with policies that grant public access to buckets and objects.
Operations
0 In progress
1 Success
0 Error
Feedback
English (US)
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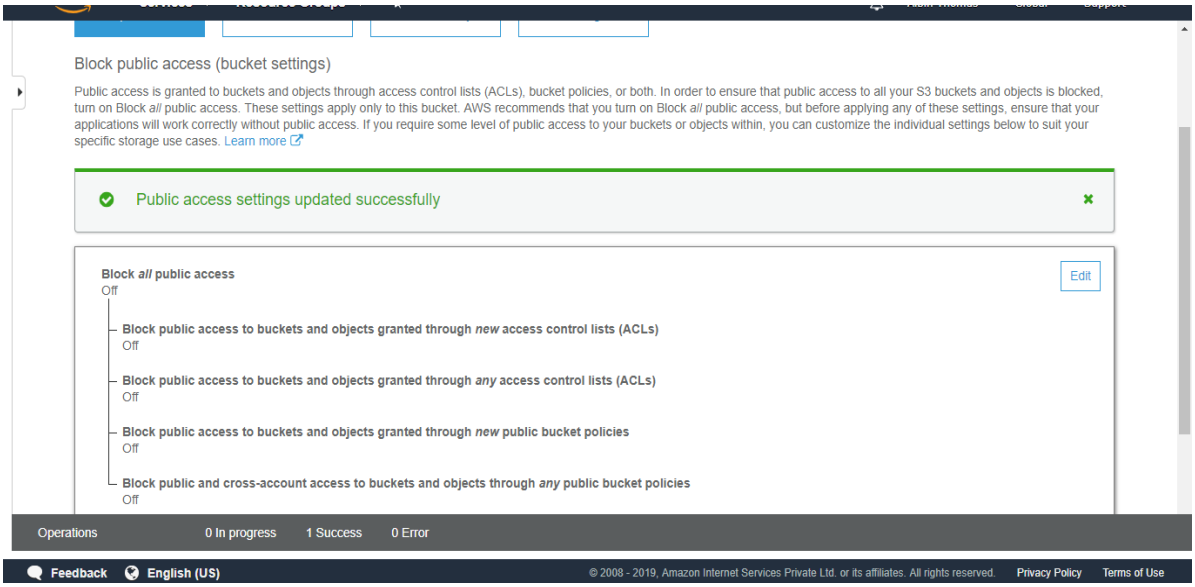
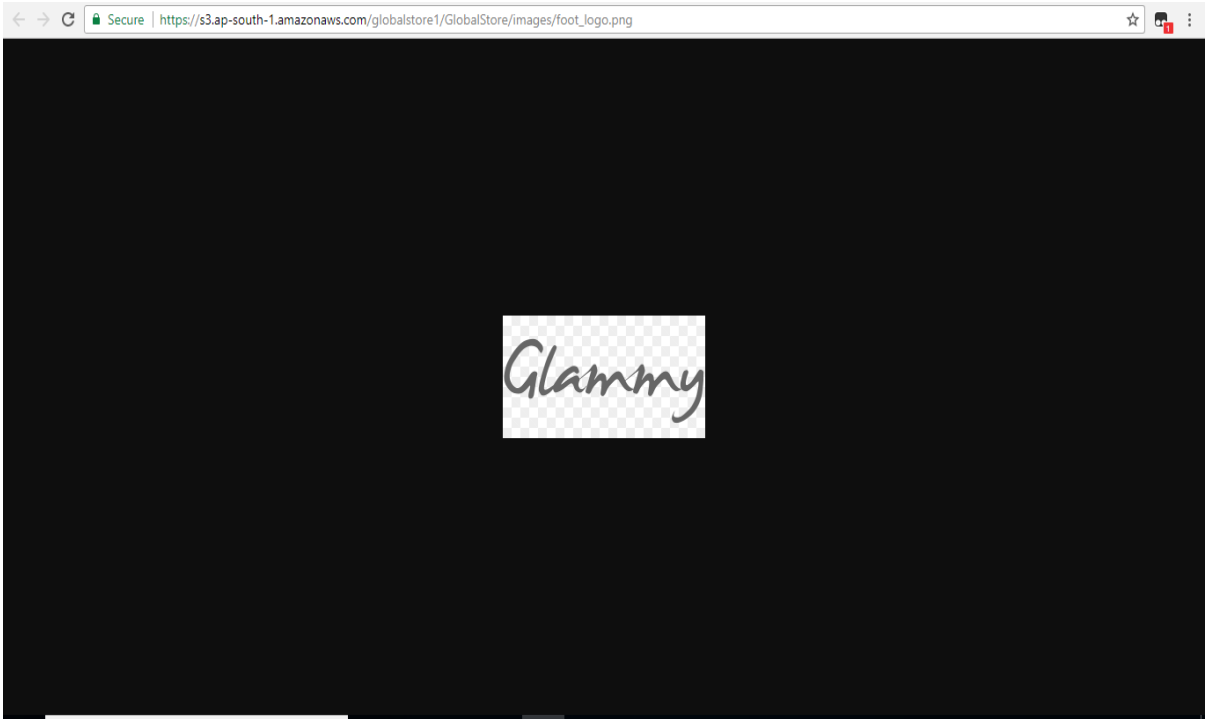
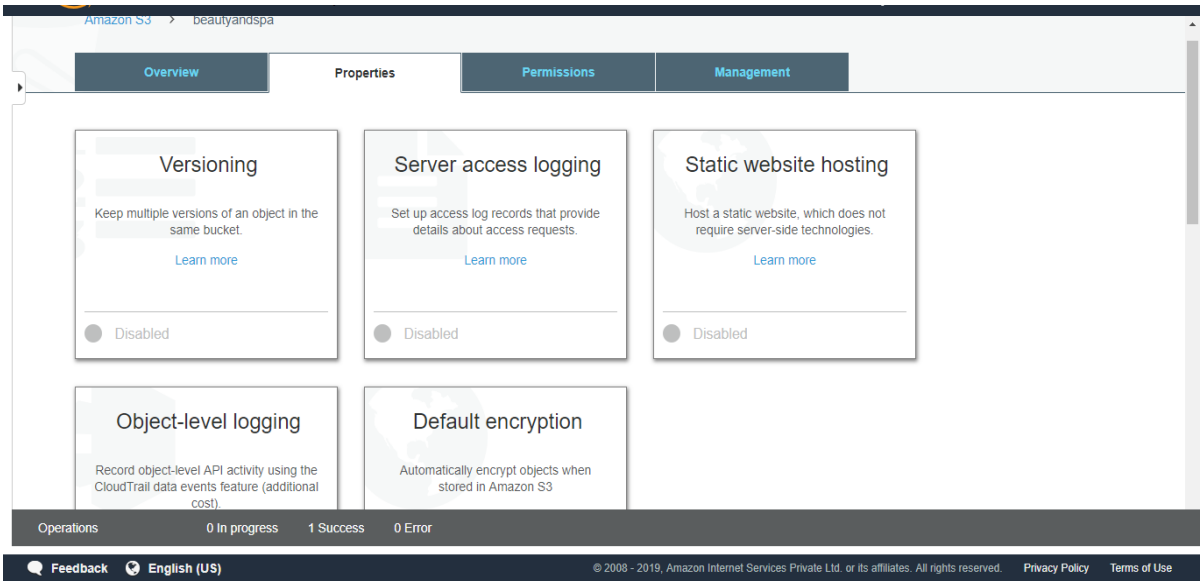
Then the file will be publicly available.

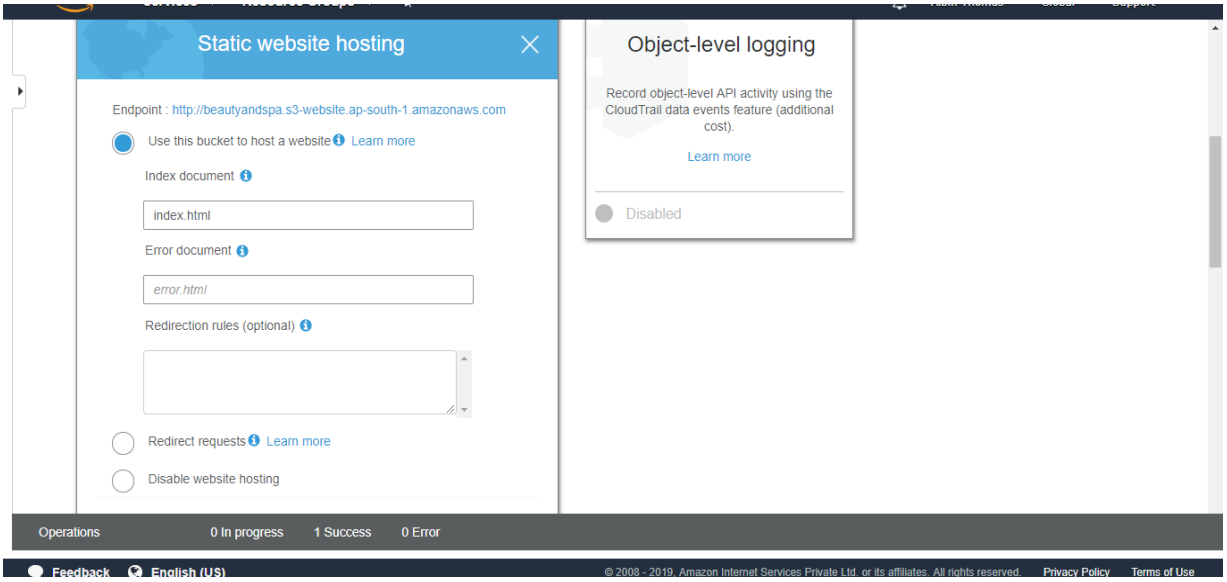




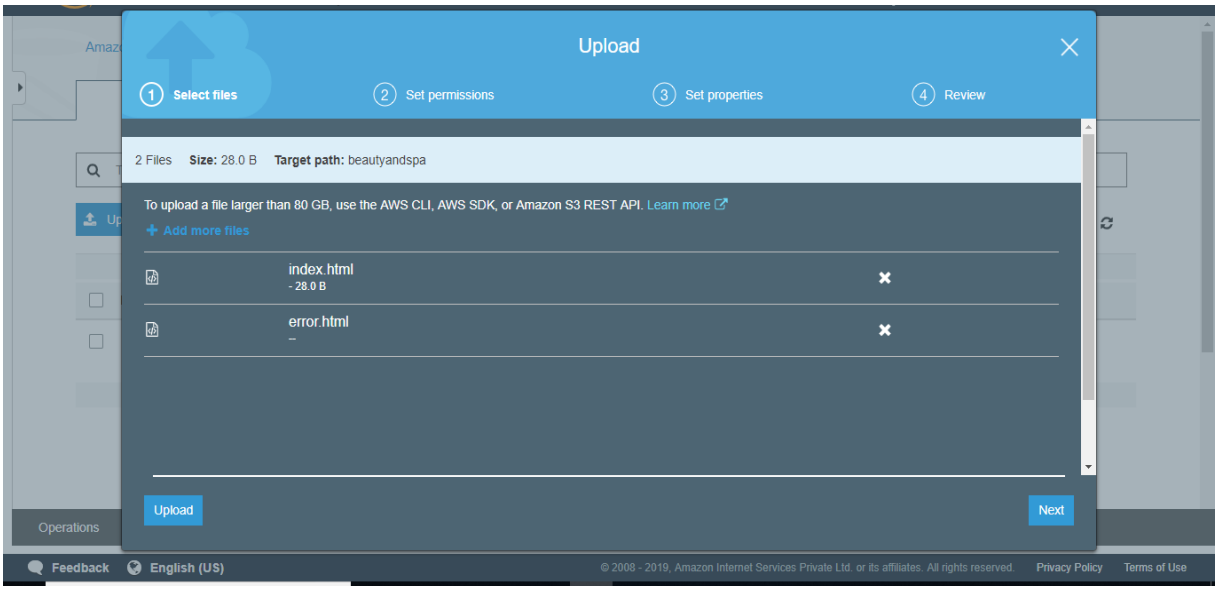
Step 4: For the purpose of hosting a Website we create another Bucket



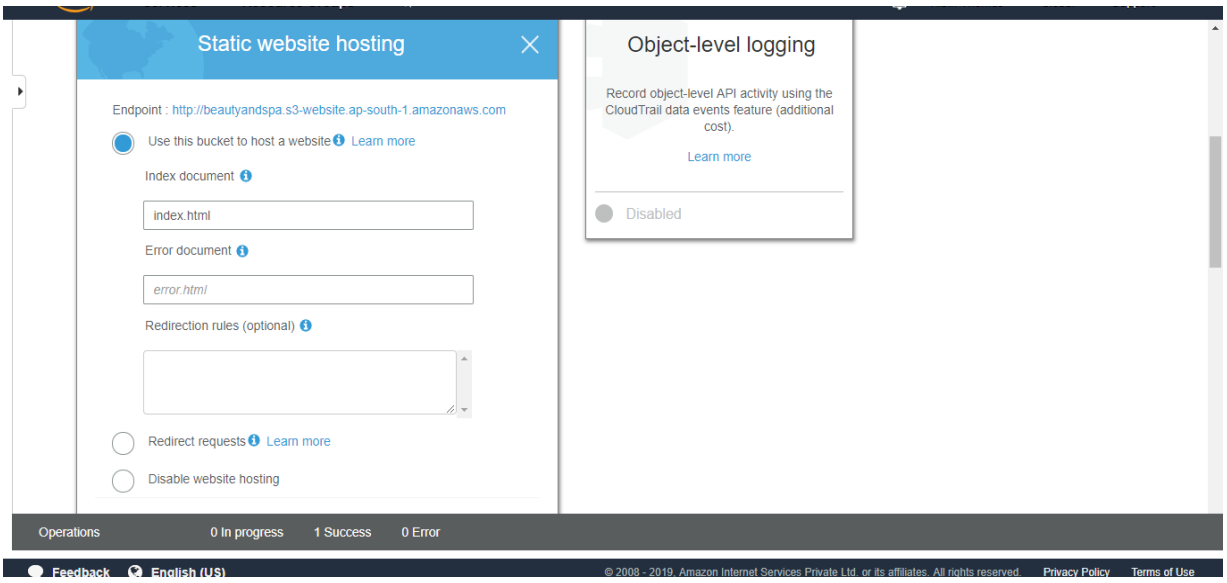
Specify the name of the Index document and Error document. Save it.



Upload the Index document and Error Document.



Now you can access the static site by the url provided here:



P1.2.4 AWS ELASTIC BEANSTALK

AWS Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.

You can simply upload your code and Elastic Beanstalk automatically handles the deployment, from capacity provisioning, load balancing, auto-scaling to application health monitoring. At the same time, you retain full control over the AWS resources powering your application and can access the underlying resources at any time.There is no additional charge for Elastic Beanstalk - you pay only for the AWS resources needed to store and run your applications.

Benefits

a. Fast and Simple to Begin

Elastic Beanstalk is the fastest and simplest way to deploy your application on AWS. You simply use the AWS Management Console, a Git repository, or an integrated development environment (IDE) such as Eclipse or Visual Studio to upload your application, and Elastic Beanstalk automatically handles the deployment details of capacity provisioning, load balancing, auto-scaling, and application health monitoring. Within minutes, your application will be ready to use without any infrastructure or resource configuration work on your part**.**

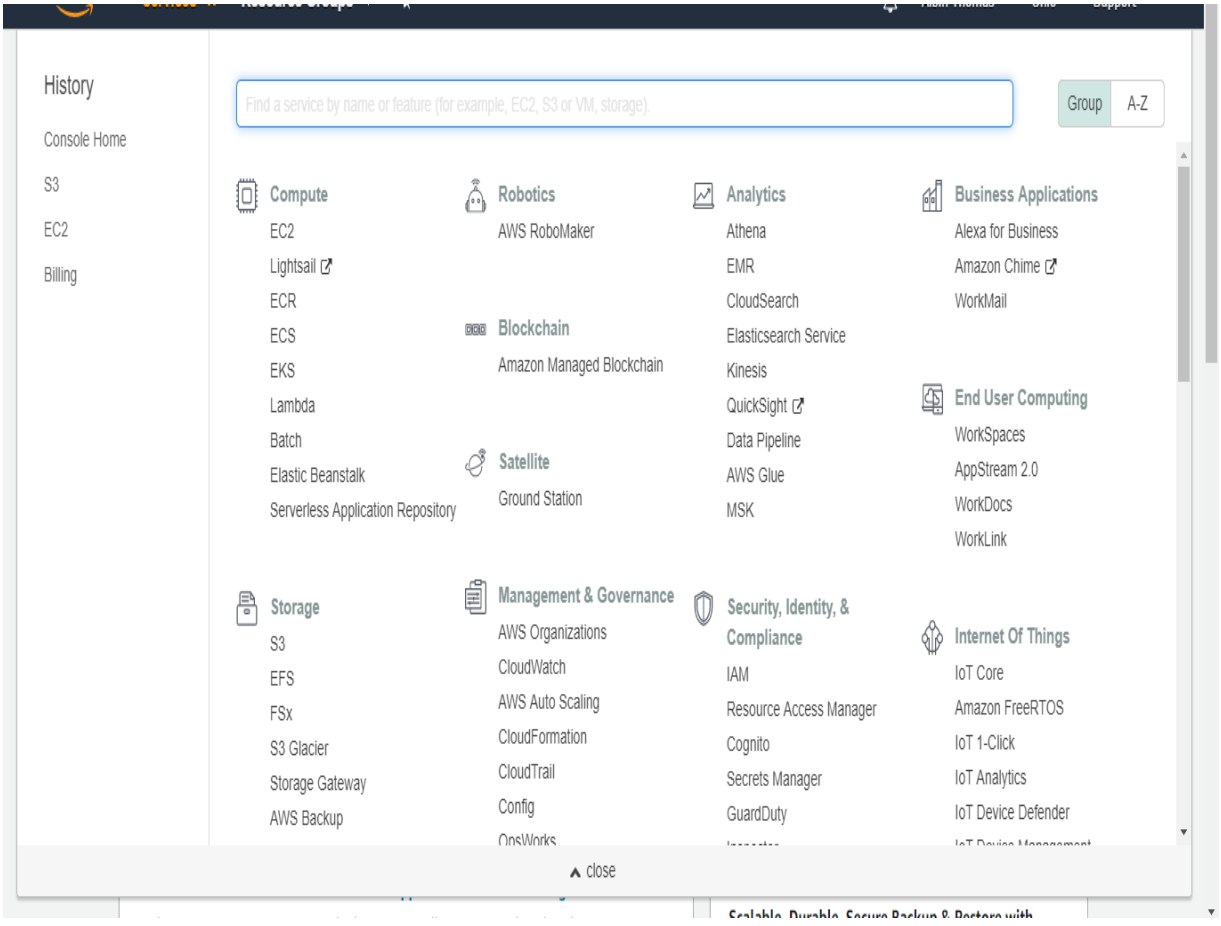
b. impossible to Outgrow

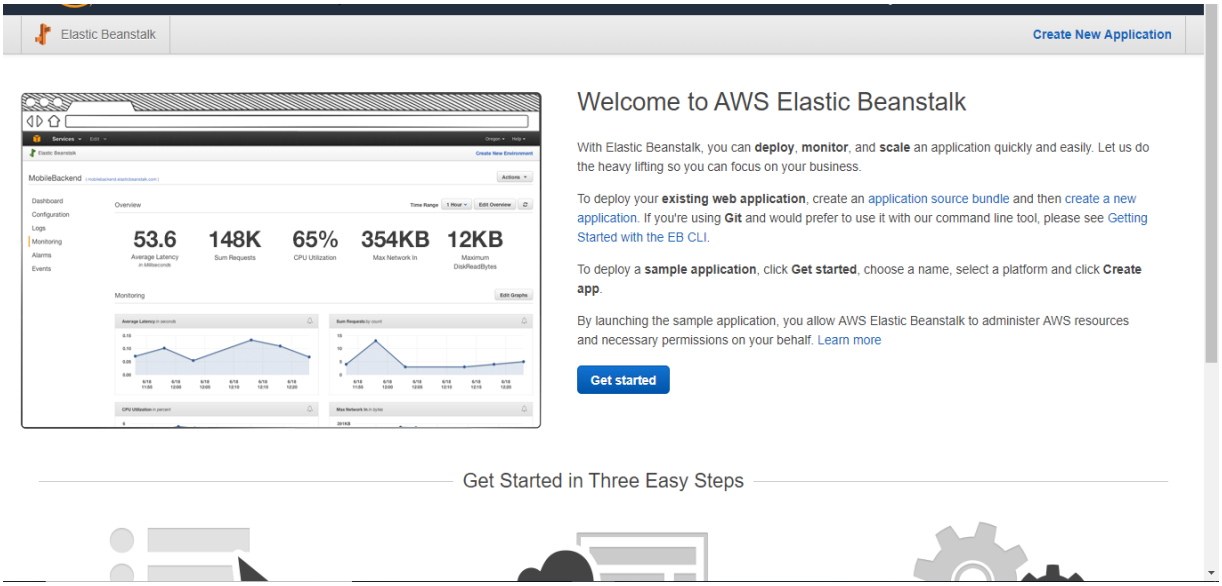
Elastic Beanstalk automatically scales your application up and down based on your application's specific need using easily adjustable Auto Scaling settings. For example, you can use CPU utilization metrics to trigger Auto Scaling actions. With Elastic Beanstalk, your application can handle peaks in workload or traffic while minimizing your costs.

c.Developer Productivity

Elastic Beanstalk provisions and operates the infrastructure and manages the application stack (platform) for you, so you don't have to spend the time or develop the expertise. It will also keep the underlying platform running your application up-to-date with the latest patches and updates. Instead, you can focus on writing code rather than spending time managing and configuring servers, databases, load balancers, firewalls, and networks.

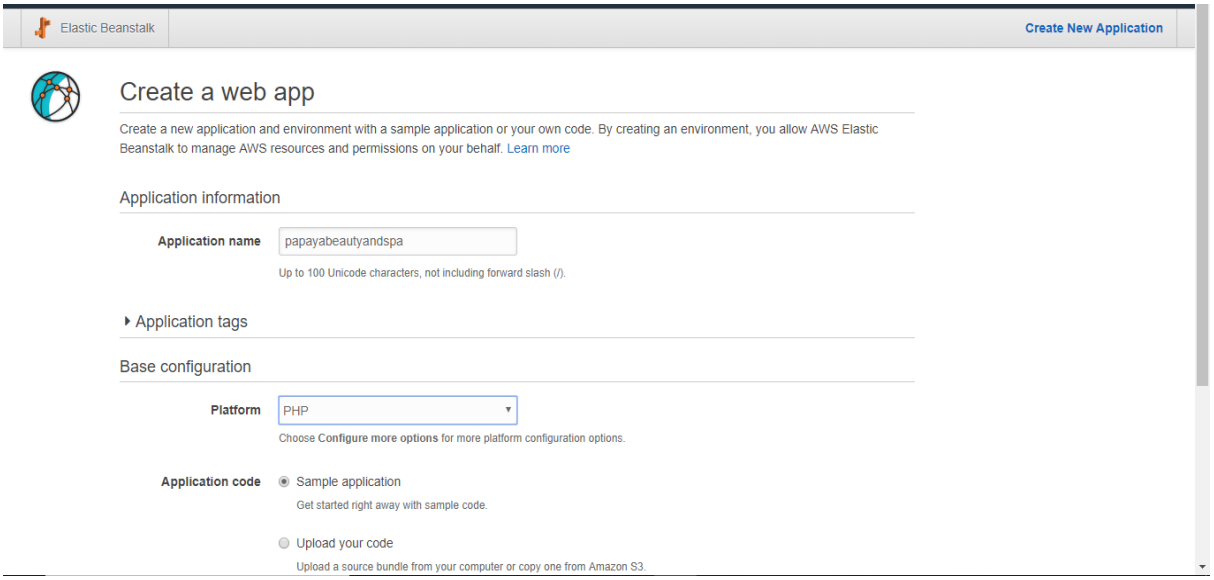
Step 1: Login to AWS and click Elastic Beanstalk

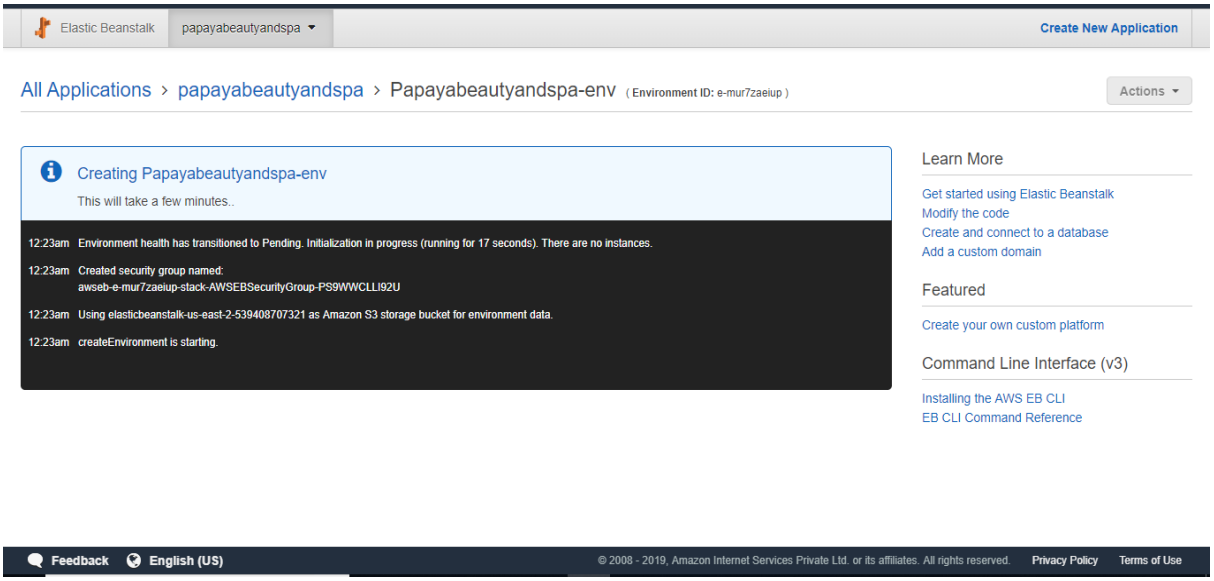




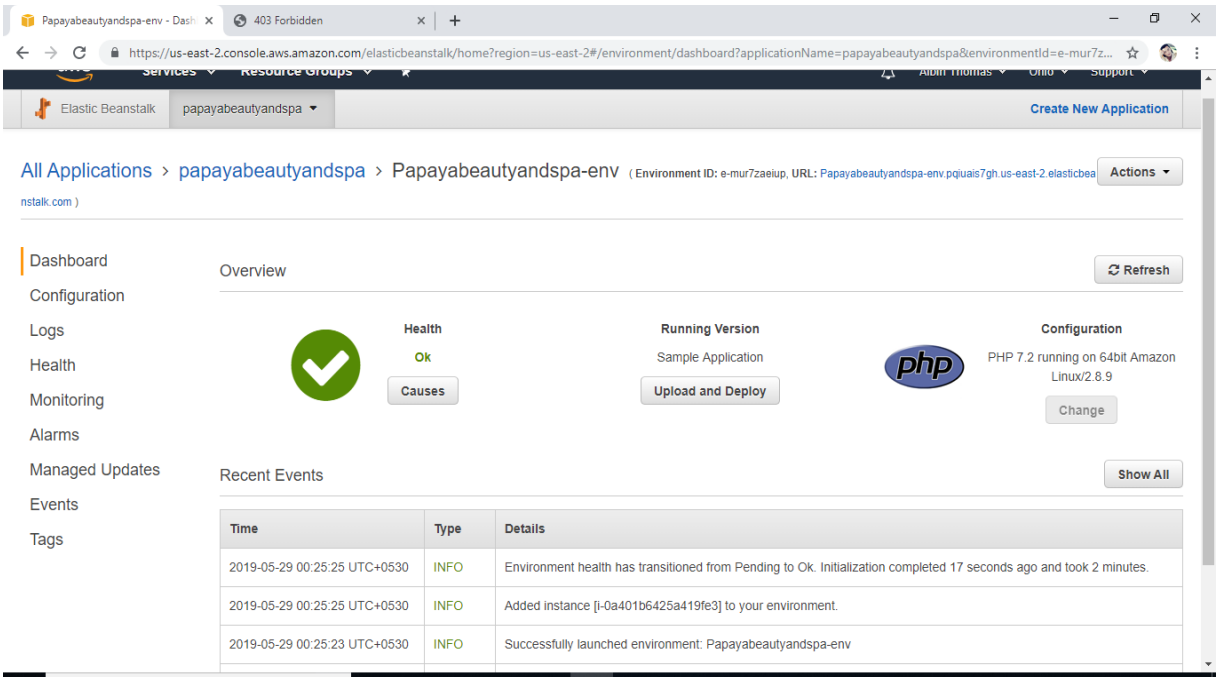
Step 2: Create Web App with Elastic Beanstalk

Choose the application name, select platform and you may upload the source code too.





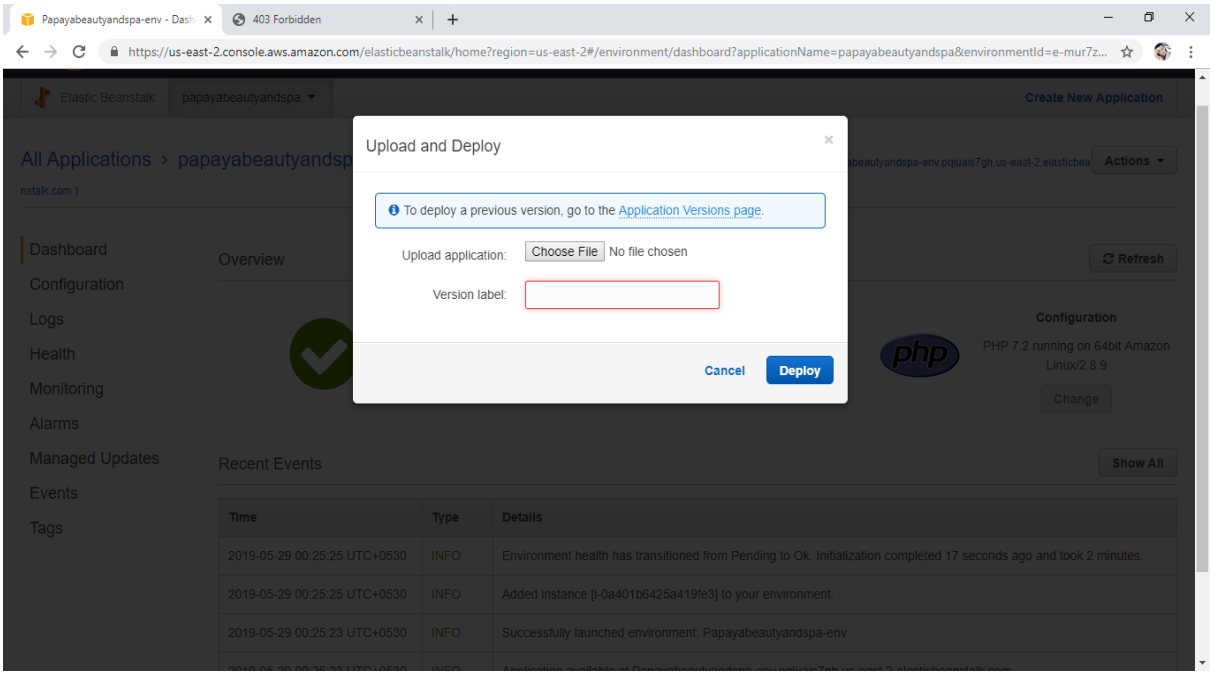
Beanstalk Web App has successfully created.



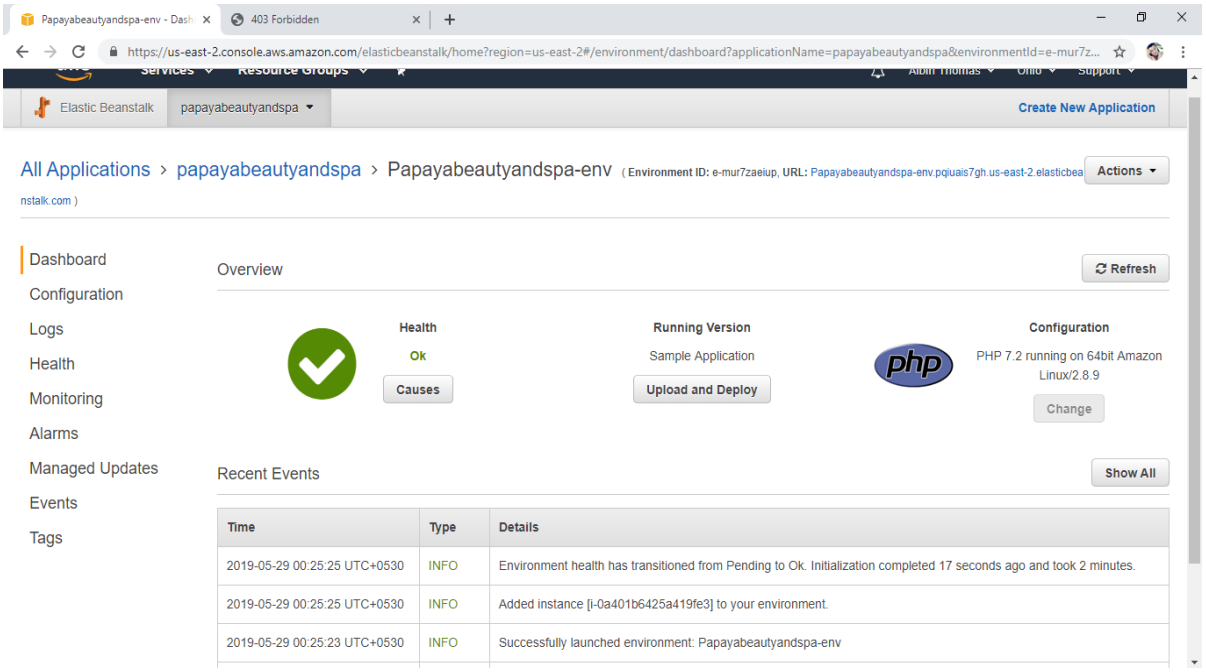
Step 3: Create Web App with Elastic Beanstalk

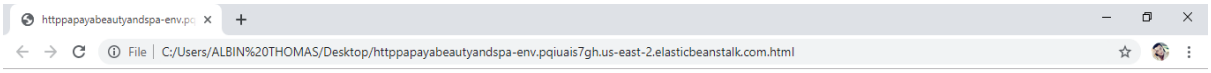
Click upload and deploy button on the dashboard.

Upload the source code for the web app.



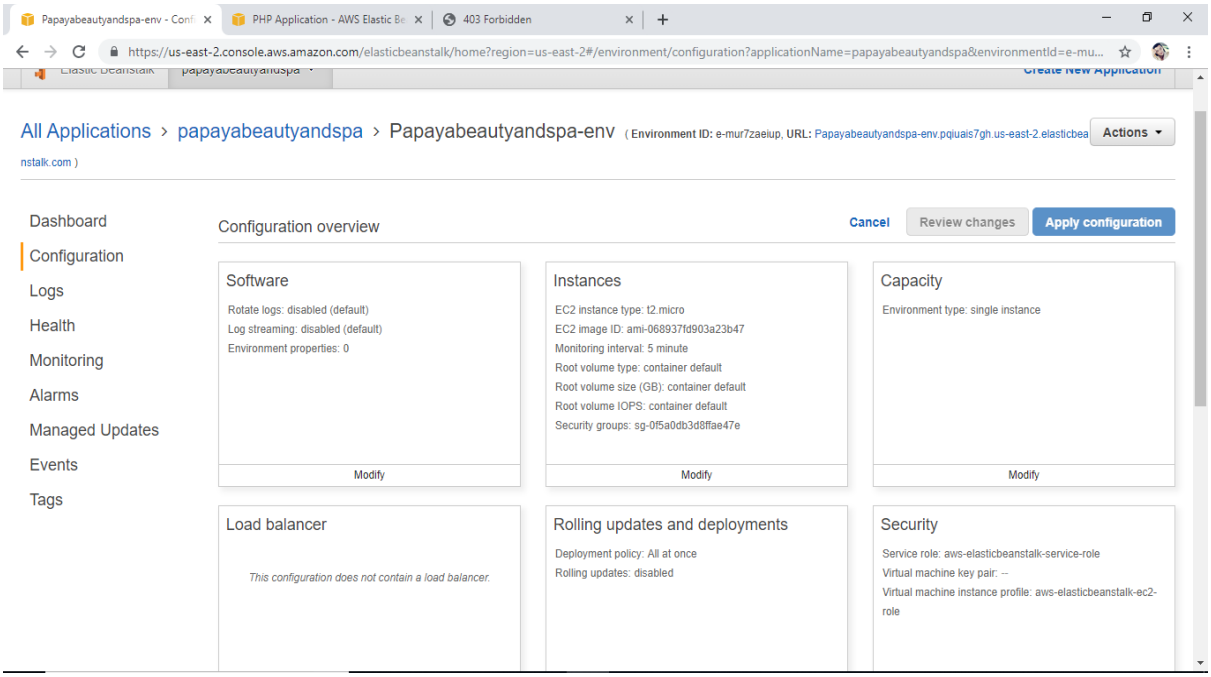
Use the url displayed in the dashboard to access the beanstalk web app.



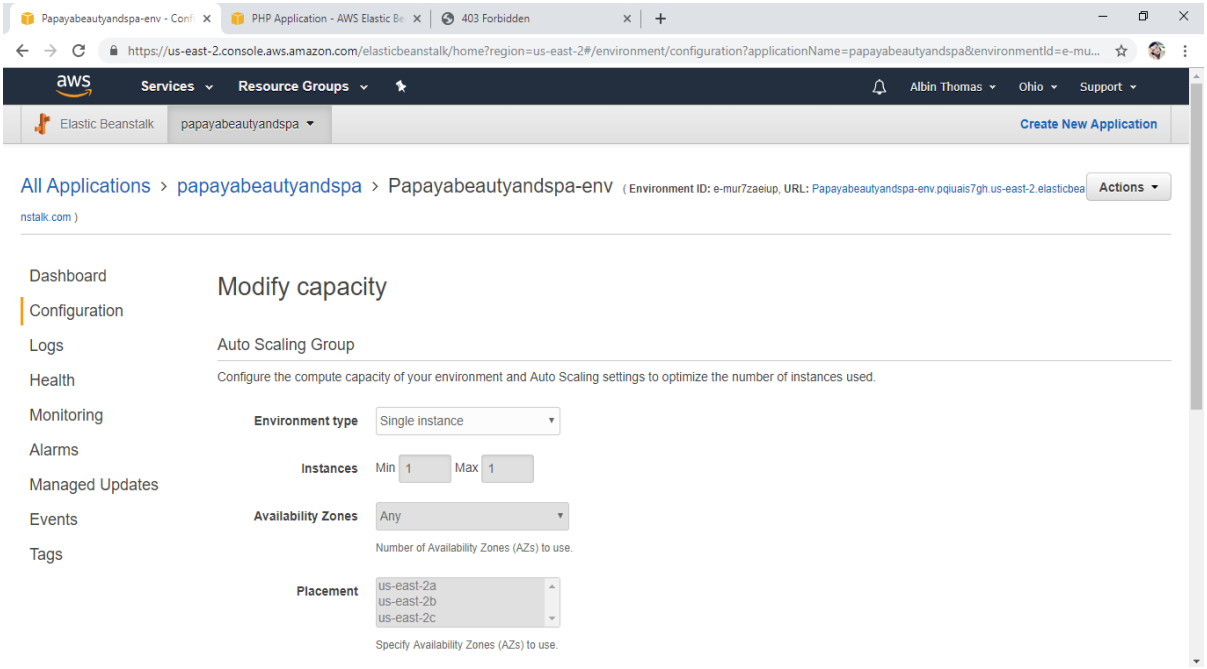


Hai

Beanstalk offers a number of options to configure the web app.



You may modify the instance capacity or more.



P1.2.5 AWS DB PRODUCTS

P1.2.5.1 Amazon Relational Database Service (RDS)

Amazon Relational Database Service (Amazon RDS) is a web service that makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient and resizable capacity while managing time-consuming database administration tasks, freeing you up to focus on developing your applications.

Amazon RDS gives you access to the capabilities of a familiar MySQL, PostgreSQL, Oracle or Microsoft SQL Server database engine. This means that the code, applications, and tools you already use today with your existing databases can be used with Amazon RDS. Amazon RDS automatically patches the database software and backs up your database, storing the backups for a user-defined retention period and enabling point-in-time recovery. You benefit from the flexibility of being able to scale the compute resources or storage capacity associated with your Database Instance (DB Instance) via a single API call.

P1.2.5.2 Amazon DynamoDB

DynamoDB is a fast, fully managed NoSQL database service that makes it simple and cost-effective to store and retrieve any amount of data and serve any level of request traffic. All data items are stored on Solid State Drives (SSDs) for high availability and durability.

P1.2.5.3 Amazon ElastiCache

ElastiCache is a web service that makes it easy to deploy, operate, and scale an in-memory cache in the cloud. The service improves the performance of web applications by allowing you to retrieve information from fast, managed, in-memory caches, instead of relying entirely on slower disk-based databases. ElastiCache supports two widely adopted open-source engines – Memcached and Redis. The service is protocol compliant with both engines, so popular tools that you use today with existing Memcached and Redis environments will work seamlessly with ElastiCache.

P1.2.6 DEVOPS IN AWS

AWS provides a set of flexible services designed to enable companies to more rapidly and reliably build and deliver products using AWS and DevOps practices. These services simplify provisioning and managing infrastructure, deploying application code, automating software release processes, and monitoring your application and infrastructure performance. And it is the combination of cultural philosophies, practices, and tools that increase an organization's ability to deliver applications and services at high velocity: evolving and improving products at a faster pace than organizations using traditional software development and infrastructure management processes. This speed enables organizations to better serve their customers and compete more effectively in the market.

Under a DevOps model, development and operations teams are no longer "siloed." Sometimes, these two teams are merged into a single team where the engineers work across the entire application lifecycle, from development and test to deployment to operations, and develop a range of skills not limited to a single function. Quality assurance and security teams may also become more tightly integrated with development and operations and throughout the application lifecycle. These teams use practices to automate processes that historically have been manual and slow. They use a technology stack and tooling which help them operate and evolve applications quickly and reliably. These tools also help engineers independently accomplish tasks (for example, deploying code or provisioning infrastructure) that normally would have required help from other teams, and this further increases a team's velocity.

P1.3 MICROSOFT AZURE CLOUD

P1.3.1 INTRODUCTION TO MICROSOFT AZURE CLOUD

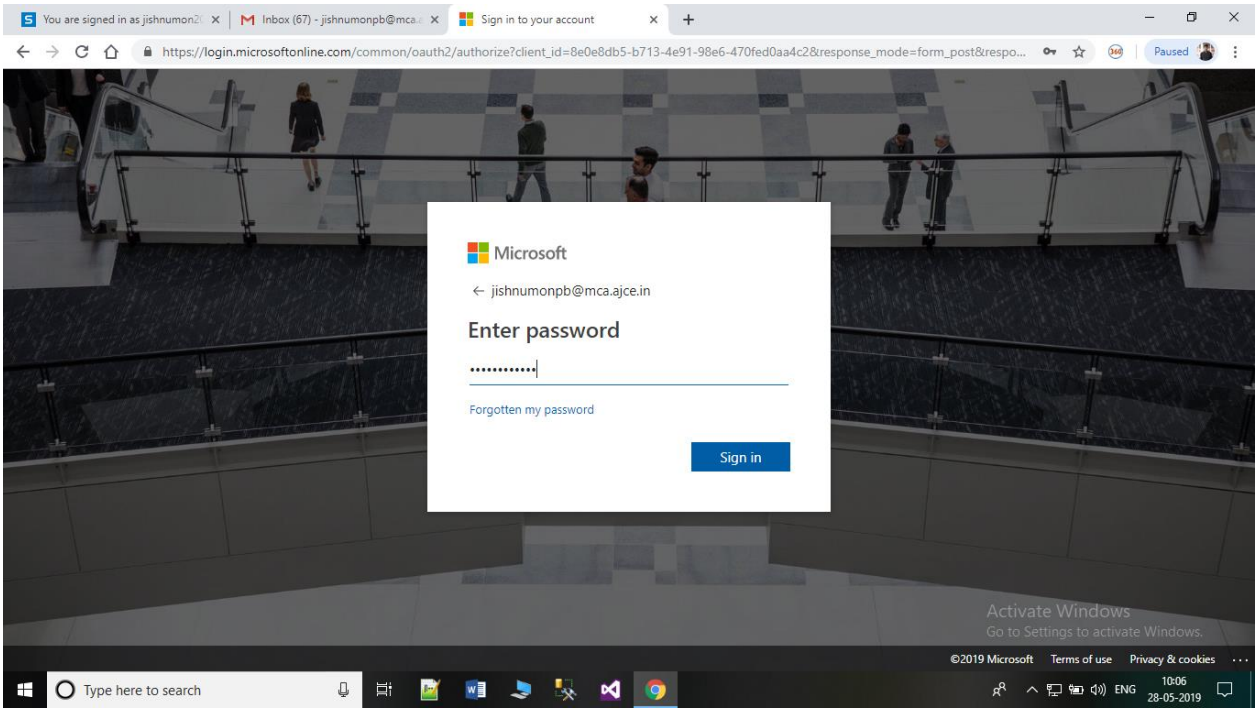
Microsoft Azure (formerly Windows Azure is a cloud computing service created by Microsoft for building, testing, deploying, and managing applications and services through a global network of Microsoft-managed data centers. It provides software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS) and supports many different programming languages, tools, and frameworks, including both Microsoft-specific and third-party software and systems. Windows Azure is designed to make IT management easier. The main purpose of developing Windows Azure was to minimize the overhead and personnel expenses associated with the creation, distribution, and upgrade of the Web applications.

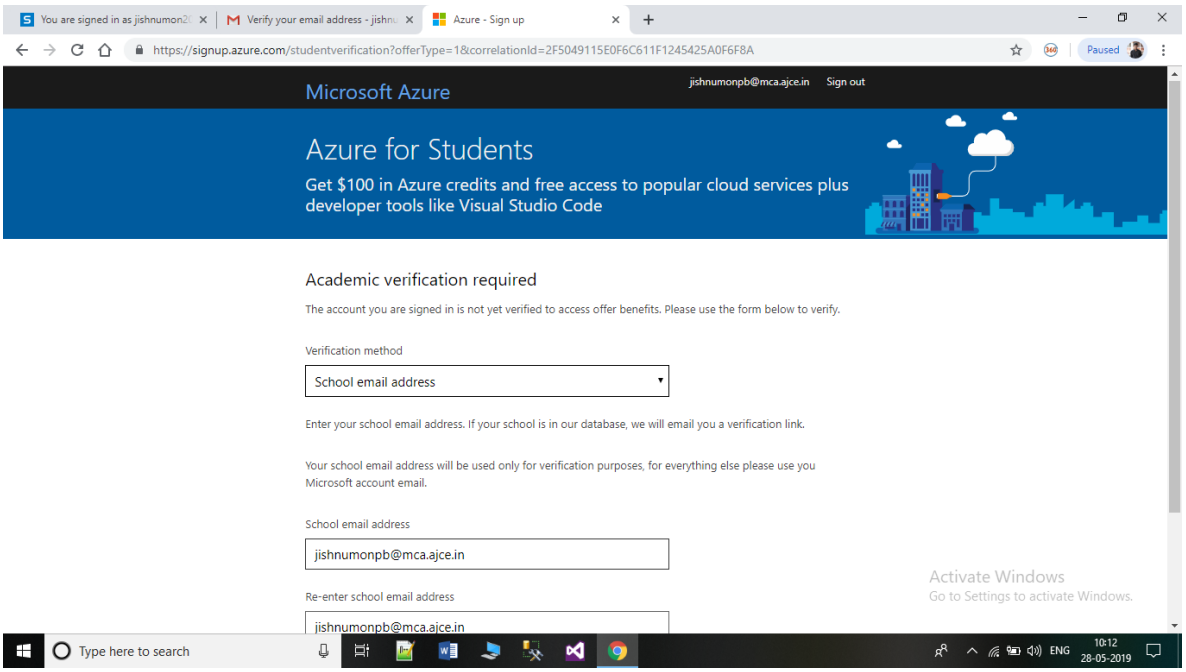
The Windows Azure platform is considered a platform as a service, which is an imperative component of a cloud computing platform. It consists of various on-demand services hosted in Microsoft's data centers and is commoditized through three product brands. The services and applications developed using the Azure platform run on the Windows Azure operating system, which provides a runtime environment for Web applications along with an extensive set of services that facilitate the building, hosting and management of applications without requiring maintenance too expensive onsite resources. Windows Azure is designed to support both Microsoft and non-Microsoft platforms. The three main components that constitute Windows Azure are:

- Compute layer
- Storage layer
- Fabric layer

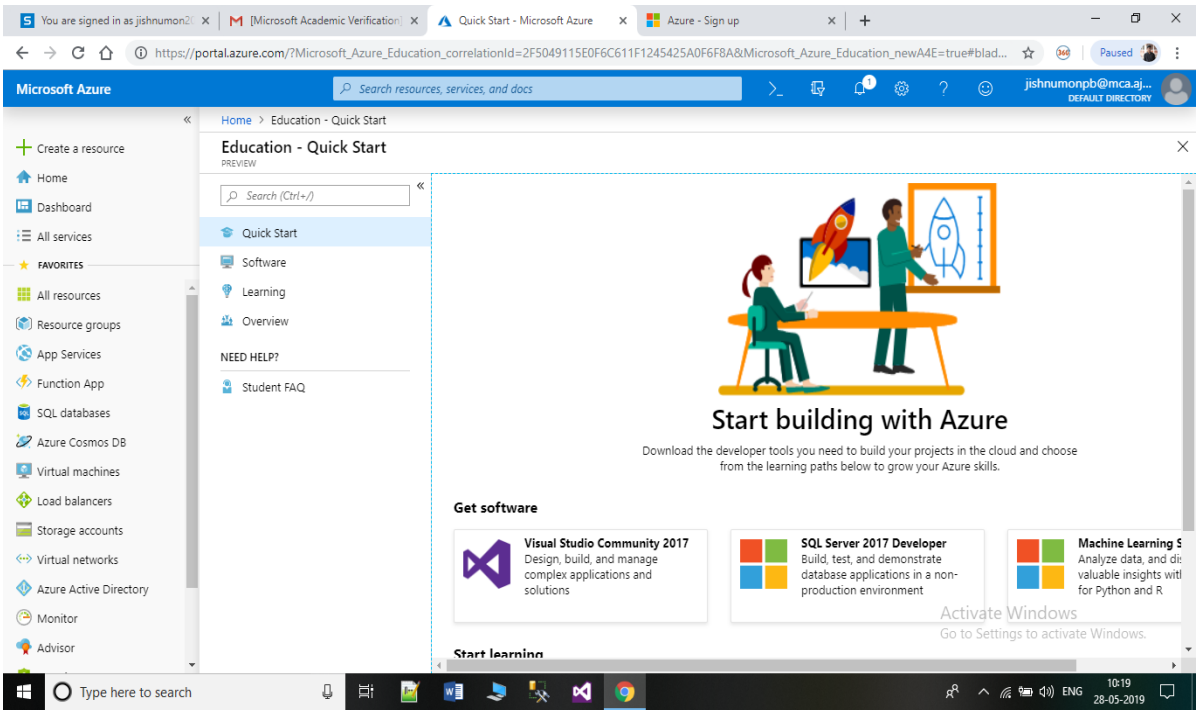
Windows Azure also includes an automated service management feature that allows the upgrading of applications without affecting their performance. Windows Azure is designed to support a number of platforms and programming languages. Some of the languages supported are extensible markup language (XML), representational state transfer (REST), Simple Object Access Protocol (SOAP), Ruby, Eclipse, Python, and PHP.

Step 1: For Registration go to *http://imagine.microsoft.com*



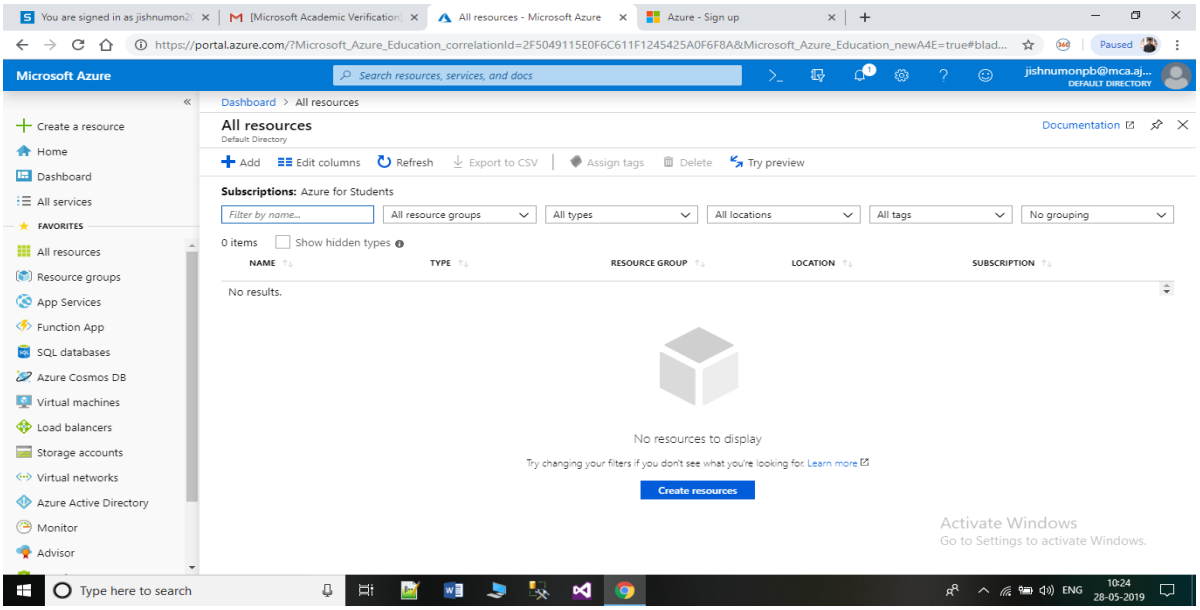


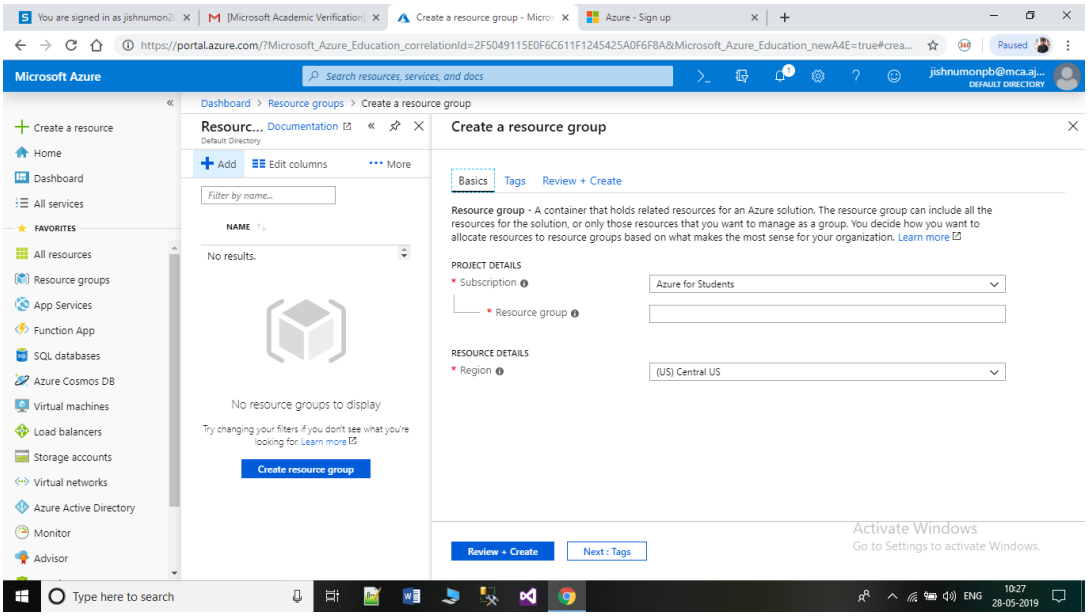
Step 2: After registration you will get Azure Dashboard

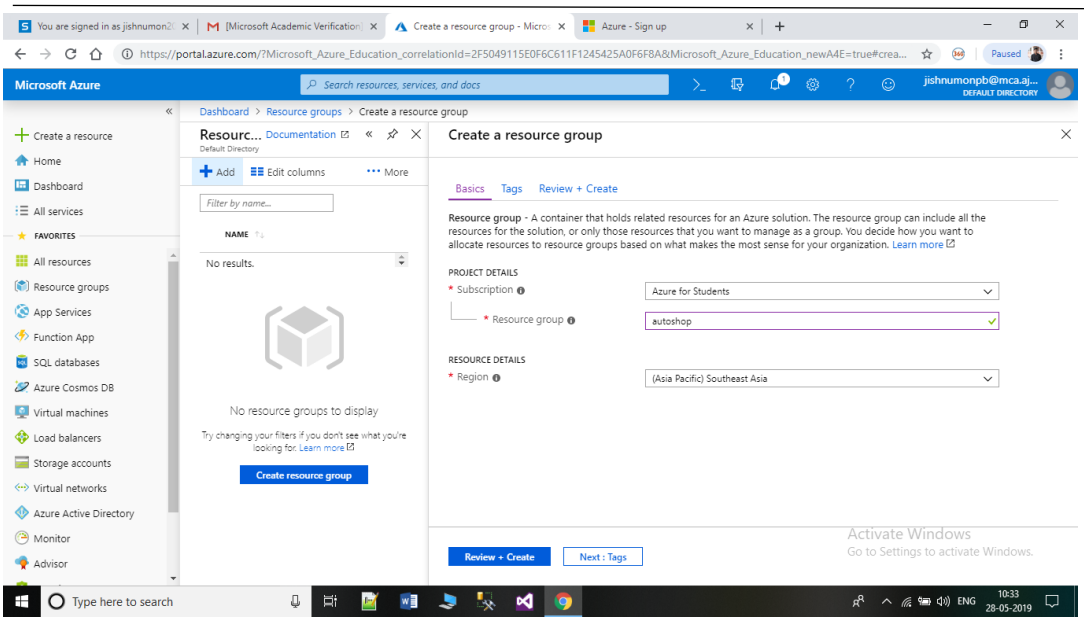


Step 3: Create Resource Group: All Resources > Resource Group

Click Add Button > Select Subscription Model > Give Resource Group name

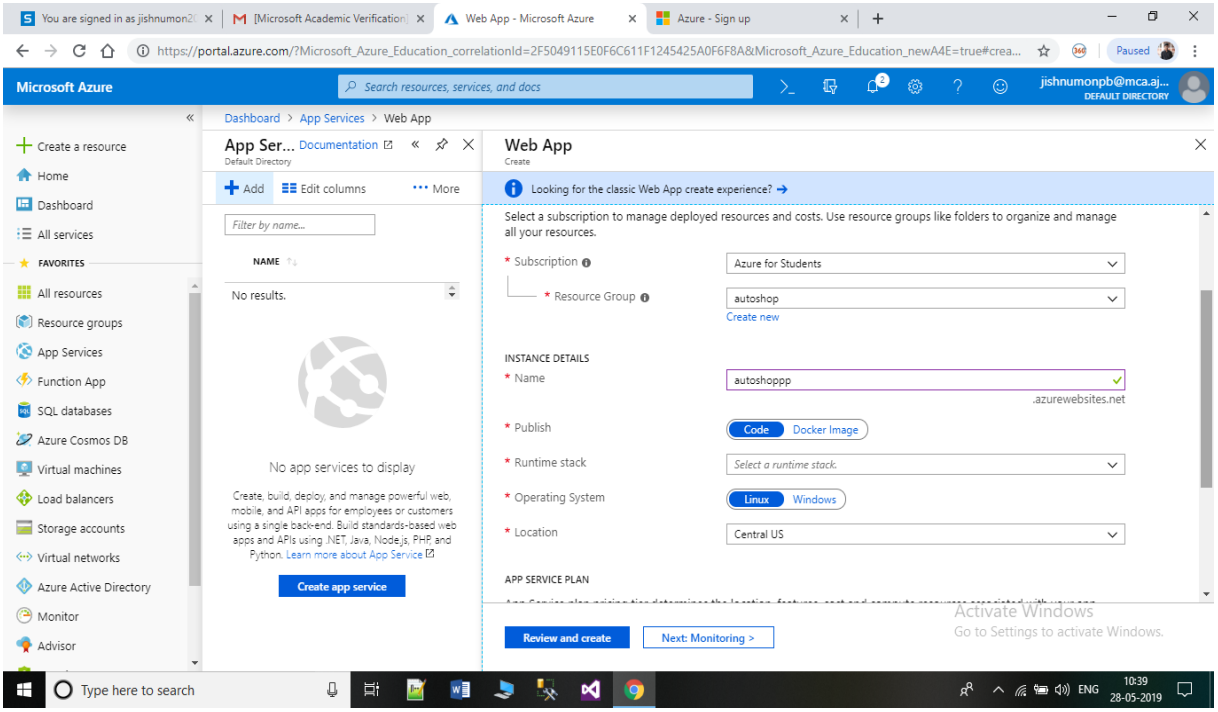


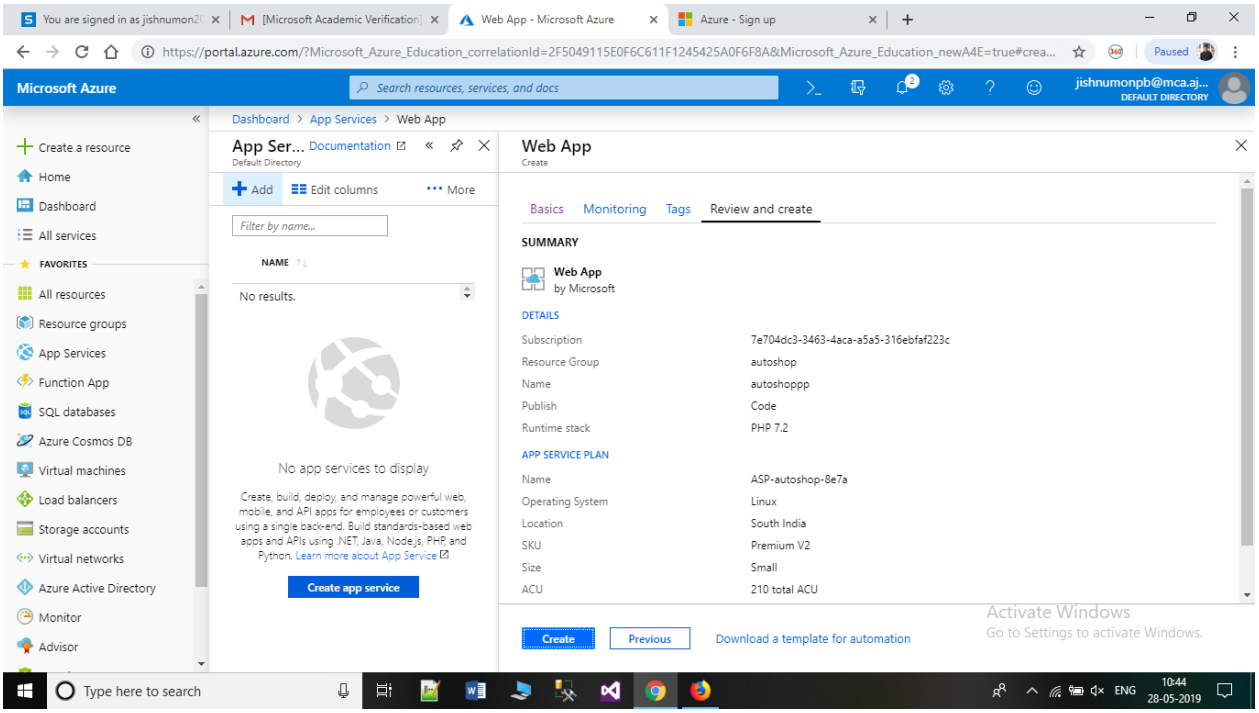




4: Select App Service

Create Instance and Configure It.




Microsoft Azure
Search resources, services, and docs
Dashboard > App Services > Web App
App Ser... Documentation
Default Directory
Add
Edit columns
More
Filter by name...
NAME
No results.
No app services to display
Create, build, deploy, and manage powerful web, mobile, and API apps for employees or customers using a single back-end. Build standards-based web apps and APIs using .NET, Java, Node.js, PHP, and Python. Learn more about App Service
Create app service
Web App
Create
Basics
Monitoring
Tags
Review and create
SUMMARY
Web App
by Microsoft
DETAILS
Subscription 7e704dc3-3463-4aca-a5a5-316ebfaf223c
Resource Group autoshop
Name autoshoppp
Publish Code
Runtime stack PHP 7.2
APP SERVICE PLAN
Name ASP-autoshop-8e7a
Operating System Linux
Location South India
SKU Premium V2
Size Small
ACU 210 total ACU
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Download a template for automation
Activate Windows
Go to Settings to activate Windows.
Type here to search
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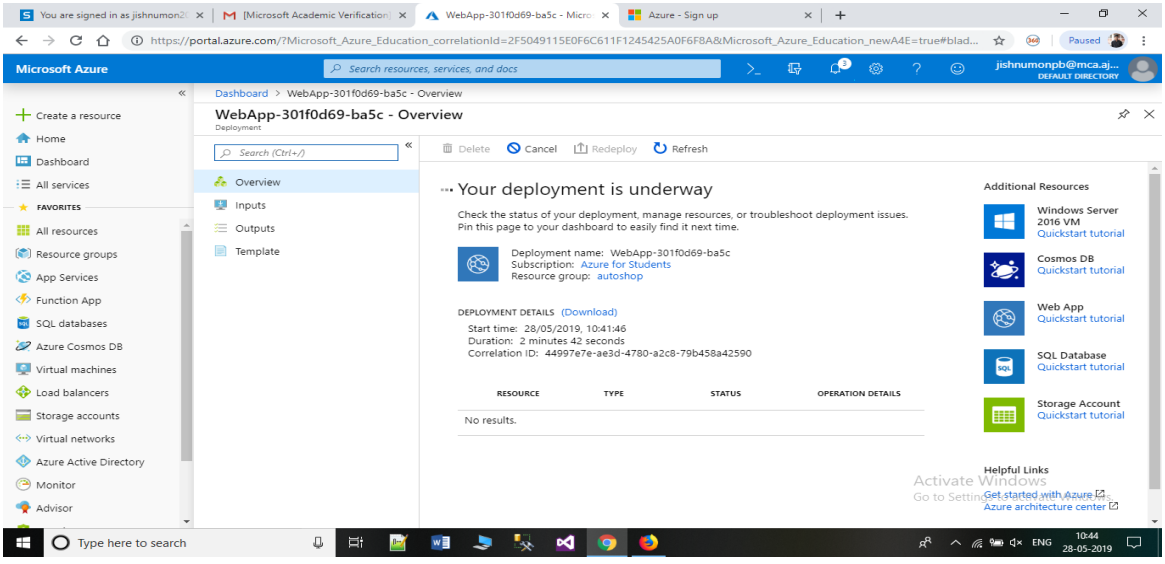
10:44
28-05-2019


Microsoft Azure
Search resources, services, and docs
Dashboard > WebApp-301f0d69-ba5c - Overview
WebApp-301f0d69-ba5c - Overview
Deployment
Search (Ctrl+/)
Overview
Inputs
Outputs
Template
Delete
Cancel
Redeploy
Refresh
Your deployment is underway
Check the status of your deployment, manage resources, or troubleshoot deployment issues.
Pin this page to your dashboard to easily find it next time.
Deployment name: WebApp-301f0d69-ba5c
Subscription: Azure for Students
Resource group: autoshop
DEPLOYMENT DETAILS (Download)
Start time: 28/05/2019, 10:41:46
Duration: 2 minutes 42 seconds
Correlation ID: 44997e7e-ae3d-4780-a2c8-79b458a42590
RESOURCE
TYPE
STATUS
OPERATION DETAILS
No results.
Additional Resources
Windows Server 2016 VM
Quickstart tutorial
Cosmos DB
Quickstart tutorial
Web App
Quickstart tutorial
SQL Database
Quickstart tutorial
Storage Account
Quickstart tutorial
Helpful Links
Get started with Azure
Azure architecture center
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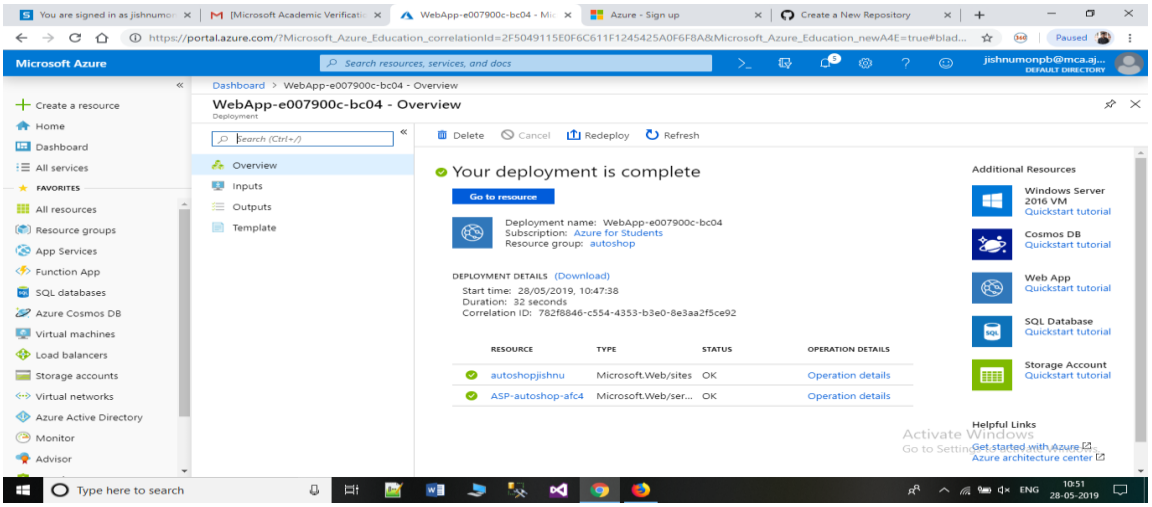
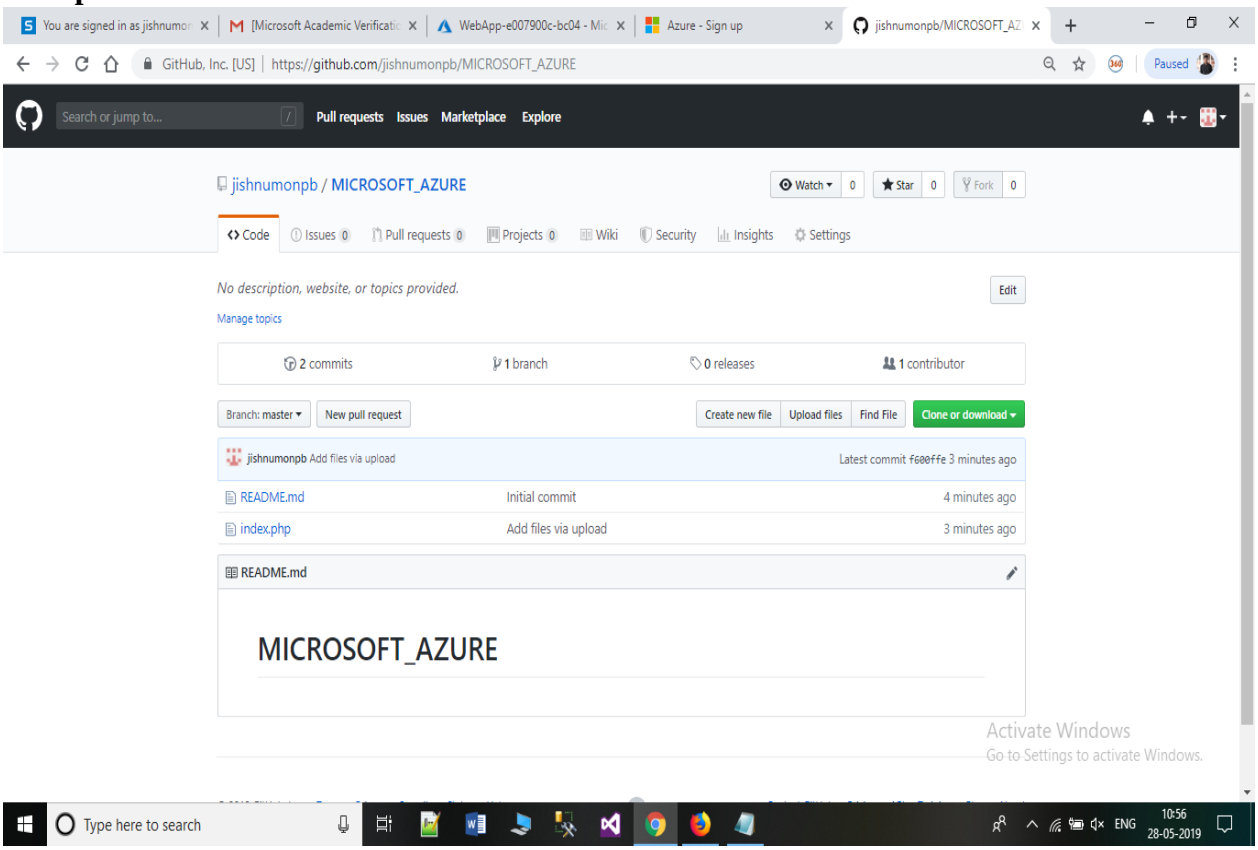
28-05-2019



After Deployment is Complete.

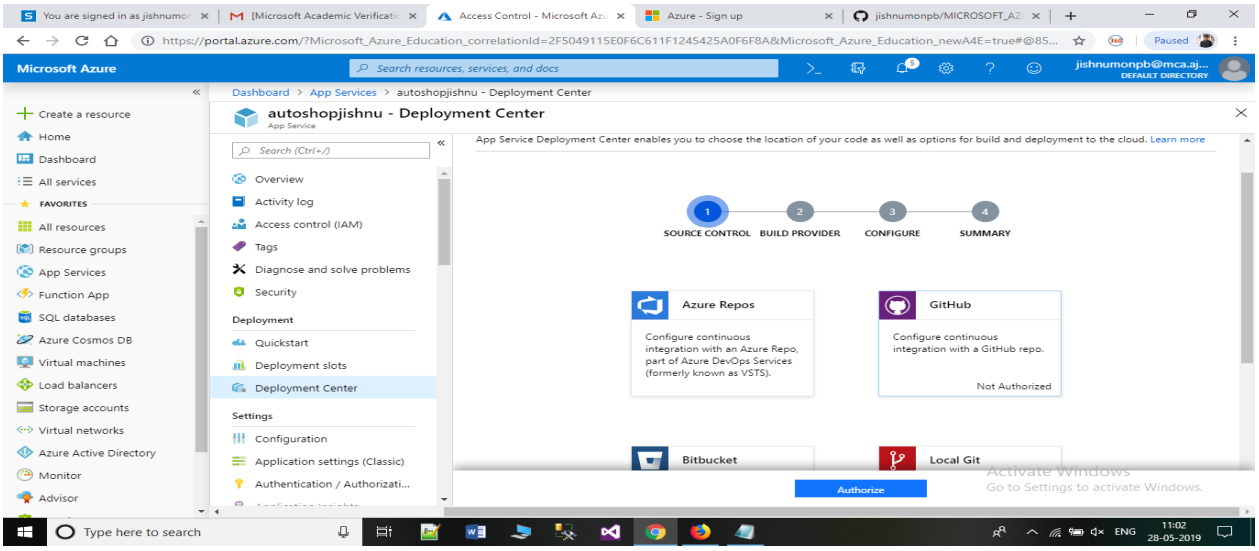
Step 5: Open Github account and create a new repository.

Upload the source code to Github

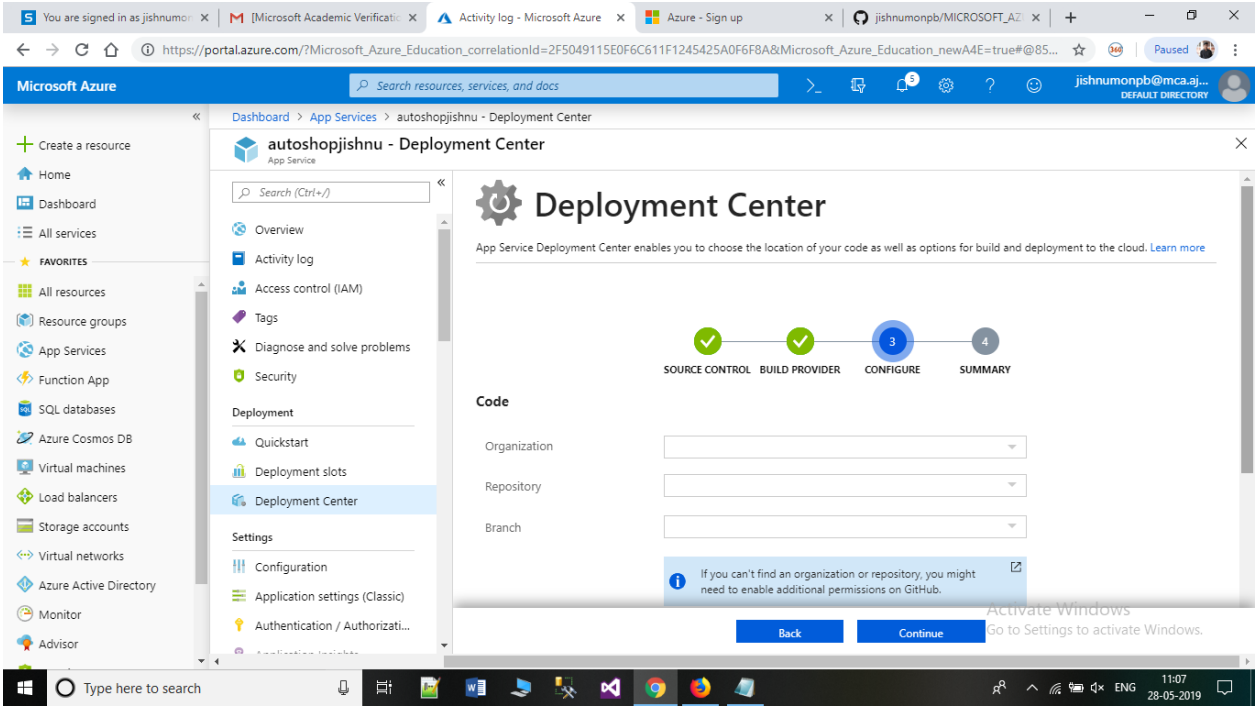


Step 6: Select Deployment Center from Azure Dashboard.

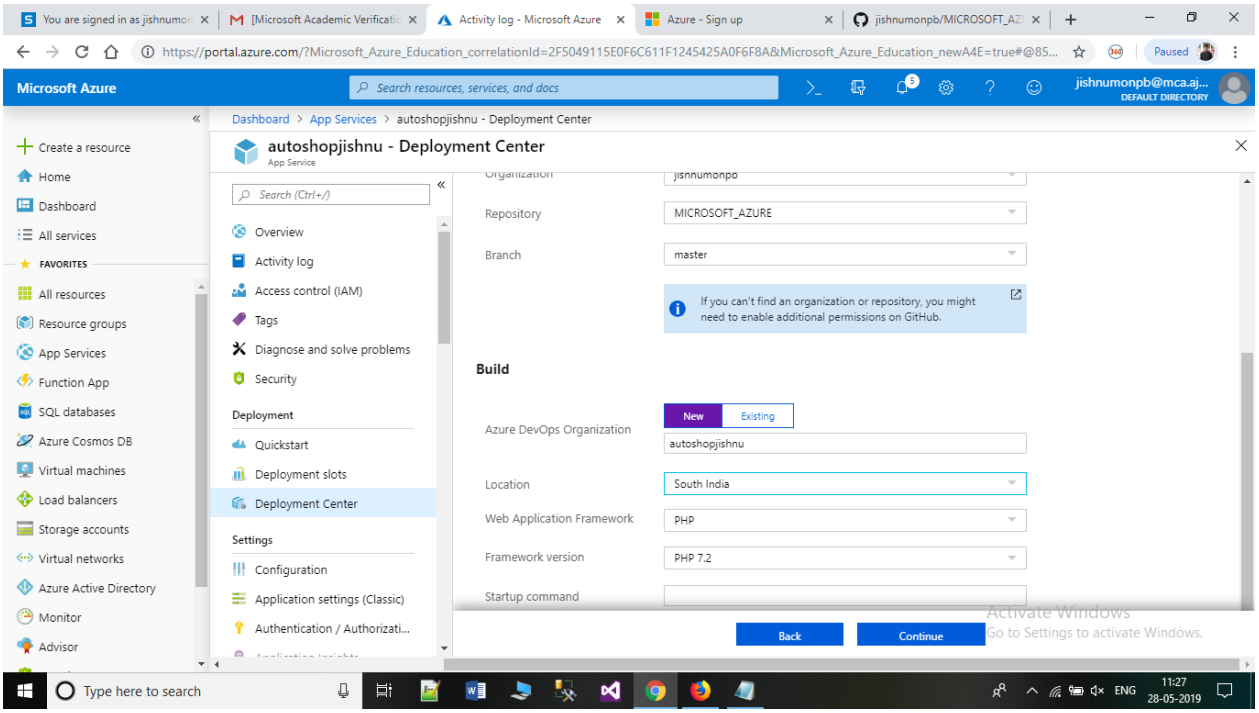
a. Choose GitHub



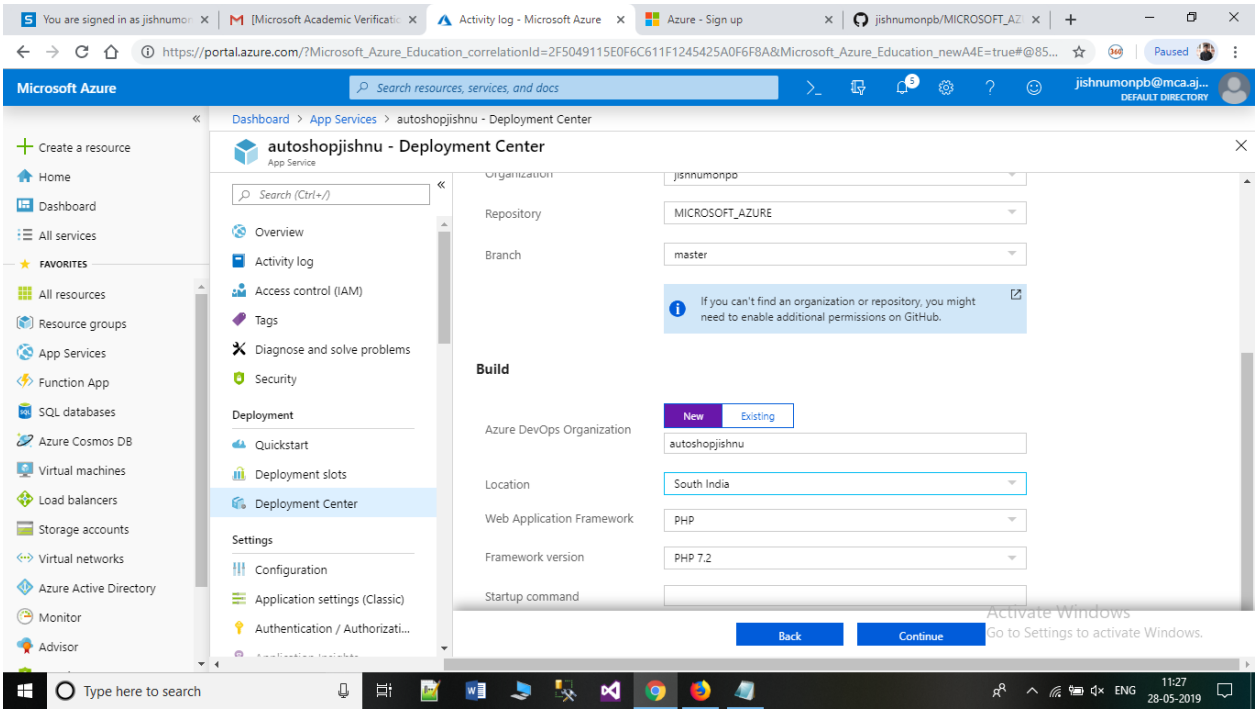
b. Integration of GitHub Repository

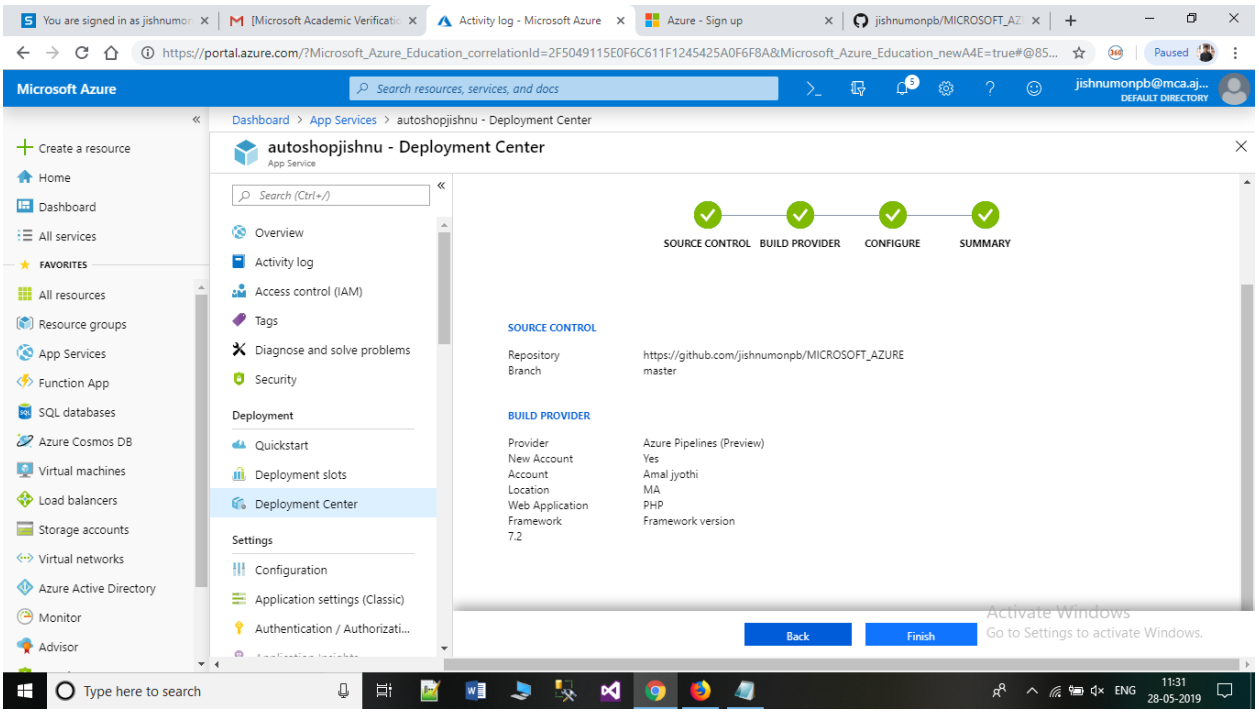


c. Select Build Provider

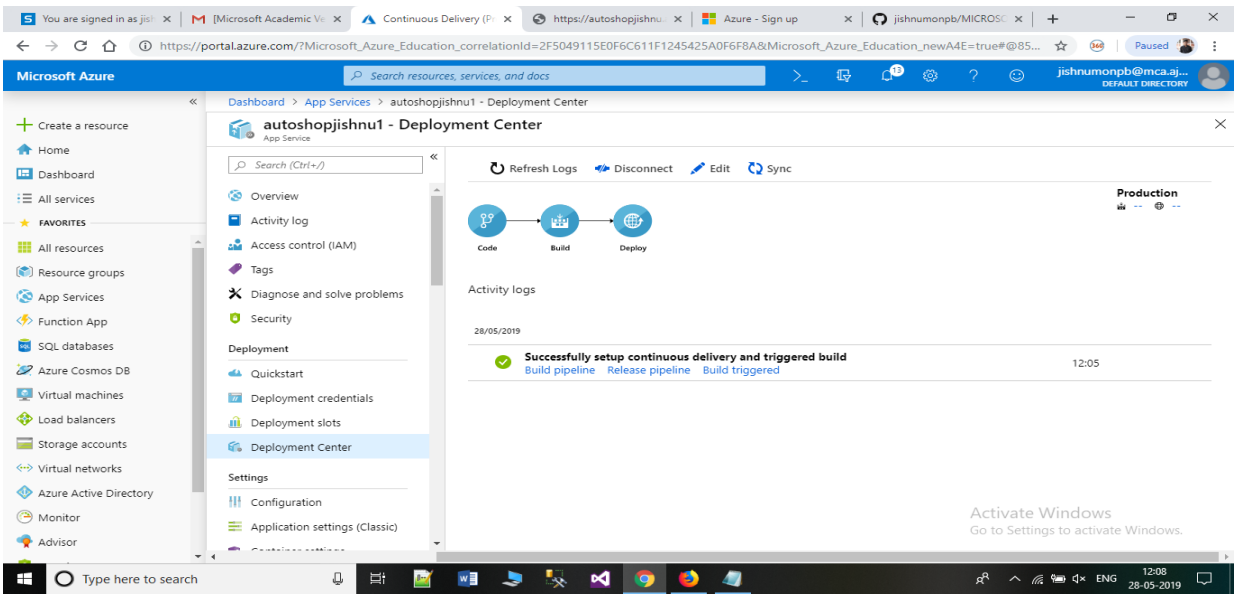


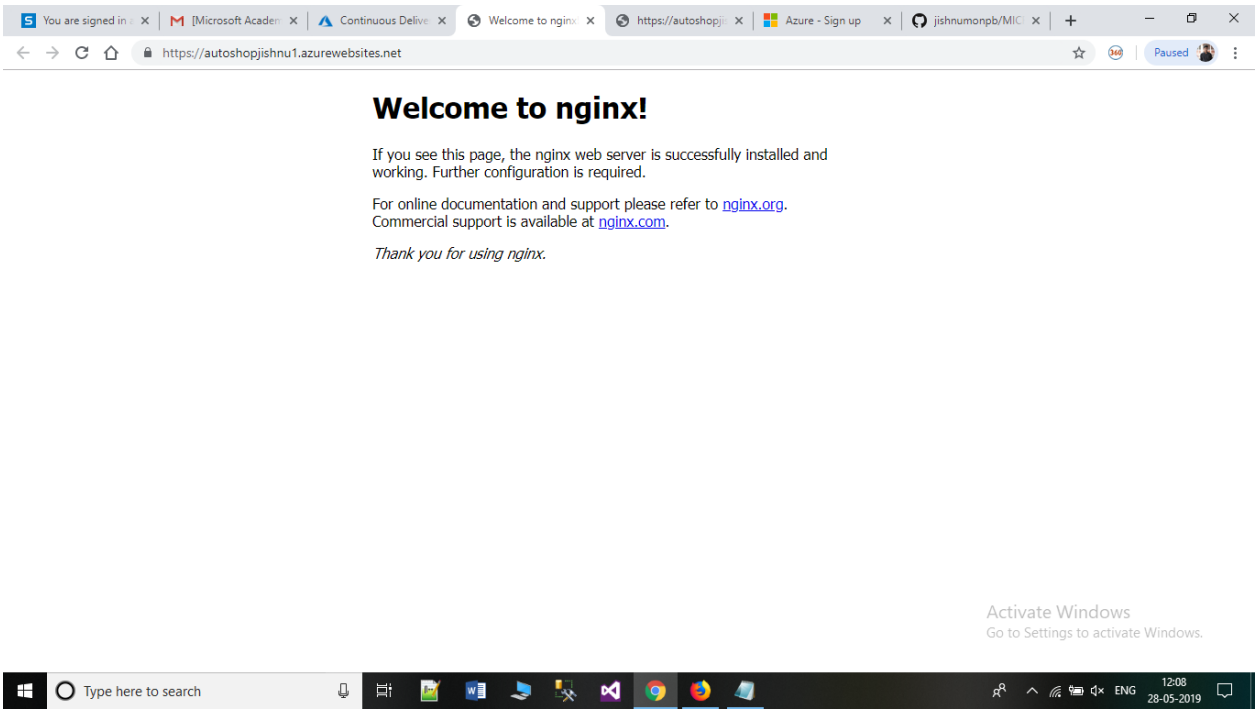
d. complete other Configurations





Now the app is hosted and you can access it from the URL given in resource instance dashboard. (Dashboard > All Resources > instance-name)





P1.3.2 VIRTUAL MACHINES

It is an operating system or application environment that is installed on software, which reproduces dedicated hardware. The end user has the same experience on a virtual machine as they would have on dedicated hardware. Azure Virtual Machines gives you the flexibility of virtualization for a wide range of computing solutions with support for Linux, Windows Server, SQL Server, Oracle, IBM, SAP, and more. All current generation Virtual Machines include load balancing and auto-scaling, for free. For optimal performance, we recommend pairing your Virtual Machines with Managed Disks. Standard egress charges apply.

Benefits

- Limits cost by reducing the need for physical hardware systems.
- Efficiently use hardware, which lowers the quantities of hardware and associated maintenance costs, and reduces power and cooling demand
- Ease of management because the virtual hardware does not fail.

Vendors?

- VMware - mature product portfolio, with many years of use in the IT industry
- Microsoft - a bit of a late player to virtualization, Microsoft is showing considerable progress.

P1.3.3 DEVOPS IN AZURE

In order to release quickly and have stable application environments with minimal errors, it is of vital importance that developers work well with IT operations people and vice versa. To do this, they need to communicate well and sometimes work on the same team.

Ideally, they work in the same environment. Makes sense, right? This is called DevOps. DevOps is a hyped-up term, but it comes down to implementing common sense by working better together.One of the most important goals that DevOps helps to achieve is:

- Faster and more reliable releases of the application through Continuous Integration (CI)* and Continuous Deployment (CD) Microsoft provides some awesome services and features that can help your team to achieve this goal. You'll learn about them in this article.

- Continuous Deployment of Azure App Services
- Azure DevOps Projects
- Visual Studio Team Services

Continuous deployment of Azure App Services

Azure App Services are services that you use to host your web application or API. When you have the source code of your application in source control somewhere, you can easily have it deployed automatically to the App Service, every time you push up a change.

You do this by configuring the Deployment Options feature in App Services. This is really simple to do.

1. In your App Service (like a Web App), go to the Deployment Options blade
2. Here, it asks you to choose a source. So, choose where your source code lives
3. When you've chosen your source code repository, you'll need to authenticate so that Azure can use those credentials to access the source code
4. Next, you can choose the details of your deployment, which can include setting up a performance test as part of the process. In my case, I have chosen GitHub as my source
5. Once this is done, the process starts to run and builds and deploys your source code into the App Service

Once this is configured, every time that you commit changes to the source code repository, it will get built and deployed to the App Service automatically.

You can see the deployments in the Deployment Options blade in the App Service. This is a pretty cool feature and very useful. Especially when you work with a team of developers that are all checking in code to the same repository. However, the Deployment Options feature in App Service is pretty restricted. It is easy to set up, but that also means that you do not have a lot of configuration choices if you need to do more.

PART 2

USING GIT AS A VERSION CONTROL SYSTEM

P2.1 INTRODUCTION TO GITHUB

GitHub is a web-based version-control and collaboration platform for software developers. GitHub, which is delivered through a software-as-a-service (SaaS) business model, was started in 2008 and was founded on Git, an open source code management system created by Linus Torvalds to make software builds faster. And it is used to store the source code for a project and track the complete history of all changes to that code. It allows developers to collaborate on a project more effectively by providing tools for managing possibly conflicting changes from multiple developers. GitHub allows developers to change, adapt and improve software from its public repositories for free, but it charges for private repositories, offering various paid plans. Each public or private repository contains all of a project's files, as well as each file's revision history. Repositories can have multiple collaborators and can be either public or private.

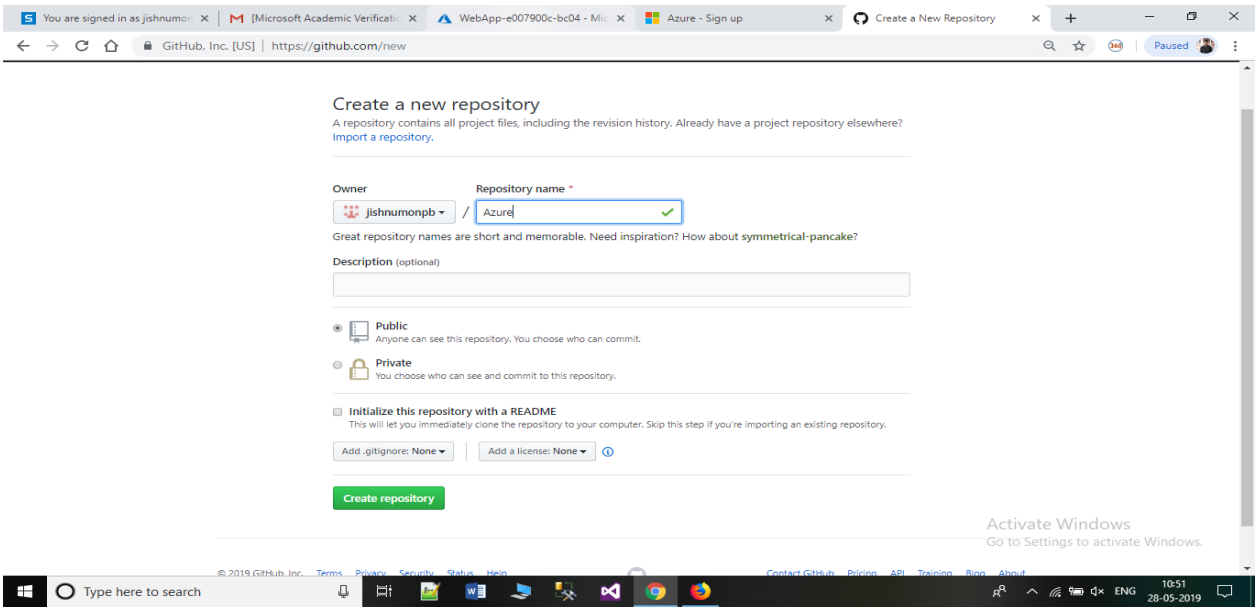
GitHub facilitates social coding by providing a web interface to the Git code repository and management tools for collaboration. GitHub can be thought of as a serious social networking site for software developers. Members can follow each other, rate each other's work, receive updates for specific projects and communicate publicly or privately.

GitHub products and features

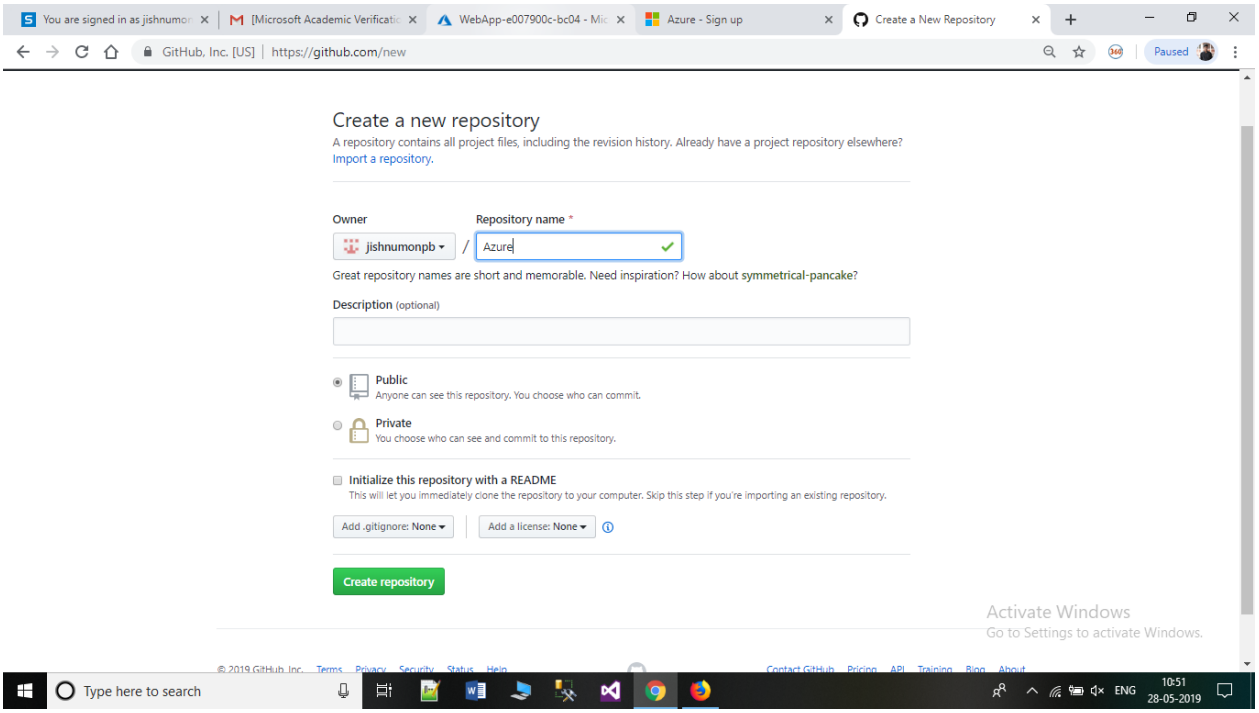
GitHub offers an on-premises version in addition to the well-known SaaS product. GitHub Enterprise supports integrated development environments and continuous integration tool integration, as well as a litany of third-party apps and services. It offers increased security and auditable than the SaaS version.

P2.2 WORKING WITH GIT

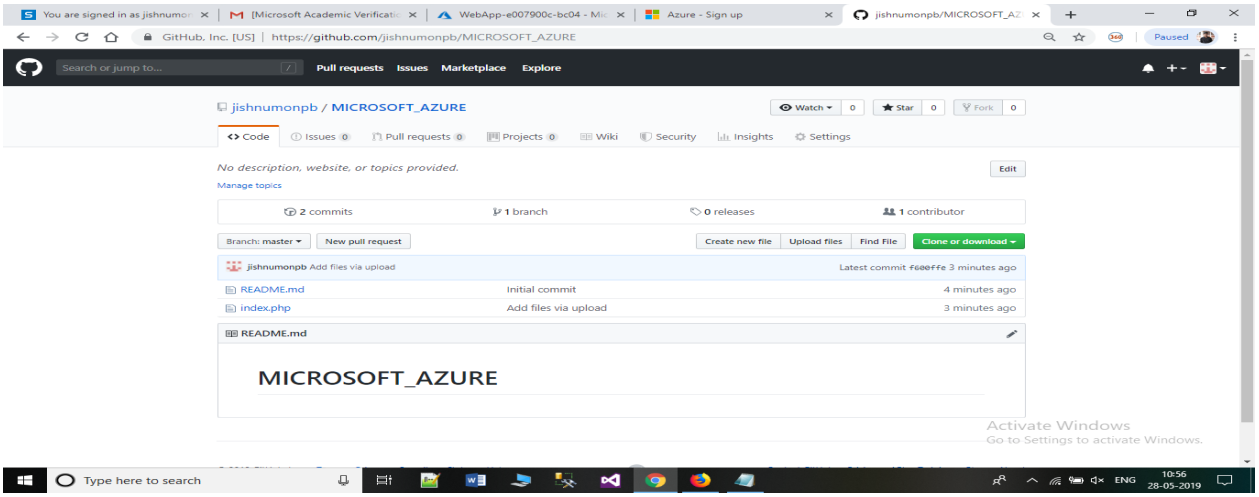
Step 1: Sign in to GitHub



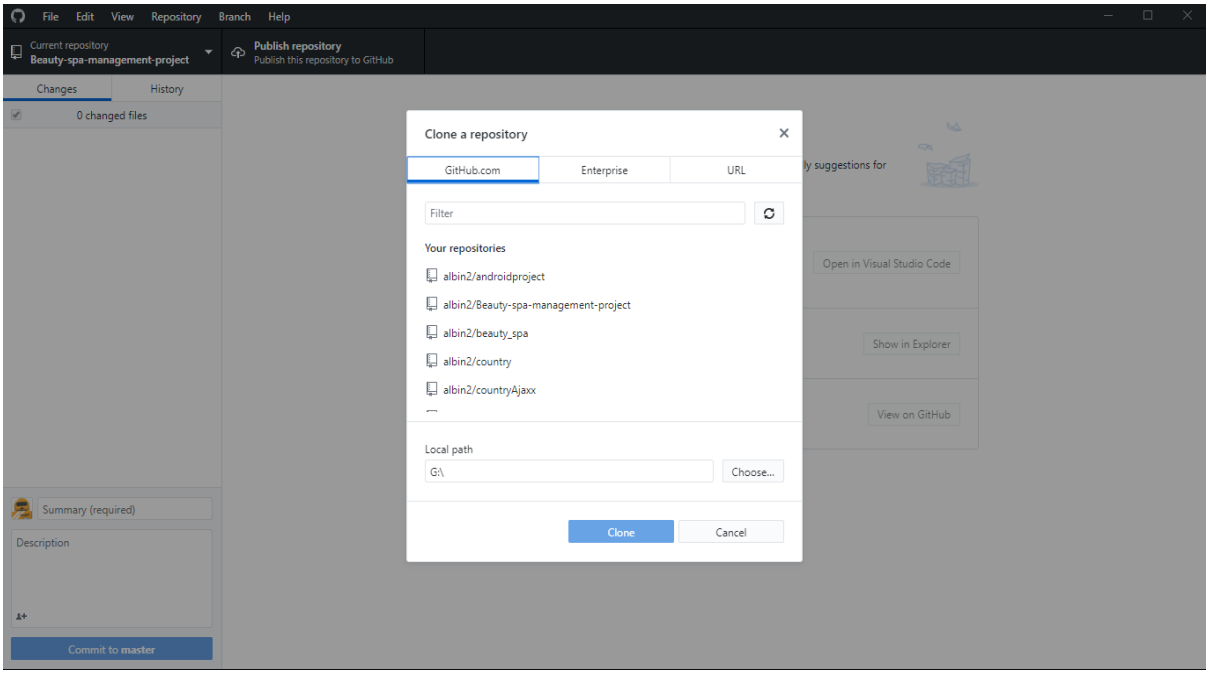
Step 2: Once successfully sign in, set up personal account, create a repository.



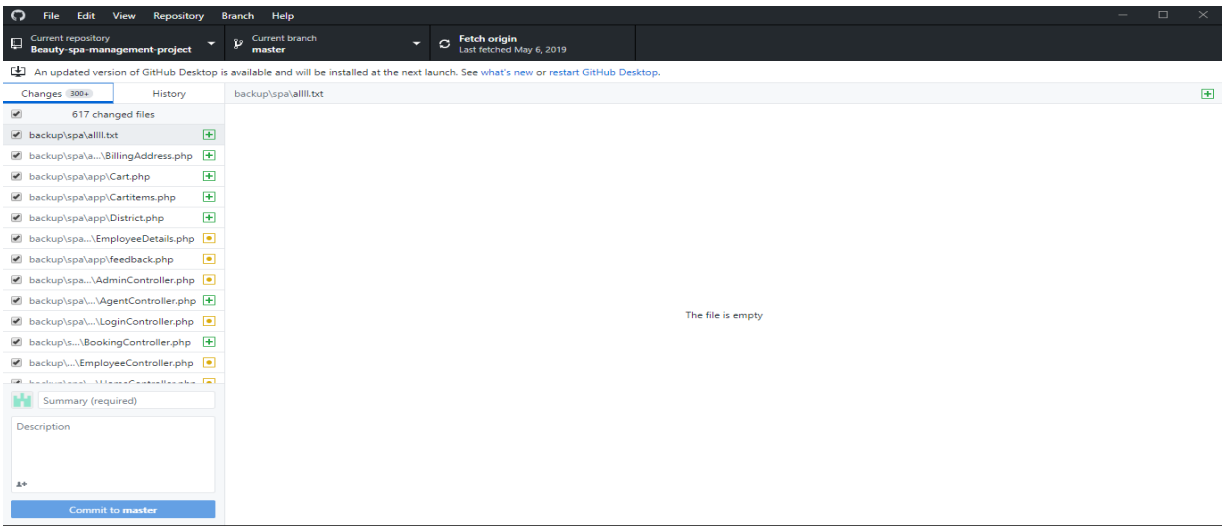
Step 3: Once repository is completed, you can setup the repository



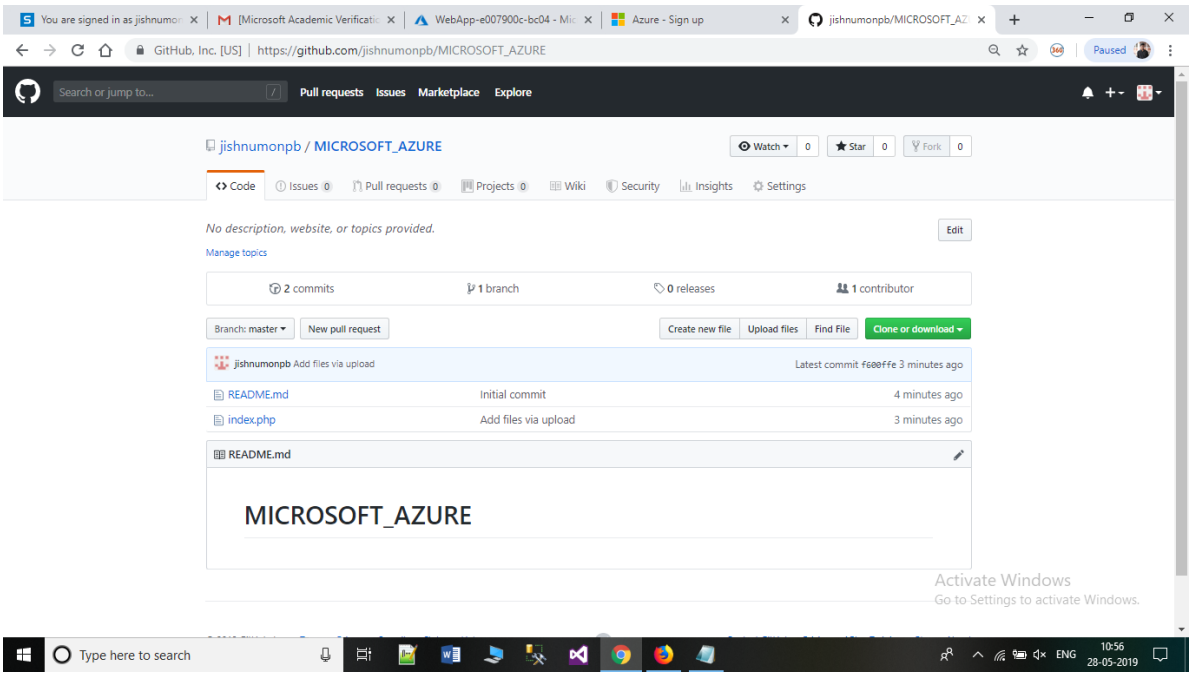
Step 4: Download and install GitHub desktop application. Once installed Go to Repository > Clone repository, and select your repository which was created in GitHub.com or Select a local system folder



Step 5: Once repository is created, make changes on the file which is stored inside the local repository and commit to master.



Step 6: Push the local repository to origin. Refresh GitHub.com repository to fetch commits.



PART 3

DATA DESIGN IN NOVEL TECHNOLOGIES

P3.1 MONGODB

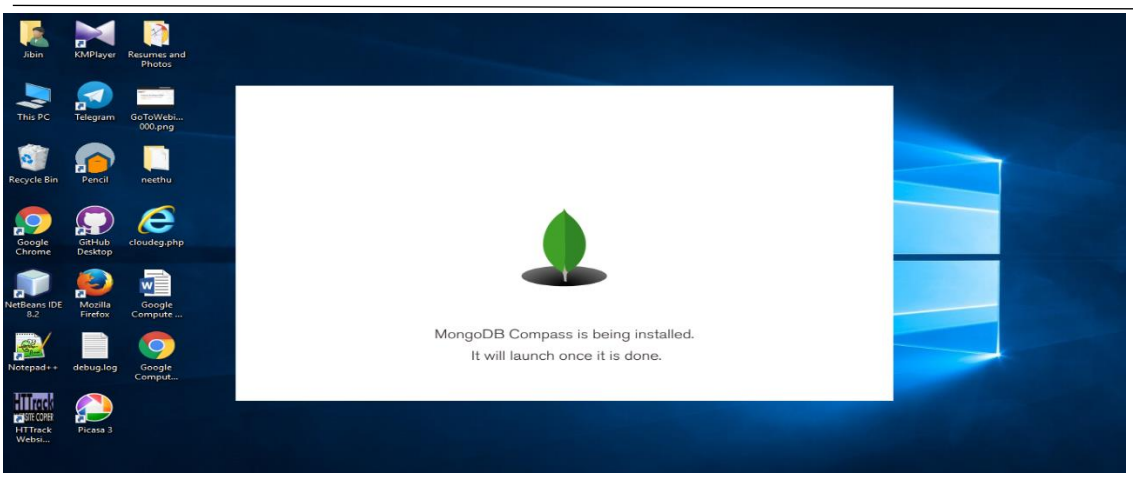
P3.1.1 INTRODUCTION TO MONGODB

MongoDB is an open source database that uses a document-oriented data model. And it is one of several database types to arise in the mid-2000s under the NoSQL banner. Instead of using tables and rows as in relational databases, MongoDB is built on an architecture of collections and documents. Documents comprise sets of key-value pairs and are the basic unit of data in MongoDB. Collections contain sets of documents and function as the equivalent of relational database tables. Like other NoSQL databases, MongoDB supports dynamic schema design, allowing the documents in a collection to have different fields and structures. The database uses a document storage and data interchange format called BSON, which provides a binary representation of JSON-like documents. Automatic sharding enables data in a collection to be distributed across multiple systems for horizontal scalability as data volumes increase.

MongoDB was created by Dwight Merriman and Eliot Horowitz, who had encountered development and scalability issues with traditional relational database approaches while building Web applications at DoubleClick, an Internet advertising company that is now owned by Google Inc.

P3.1.2 IMPLEMENTATION OF MONGODB

1. Download and Install MongoDB server for Windows.
https://www.mongodb.com/dr/fastdl.mongodb.org/win32/mongodb-win32-x86_64-2008plusssl- 3.6.2-signed.msi/download



2. Download and extract MongoDB PHP driver
https://s3.amazonaws.com/drivers.mongodb.org/php/php_mongo-1.6.8.zip

3. Rename any one file (Eg. php_mongo-1.6.8-5.6-vc11.dll) to php_mongo.dll and copy it to Extension directory known as ext directory. XAMPP: xampp\php\ext WAMPP: wamp\bin\php\php\ext

4. Add the following line to your php.ini extension=php_mongo.dll

5. Add Environment variable (Control Panel -> System and Security -> System -> Advanced system settings -> Environment variables) by editing PATH variable. C:\Program Files\MongoDB\Server\3.6\bin C:\xampp\php OR C:\wamp\bin\php

6. Create directory C:\data\db

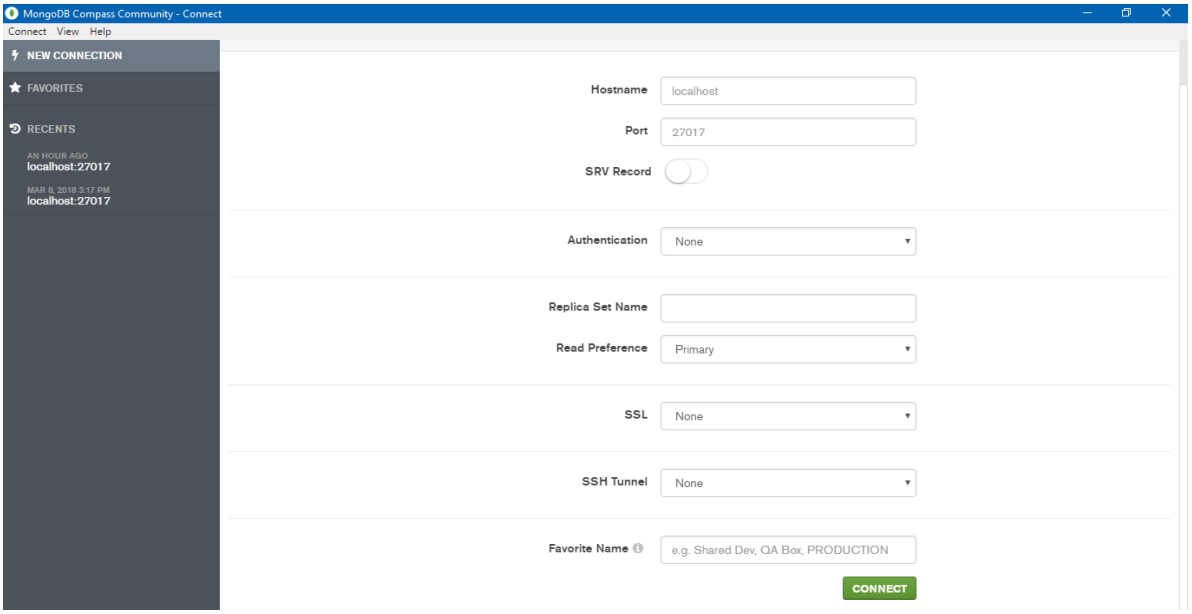
7. Restart Apache server

8. Open CMD and start MongoDB server by using command Mongod

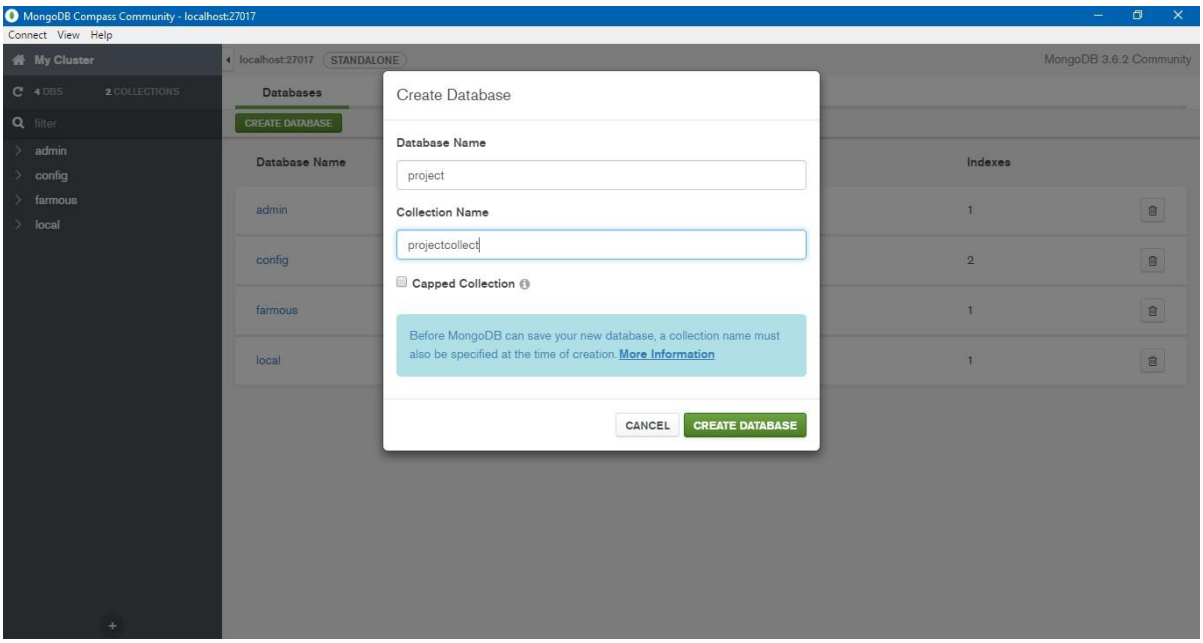
Working with MongoDB Server

1. Open the MongoDB Server (MongoDB Compass community: localhost)

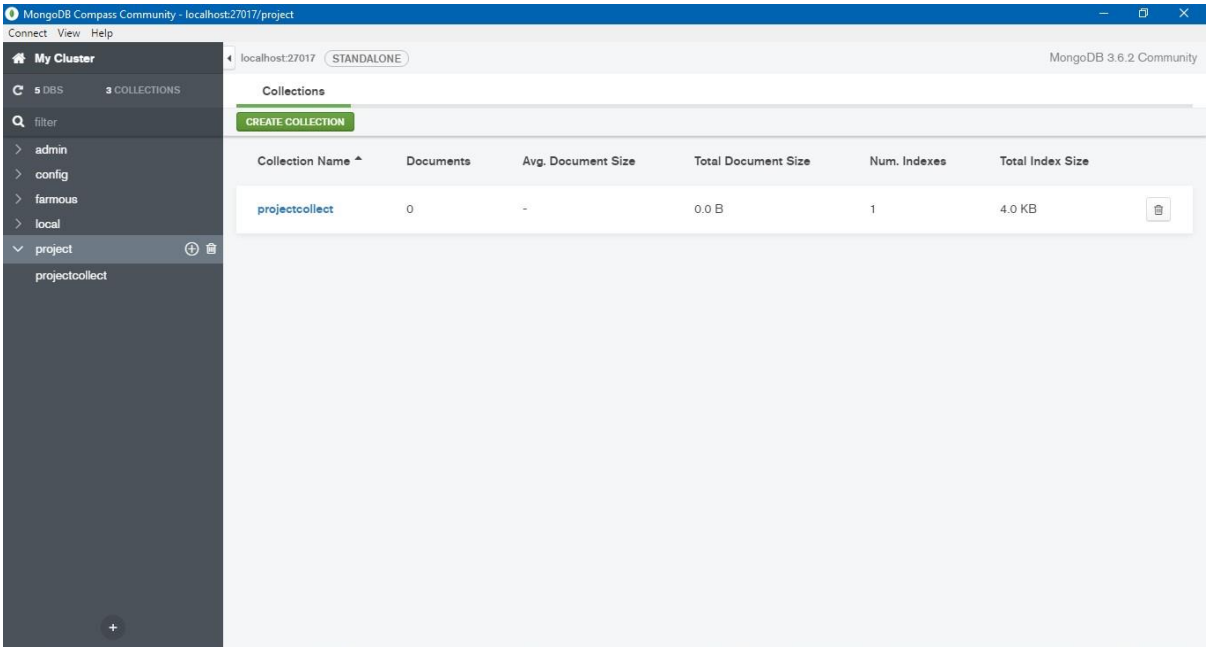
2. Connect to localhost



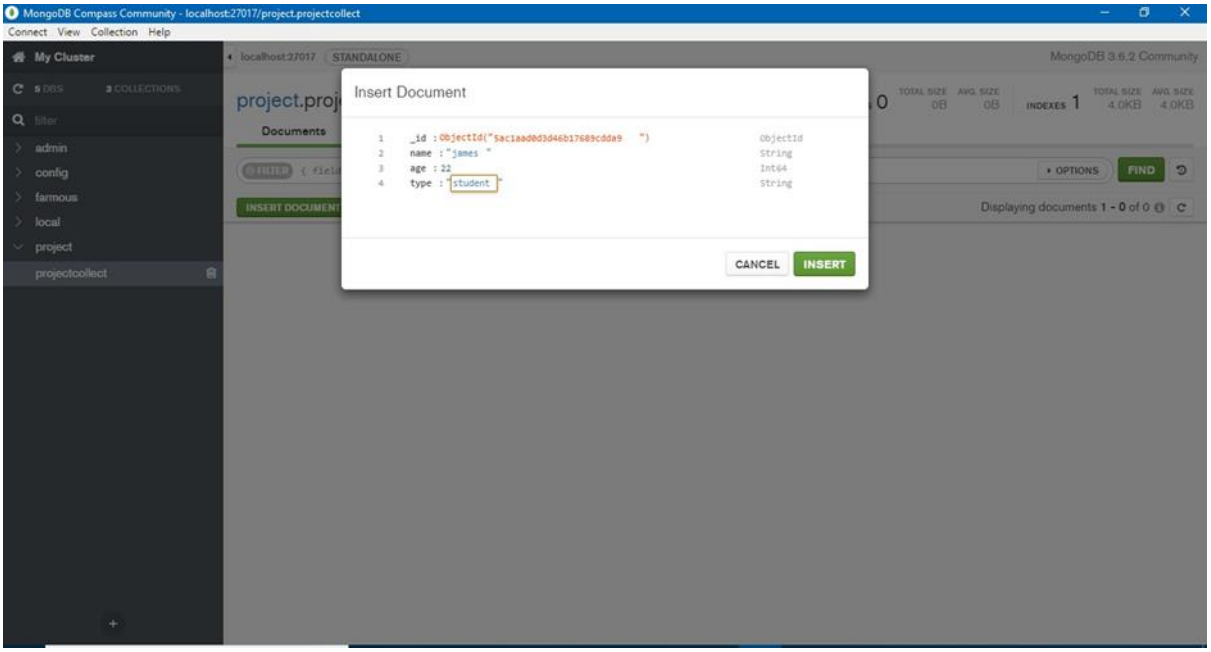
3. Once connected to the server, Create a database and collection as well. A collection in MongoDB is equivalent to RDBMS table



4. Once the database and collection are created, insert your documents into the collection. Documents in MongoDB is equivalent to the rows in RDBMS.



5. Document ID is the default and unique value provided by the MongoDB



Basic queries to access your database

1. MongoDB Connection $con = new MongoClient ();

2. Selection or Creation of Database (MySQL: Database) $db = $con->database_name;

3. Collection Creation (MySQL: Table) $collection = $db-> createCollection("collection_name");

4. Document Insertion (MySQL: Insert - Row) $document = array (“key-1" => "value-1", "key-n" => "value-n”); $collection->insert($document);

5. View data (MySQL: Select) $cursor = $collection->find (); foreach ($cursor as $document) {echo $document["key"];}

6. Updating data (MySQL: Update) $collection->update(array("key"=>"old-value"), array('$set'=>array("key"=>"new-value")));

7.Deletion of data (MySQL: Delete) $collection->remove(array("condition-key"=>"condition-value"));

P3.2 BIGTABLE IN GCP

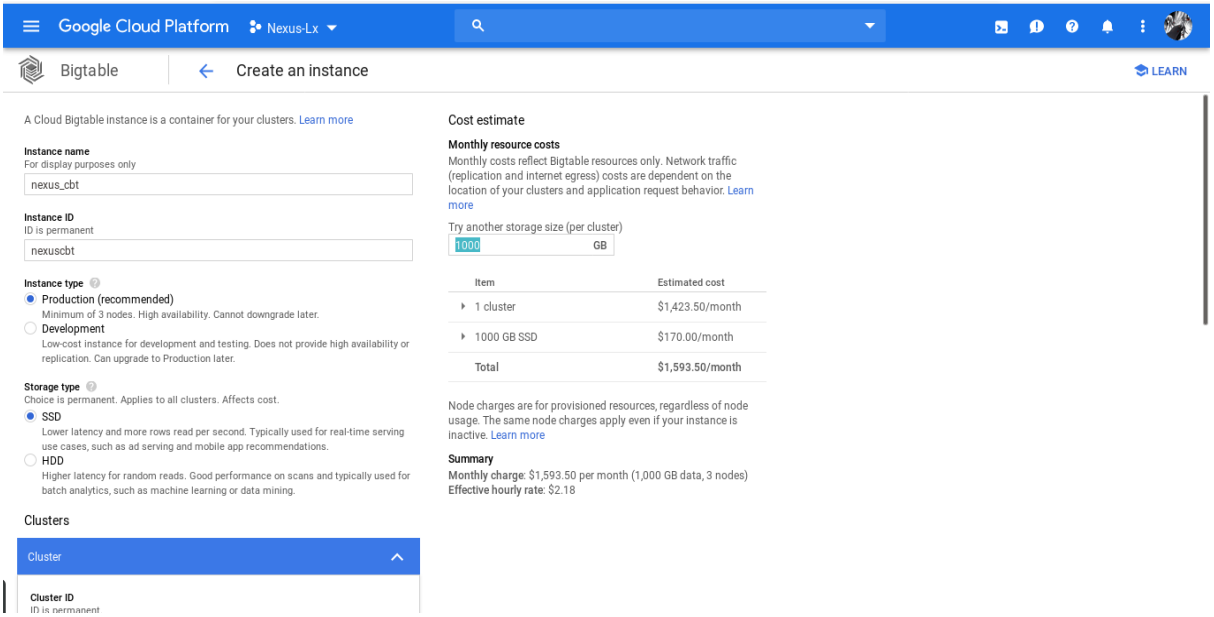
P3.2.1 INTRODUCTION TO BIGTABLE

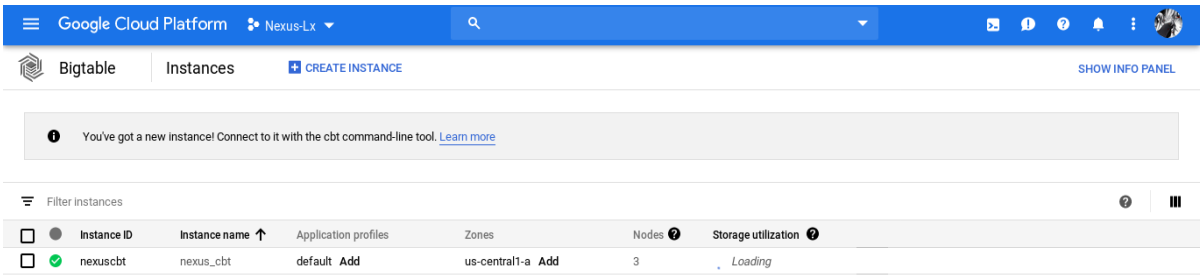
Google Bigtable is a distributed, column-oriented data store created by Google Inc. to handle very large amounts of structured data associated with the company's Internet search and Web services operations. And it was designed to support applications requiring massive scalability; from its first iteration, the technology was intended to be used with petabytes of data. The database was designed to be deployed on clustered systems and uses a simple data model that Google has described as "a sparse, distributed, persistent multidimensional sorted map." Data is assembled in order by row key and indexing of the map is arranged according to row, column keys, and timestamps. Compression algorithms help achieves high capacity. Google Bigtable serves as the database for applications such as the Google App Engine Datastore, Google Personalized Search, Google Earth and Google Analytics. Google has maintained the software as a proprietary, in-house technology. Nevertheless, Bigtable has had a large impact on NoSQL database design. Google software developers publicly disclosed Bigtable details in a technical paper presented at the USENIX Symposium on Operating Systems and Design Implementation in 2006.

Google's thorough description of Bigtable's inner workings has allowed other organizations and open source development teams to create Bigtable derivatives, including the Apache HBase database, which is built to run on top of the Hadoop Distributed File System (HDFS). Other examples include Cassandra, which originated at Facebook Inc., and Hyper table, an open source technology that is marketed in a commercial version as an alternative to HBase.

P3.2.2 IMPLEMENTATION OF BIGTABLE

1. Creating a Cloud Bigtable Instance through the Google Cloud Platform Console.





2.

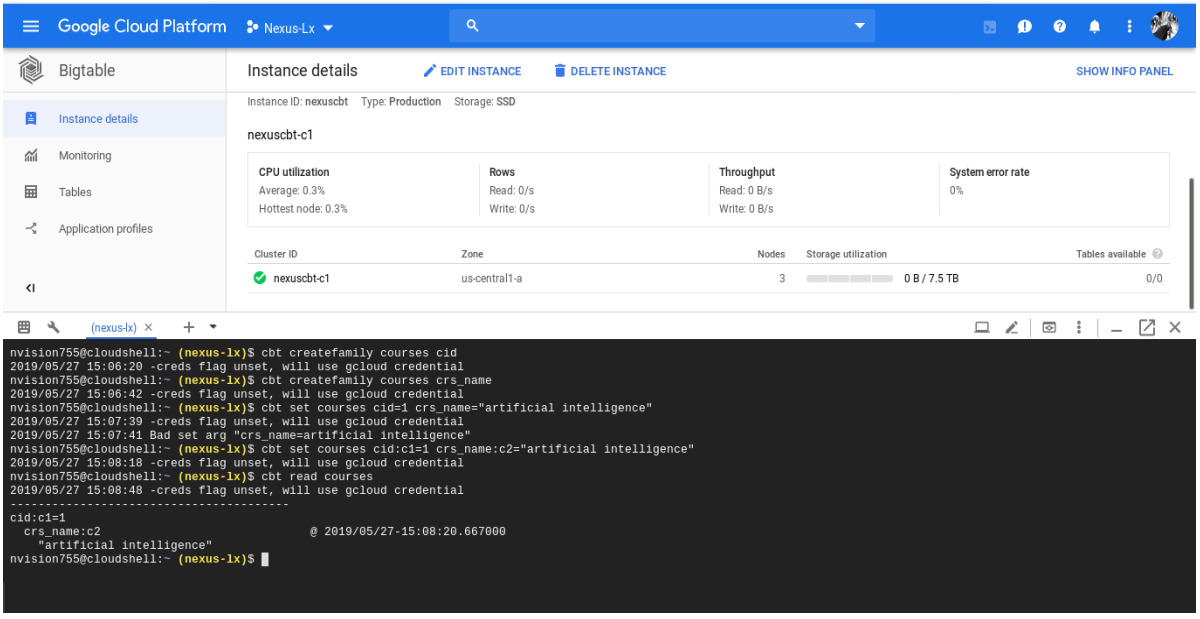
Installing the Cloud SDK for Cloud Bigtable

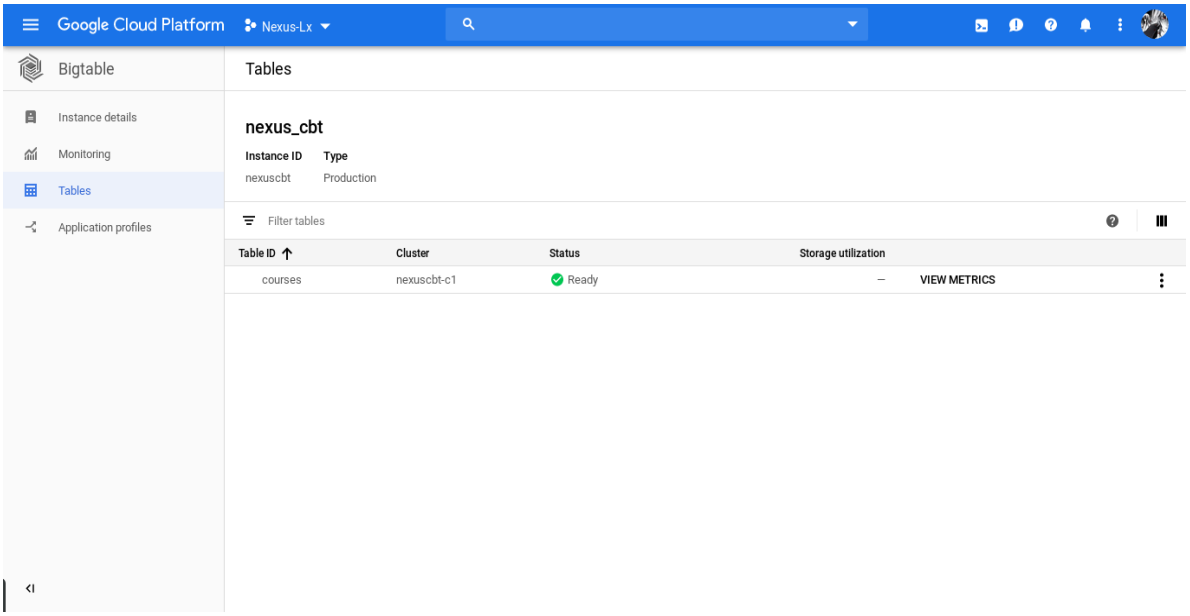
gcloud components update beta

gcloud config set project [PROJECT_ID]

gcloud beta Bigtable instances --help # help for all commands

gcloud beta bigtable instances create --help # help for the `create` command





PART 4

SEARCH ENGINE OPTIMIZATION

Search engine optimization is a methodology of strategies, techniques, and tactics or it is the process of getting traffic from the free, organic, editorial or natural search results on search engines used to increase the number of visitors to a website by obtaining a high-ranking placement in the search results page of a search engine (SERP) — including Google, Bing, Yahoo and other search engines.

P4.1 GOOGLE ADWORDS

P4.1.1 INTRODUCTION TO GOOGLE ADWORDS

AdWords (Google AdWords) is an advertising service by Google for businesses wanting to display ads on Google and its advertising network. The AdWords program enables businesses to set a budget for advertising and only pay when people click the ads. The ad service is largely focused on keywords.

Businesses that use AdWords can create relevant ads using keywords that people who search the Web using the Google search engine would use. The keyword, when searched for triggers your ad to be shown. AdWords at the top ads that appear under the heading "Sponsored Links" found on the right-hand side or above Google search results. If your AdWords ad is clicked on, Google search users are then directed to your website.

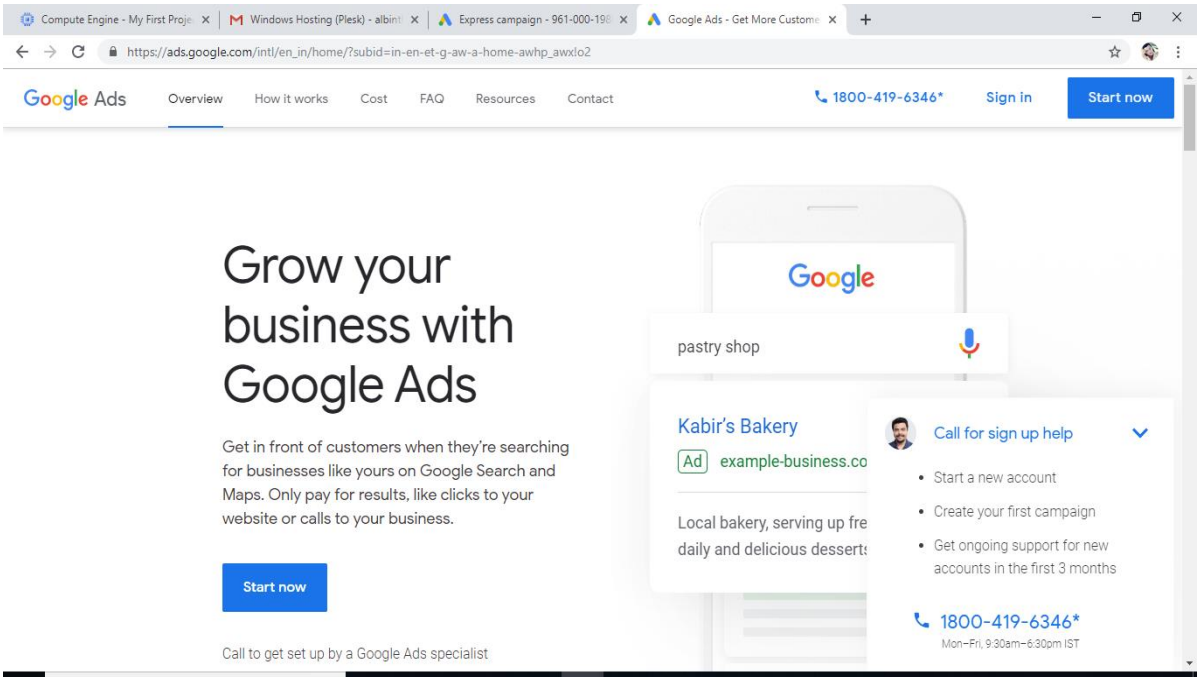
When choosing keywords for your AdWords campaigns different matching options are available. The two main keyword match options include the following:

- **Broad Match**: This reaches the most users by showing your ad whenever your keyword is searched for.
- **Negative Match**: This option prevents your ad from showing when a word or phrase you specify is searched for.
- **Phrase Match**: Your ad is shown for searches that match the exact phrase.
- **Exact Match**: Your ad is shown for searches that match the exact phrase exclusively.

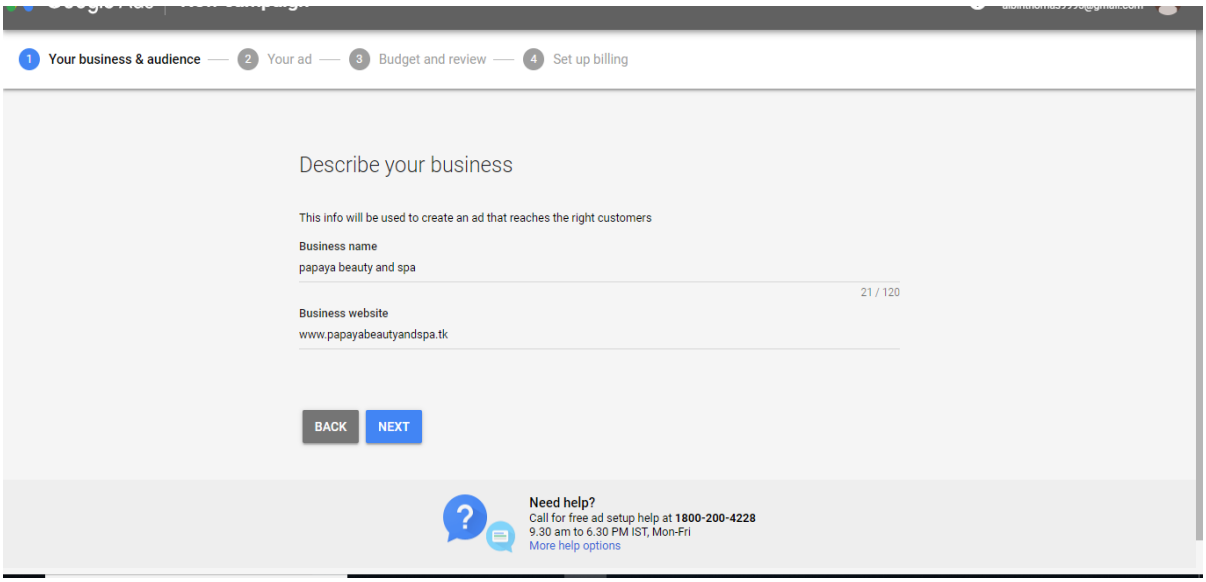
When using AdWords keywords are also used to determine your cost of advertising. Each keyword you choose will have a cost per click (CPC) bid amount. The bids specify the maximum amount you're willing to pay each time someone clicks your ad (the maximum cost-per-click). A higher CPC bid can allow your ad to show at a higher position on the page.

P4.1.2 IMPLEMENTATION OF GOOGLE ADWORDS

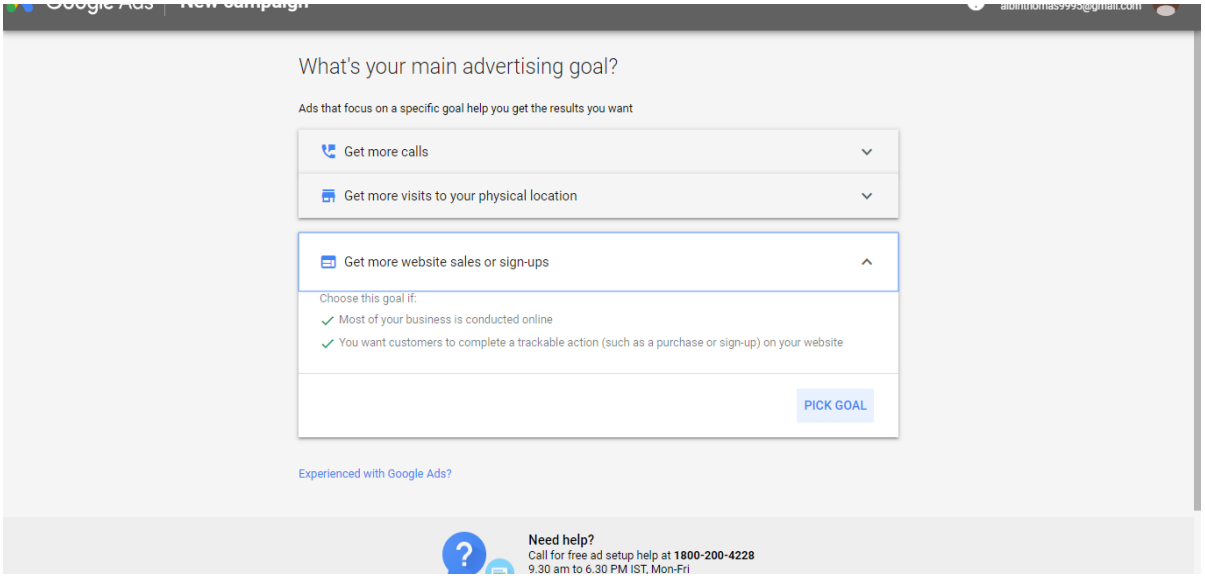
Step 1: Go to Google AdWords Express and sign into your Google account



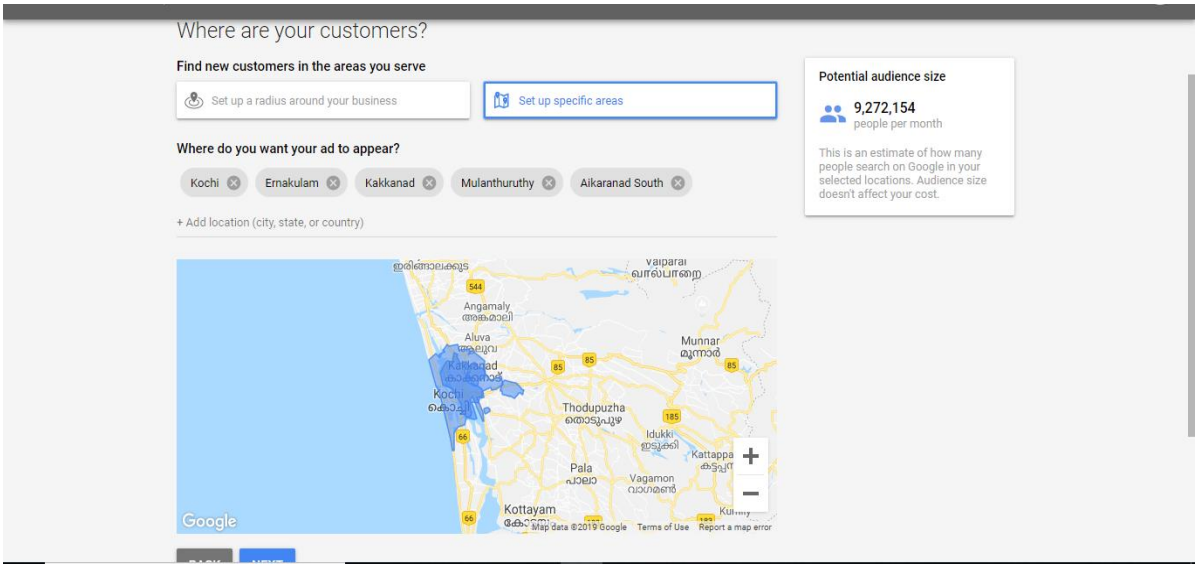
Step 2: Describe your business and website URL.



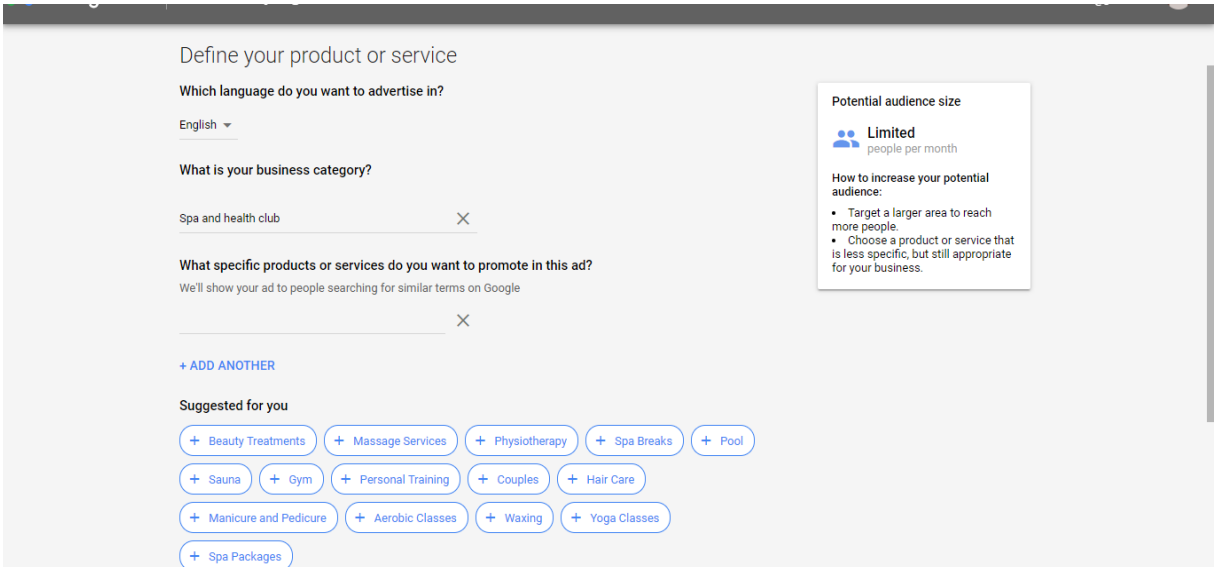
Step 3: Pick a goal for your ad, which means, what action do you most want customers to take?



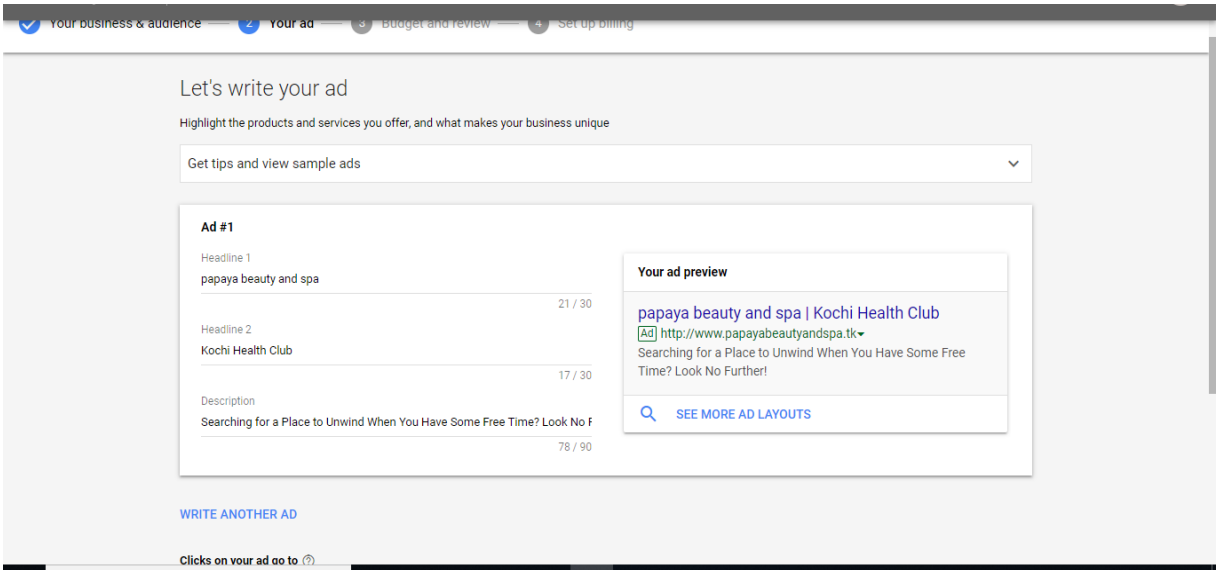
Step 4: Pick an area to show your ad in, Here Google is providing two options, one is Near my business (Which allows you to specify the distance of area from your location) and second is in specific cities, states or countries.



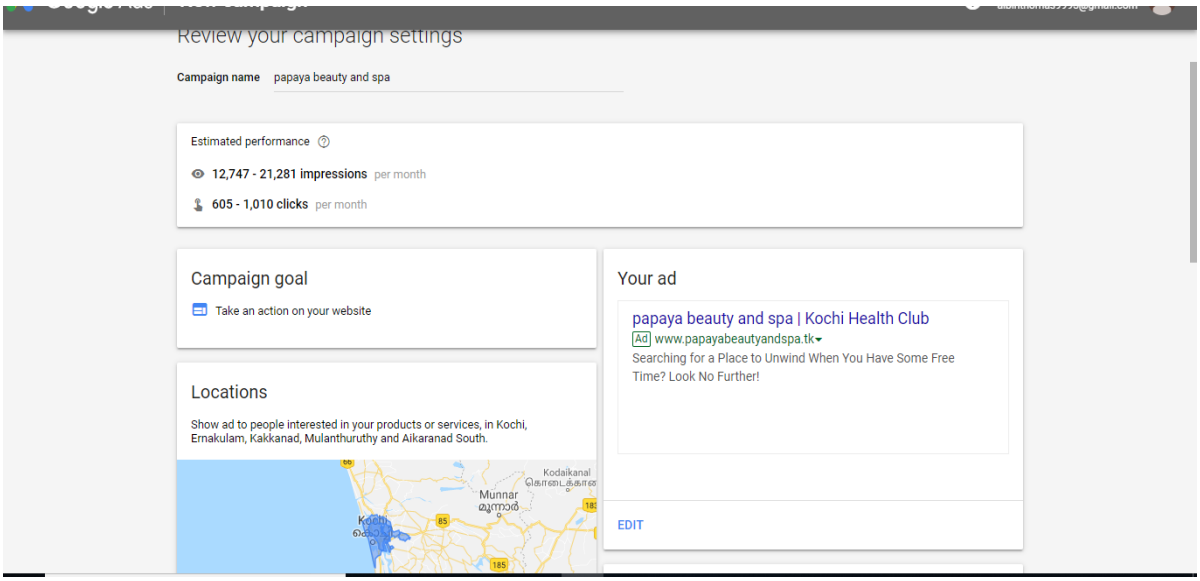
Step 5: Define your products and services. Specifically, it aims for the business category.



Step 6: Create your Ad preview including Headline, Description, Ad URL.



Step 7: Review your Ad and settings.



P4.2 GOOGLE ADSENSE

P4.2.1 INTRODUCTION TO GOOGLE ADSENSE

AdSense (*Google AdSense*) is an advertising placement service by Google. The program is designed for website publishers who want to display targeted text, video or image advertisements on website pages and earn money when site visitors view or click the ads. The advertisements are controlled and managed by Google and Web publishers simply need to create a free AdSense account and copy and paste provided code to display the ads. Revenue using AdSense is generated on a per-click or per-impression basis. It is free to become a verified website publisher in the Google AdSense program.

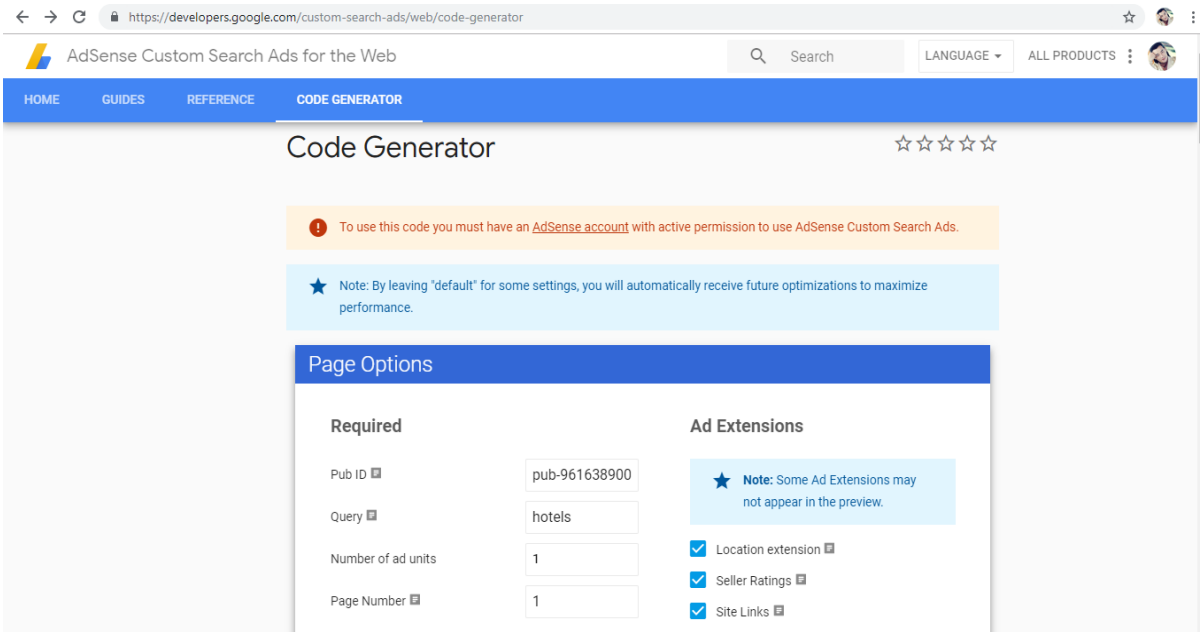
Google currently offers a number of different AdSense programs, depending on the type of content you will place the ads on (e.g. a webpage or RSS feed). Some of the more common programs include:

- AdSense for content: display ads on a website
- AdSense for search: display ads in search results on a website
- AdSense for mobile: display ads on a mobile site
- AdSense for feeds: display ads in RSS feeds
- AdSense for domains: display ads on unused domains

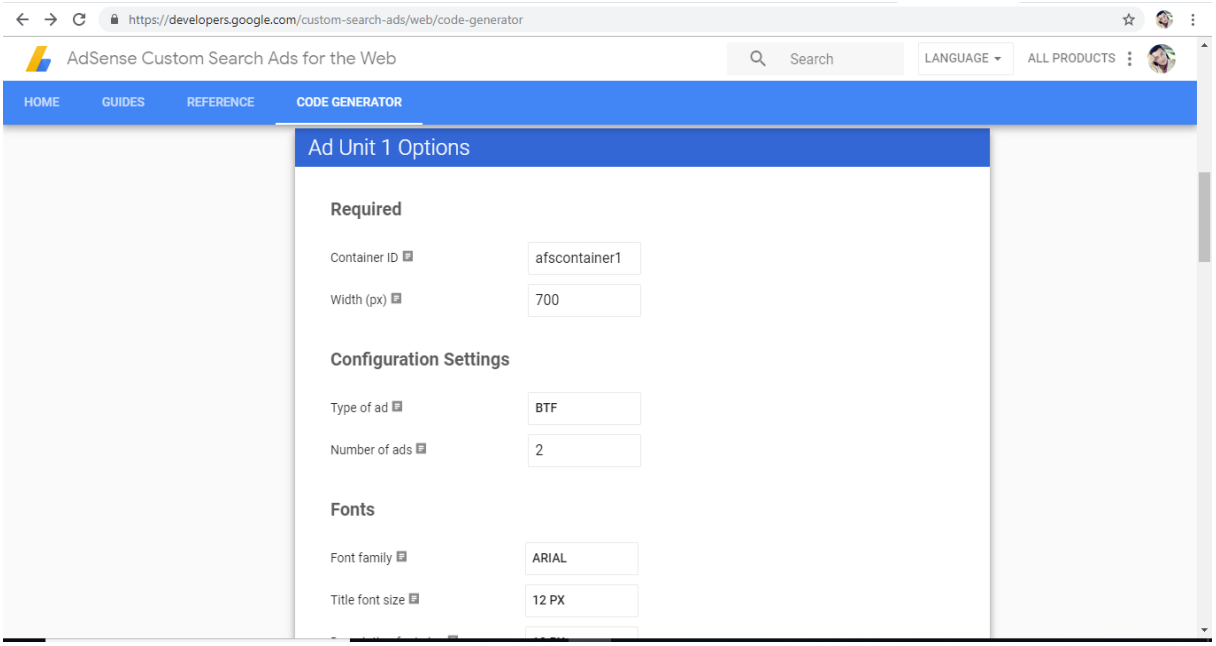
AdSense programs are also available to qualified publishers and developers. Qualified publishers may use AdSense to drive revenues for iPhone applications, video or Web browser games.

P4.2.1 IMPLEMENTATION OD ADSENSE

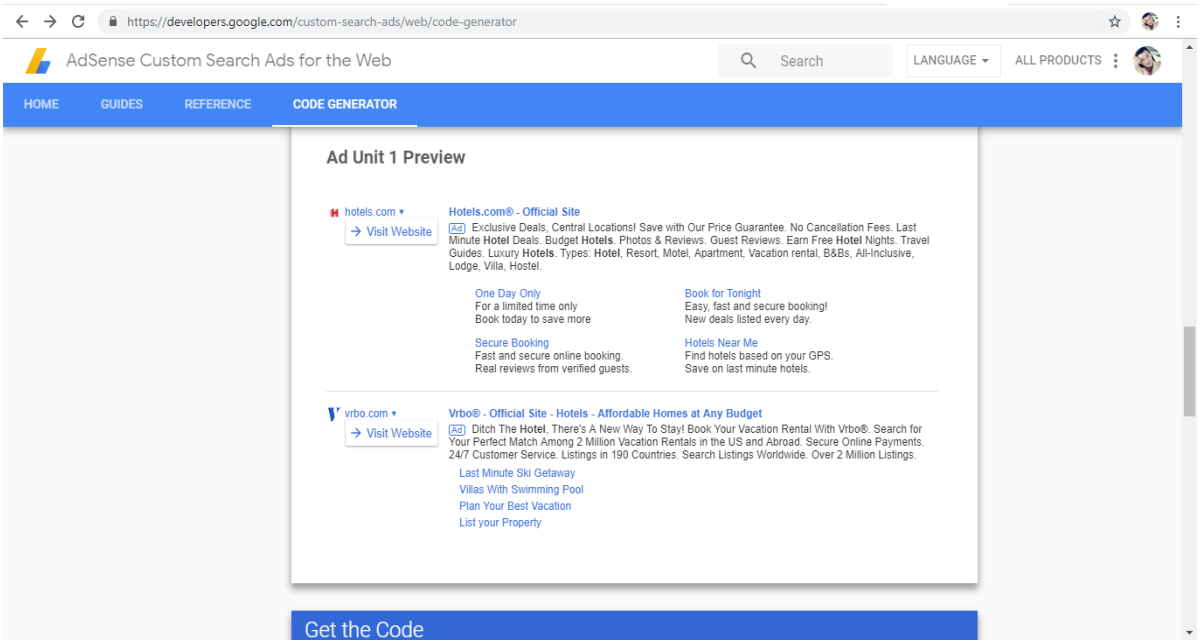
Step 1: Go to AdSense Custom Search Ads Generator



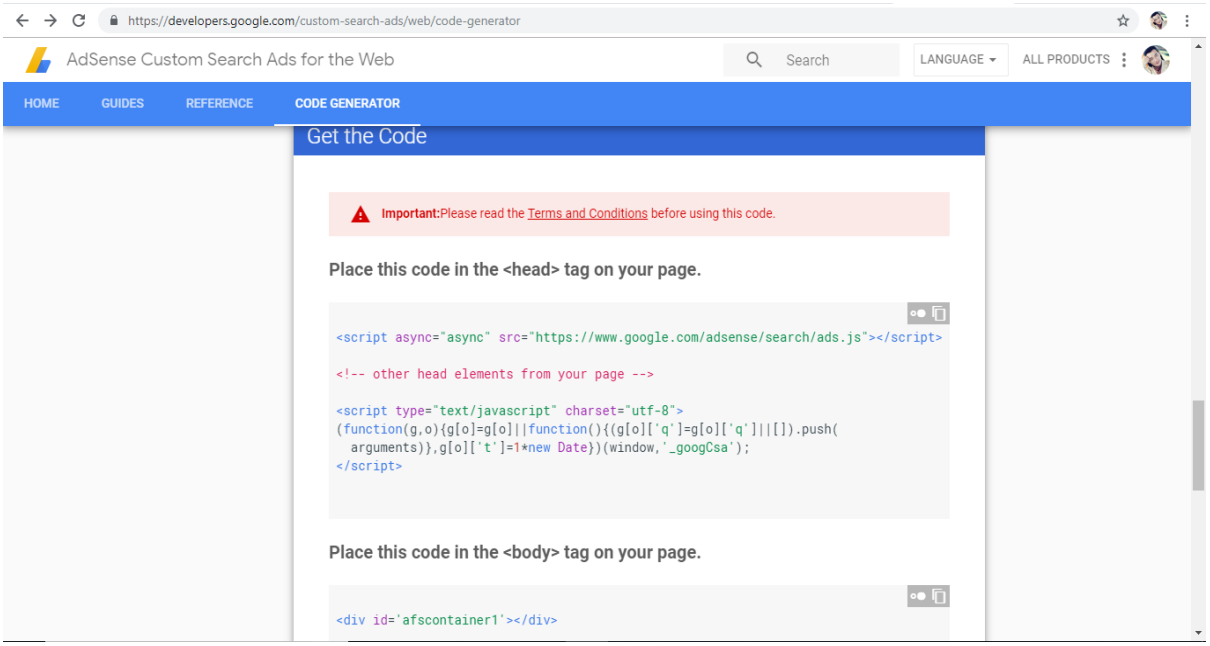
Step 2: Configure page options and page settings, such as Ad query string, no. of ad units, no. of pages, font, and color etc.



Step 3: Preview your Ad unit.



Step 4: Place the JavaScript code in your <head> tag and HTML content in your <body> tag.



P4.3 GOOGLE WEBMASTERS

P4.3.1 INTRODUCTION TO GOOGLE WEBMASTERS

Google Webmaster Tools (GWT) is the primary mechanism for Google to communicate with webmasters. Google Webmaster Tools helps you to identify issues with your site and can even let you know if it has been infected with malware (not something you ever want to see, but if you haven't spotted it yourself, or had one of your users tweet at you to let you know, it's invaluable). And also, GWT let you evaluate and maintain your website's performance in search results Offered as a free service to anyone who owns a website, Google Webmaster Tools (GWT) is a conduit of information from the largest search engine in the world to you, offering insights into how it sees your website and helping you uncover issues that need fixing. You do not need to use GWT for your website to appear in search results, but it can offer you valuable information that can help with your marketing efforts.

How GWT can help monitor your website's performance

1. It verifies that Google can access the content on your website.
2. GWT makes it possible to submit new pages and posts for Google to crawl and remove content you don't want search engine users to discover.
3. It helps you deliver and evaluate content that offers users a more visual experience.
4. You can maintain your website without disrupting its presence in search results.
5. It allows you to discover and eliminate malware or spam problems that may not be easily found through other means.

P4.3.2 IMPLEMENTATION OF ROBOTS.TXT

Robots.txt is a text (not html) file you put on your site to tell search robots which pages you would like them not to visit. Robots.txt is by no means mandatory for search engines but generally search engines obey what they are asked not to do. It is important to clarify that robots.txt is not a way from preventing search engines from crawling your site (i.e. it is not a

firewall, or a kind of password protection) and the fact that you put a robots.txt file is something like putting a note “Please, do not enter” on an unlocked door – e.g. you cannot prevent thieves from coming in but the good guys will not open to door and enter. That is why we say that if you have really sensitive data, it is too naïve to rely on robots.txt to protect it from being indexed and displayed in search results.

The location of robots.txt is very important. It must be in the main directory because otherwise user agents (search engines) will not be able to find it – they do not search the whole site for a file named robots.txt. Instead, they look first in the main directory (i.e. http://mydomain.com/robots.txt) and if they don't find it there, they simply assume that this site does not have a robots.txt file and therefore they index everything they find along the way.

Structure of a Robots.txt File

The structure of a robots.txt is pretty simple (and barely flexible) – it is an endless list of user agents and disallowed files and directories. Basically, the syntax is as follows:

User-agent:

Disallow:

“*User-agent”* are search engines' crawlers and *disallow:* lists the files and directories to be excluded from indexing. In addition to “user-agent:” and “disallow:” entries, you can include comment lines – just put the # sign at the beginning of the line:

All user agents are disallowed to see the /temp directory.

User-agent: *

Disallow: /temp/

PART 5

SERVER SECURITY AND PENETRATION TESTING

P5.1 DATA SECURITY

Data security refers to protective digital privacy measures that are applied to prevent unauthorized access to computers, databases, and websites. Data security also protects data from corruption. Data security is an essential aspect of IT for organizations of every size and type. Examples of data security technologies include backups, data masking, and data erasure. The core of the data security technology is encryption, where digital data, software/hardware, and hard drives are encrypted and therefore rendered unreadable to unauthorized users and hackers.

Different Ways to Enhance Data Security

1. Limit Data Access
2. Identify Sensitive Data
3. Pre-planned Data Security Policy

P5.2 SERVER HARDENING

Server Hardening is the process of enhancing server security through a variety of means which results in a much more secure server operating environment. This is due to the advanced security measures that are put in place during the server hardening process.

The term "hardening," in the general sense, implies taking a soft surface or material and making changes to it which result in that surface becoming stronger and more resistant to damage. That is exactly how server hardening impacts server security. Hardened servers are more resistant to security issues than non-hardened servers.

- In a time when nearly every computing resource is online and susceptible to attack, server hardening is a near absolute must to perform on your servers.
- . The Internet has vastly altered the complexion of the server hardening industry over the last decade. Much of the applications and system software that is now developed is intended for use on the Internet, and for connections to the Internet.

- Many servers online today are attacked thousands of times per hour, tens and sometimes hundreds of thousands of times each and every day. The best defence against such attacks is to ensure that server hardening is a well-established practice within your organization or to outsource this task to an experienced & established server hardening agency.

Server Hardening, probably one of the most important tasks to be handled on your servers, becomes more understandable when you realize all the risks involved. The default config of most operating systems is not designed with security as the primary focus. Instead, default setups focus more on usability, communications and functionality. To protect your servers, you must establish solid and sophisticated server hardening policies for all servers

in your organization. Developing a server hardening checklist would likely be a great first step in increasing your server and network security. Make sure that your checklist includes minimum security practices that you expect of your staff. If you go with a consultant you can provide them with your server hardening checklist to use as a baseline.

Server Hardening Tips & Tricks: Every server security conscious organization will have their own methods for maintaining adequate system and network security. Often you will find that server hardening consultants can bring your security efforts up a notch with their specialized expertise. Some common server hardening tips & tricks include: - Use Data Encryption for your Communications - Avoid using insecure protocols that send your information or passwords in plain text. - Minimize unnecessary software on your servers. - Disable Unwanted SUID and SGID Binaries - Keep your operating system up to date, especially security patches. - Using security extensions is a plus. - When using Linux, SELinux should be considered. Linux server hardening is a primary focus for the web hosting industry, however in web hosting SELinux is probably not a good option as it often causes issues when the server is used for web hosting purposes. - User Accounts should have very strong passwords - Change passwords on a regular basis and do not reuse them - Lock accounts after too many login failures. Often these login failures are illegitimate attempts to gain access to your system. - Do not permit empty passwords. - SSH Hardening --- Change the port from default to a non-standard one --- Disable direct root logins. Switch to root from a lower level account only when necessary. - Unnecessary service

should be disabled. Disable all instances of IRC - BitchX, bnc, eggdrop, generic-sniffers, guardservices, ircd, psyBNC, ptlink. - Securing /tmp /var/tmp /dev/shm

P5.3 KALI LINUX TOOLS

P5.3.1 INTRODUCTION TO KALI LINUX TOOLS

Kali Linux is the world's most powerful and popular penetration testing platform, used by security professionals in a wide range of specializations, including penetration testing, forensics, reverse engineering, and vulnerability assessment. It is the culmination of years of refinement and the result of a continuous evolution of the platform, from WHoppiX to WHAX, to BackTrack, and now to a complete penetration testing framework leveraging many features of Debian GNU/Linux and the vibrant open source community worldwide. Kali contains several hundred tools which are geared towards various information security tasks, such as Penetration Testing, Security research, Computer Forensics and Reverse Engineering. Kali Linux was released on the 13th March 2013 as a complete, top-to-bottom rebuild of Backtrack Linux, adhering completely to Debian development standards.

Major Kali Linux Penetration Testing tools

- **Sqlmap**

Sqlmap is an open source penetration testing tool that automates the process of detecting and exploiting SQL injection flaws and taking over of database servers. It comes with a powerful detection engine, many niche features for the ultimate penetration tester and a broad range of switches lasting from database fingerprinting, over data fetching from the database.

- **Metasploit Framework**

Metasploit is a penetration testing platform that enables you to find, exploit, and validate vulnerabilities. It provides the infrastructure, content, and tools to perform penetration tests and extensive security auditing and thanks to the open source community and Rapid7's own hard-working content team, new modules are added on a regular basis.

- **Hashcat**

Hashcat is the world's fastest and most advanced password recovery utility, supporting five unique modes of attack for over 200 highly-optimized hashing algorithms. hashcat currently supports CPUs, GPUs, and other hardware accelerators on Linux, Windows, and OSX, and has facilities to help enable distributed password cracking.

P5.3.2 IMPLEMENTATIONTION OF KALI LINUX TOOLS

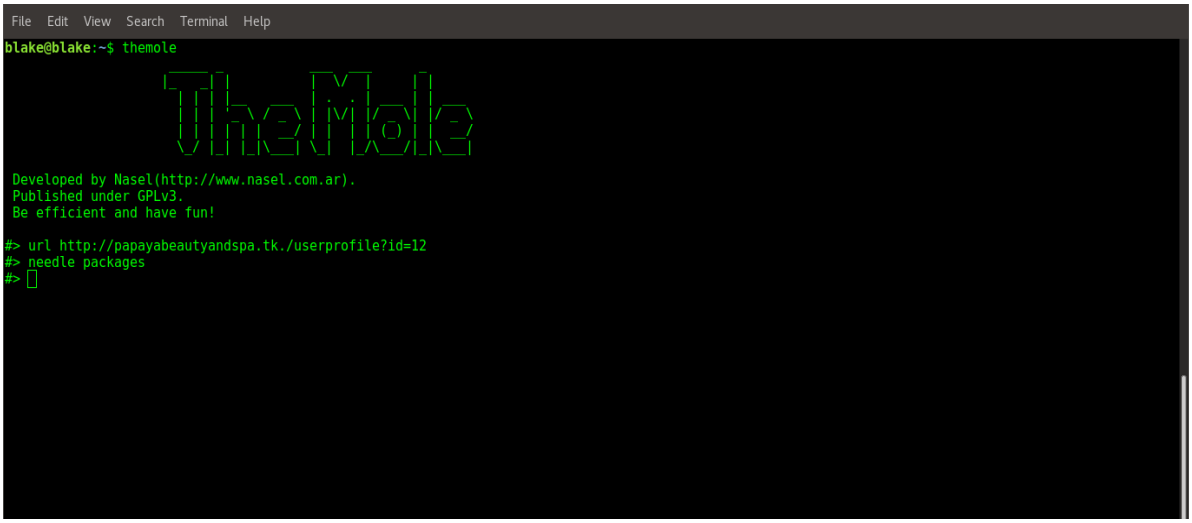
Testing with The Mole

Mole is a programmed automatic SQL Injection exploitation tool. Just by giving a vulnerable URL and a substantial string on the site it can recognize the injection and exploit it, either by utilizing the union method or a Boolean question-based system. The Mole utilizes a command-based interface, permitting the client to show the activity he needs to perform effectively. The CLI likewise gives auto-completion on both commands and command arguments, making the user sort as less as could be expected under the possibilities.

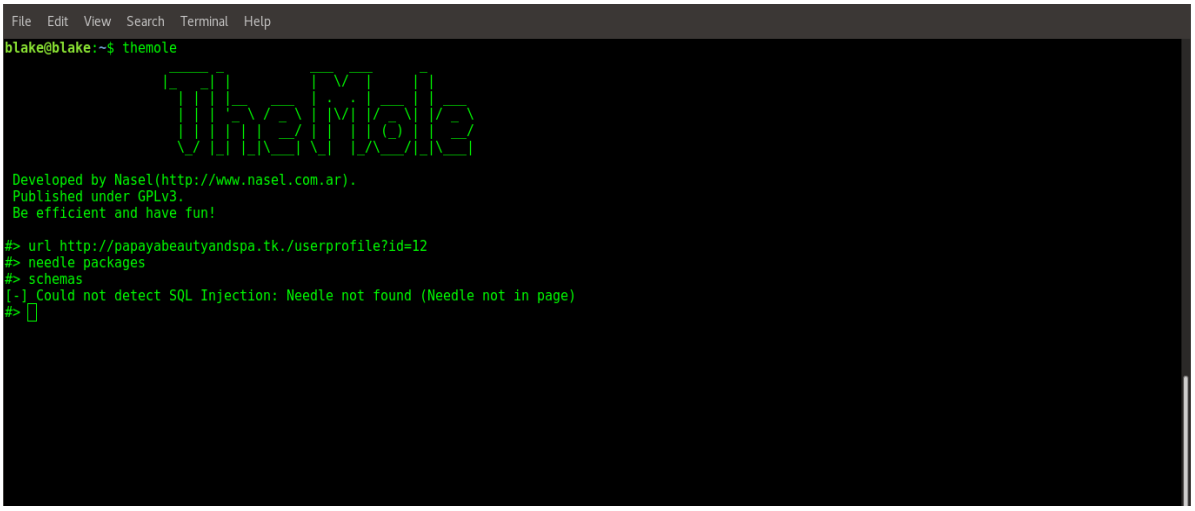
- Download and open themole.exe file
- Once a command-line interface is opened, use the following commands
- url http://www.yourwebsite.com/page.php?id=numeric_value

- Now find out any keywords available on the website, it may anything means any word find you on this site, I'm using classmates.

- needle classmates



- finally, use command schemas to fetch tables



Output:

Could not Exploit SQL Injection

PART 6

TECHNOLOGY FRAMEWORKS

P6.1 ASP.NET MVC

P6.1.1 Introduction

ASP.NET MVC is an open-source software from Microsoft. Its web development framework combines the features of MVC (Model-View-Controller) architecture, the most up-to-date ideas and techniques from Agile development and the best parts of the existing ASP.NET platform. ASP.NET MVC is basically a web development framework from Microsoft, which combines the features of MVC (Model-View-Controller) architecture, the most up-to-date ideas and techniques from Agile development, and the best parts of the existing ASP.NET platform.

ASP.NET MVC is not something, which is built from ground zero. It is a complete alternative to traditional ASP.NET Web Forms. It is built on the top of ASP.NET, so developers enjoy almost all the ASP.NET features while building the MVC application.

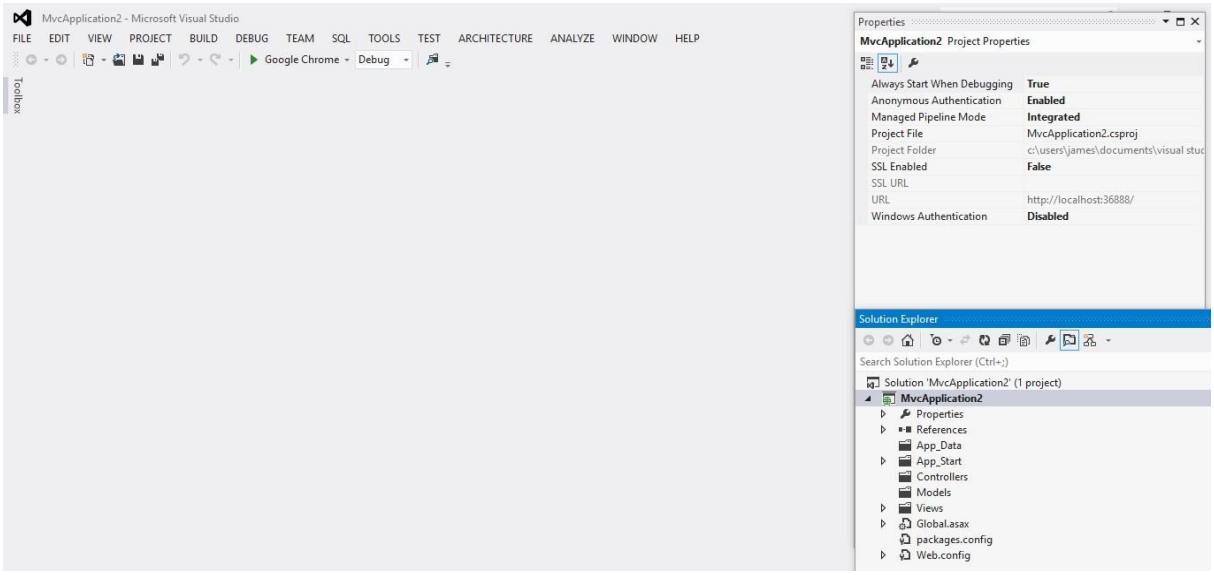
The MVC architectural pattern separates the user interface (UI) of an application into three main parts.

- **The Model** − A set of classes that describes the data you are working with as well as the business logic.
- **The View** − Defines how the application's UI will be displayed. It is a pure HTML, which decides how the UI is going to look like.
- **The Controller** − A set of classes that handles communication from the user, overall application flow, and application-specific logic.

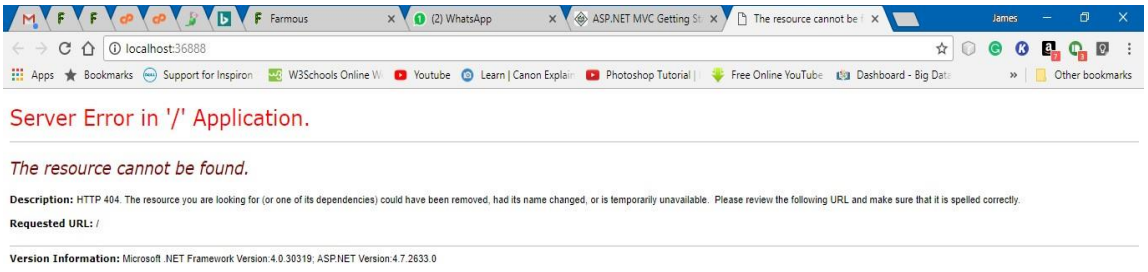
Implementation of ASP.Net MVC

- Download and install Microsoft Visual Studio 2012 and onwards
- Create an ASP.Net MVC Application. Open the Visual Studio. Click File>New > Project menu option. A new Project dialog opens.
- From the left pane, select Templates → Visual C# → Web.
- In the middle pane, select ASP.NET Web Application.

- Enter the project name, MVCApplication2, in the Name field and click ok to continue. You will see the following dialog which asks you to set the initial content for the ASP.NET project.



- Run this application from Debug > Start Debugging menu option and you will see a **404 Not Found** Error.



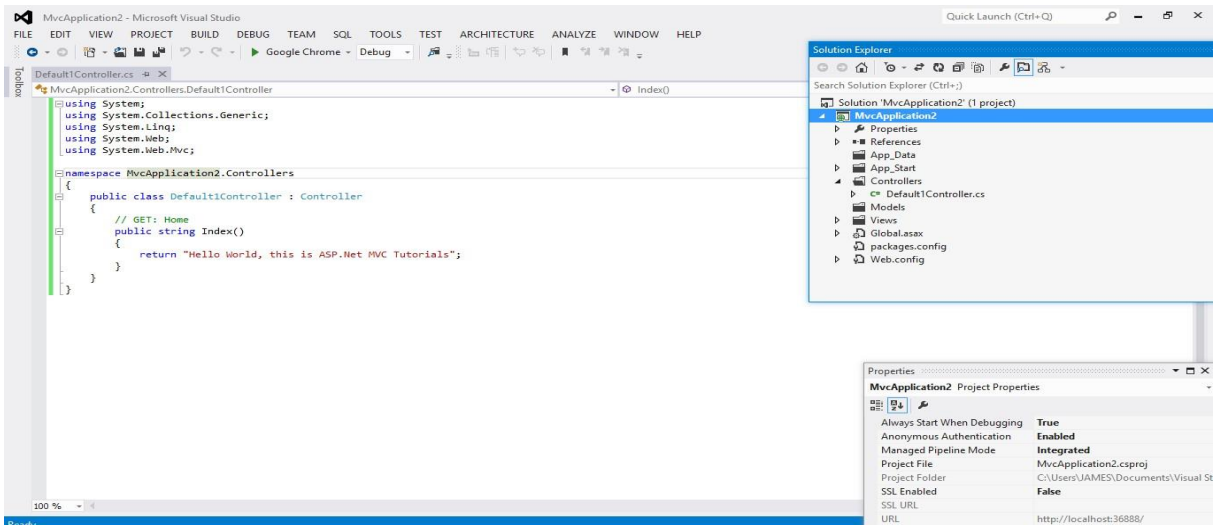
Add Controller

- To remove the 404 Not Found error, we need to add a controller, which handles all the incoming requests.
- To add a controller, right-click on the controller folder in the solution explorer and select Add > Controller.
- Select the MVC 5 Controller – Empty option and click 'Add' button. The Add Controller dialog

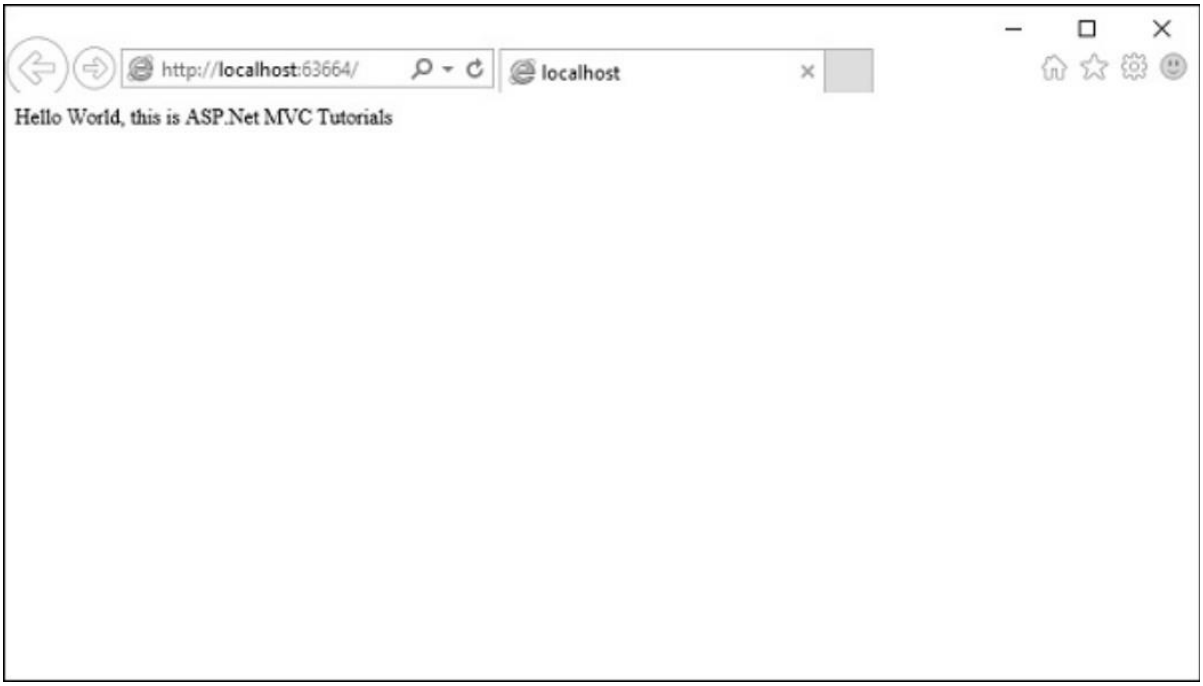
will appear.

- Set a name to Controller and click the Add button.

- To make this a working example, let's modify the controller class by changing the action method called **Index** using the following code.



- Run this application from Debug



P6.2 LARAVEL

Laravel is a free, open-source PHP web framework, created by Taylor Otwell and intended for the development of web applications following the model–view–controller (MVC) architectural pattern. It has a very rich set of functionalities, which will increase the speed of website development work.

If you know PHP well, then Laravel will make your task easier. It has a very rich set of libraries and helpers. By using Laravel, you will save a lot of time, if you are developing a website from scratch. Not only that, a website built in Laravel is secure too, as it has the ability to prevent various attacks that take place through websites.

It is very easy to install Laravel. Just follow the steps given below –

- First, download the Laravel installer using Composer:
  Composer global require laravel/installer

- Once installed, the laravel new command will create a fresh Laravel installation in the directory you specify

Laravel new helloworld

- Via Composer Create-Project

composer create-project laravel/laravel hello-world

- Local Development Server

If you have PHP installed locally and you would like to use PHP's built-in development server to serve your application, you may use the serve Artisan command. This command will start a development server at http://localhost:8000.

php artisan serve

Laravel is based on the Model-View-Controller (MVC) development pattern. MVC is a software

approach that separates application logic from presentation. In practice, it permits your web pages to contain minimal scripting since the presentation is separate from the PHP scripting.

- The Model represents your data structures. Typically, your model classes will contain functions that help you retrieve, insert and update information in your database.
- The View is information that is being presented to a user. A View will normally be a web page, but in Laravel, a view can also be a page fragment like a header or footer. It can also be an RSS page or any other type of "page".
- The Controller serves as an intermediary between the Model, the View, and any other resources needed to process the HTTP request and generate a web page.

Example

1. Create a Laravel application:
   Composer create-project laravel/laravel hello-world
2. Navigate to the project folder, e.g.

   D:\laravel\hello-world

3. Create a controller:

   php artisan make:controller HelloController

4. Register a route to HelloController's index method. Add this line or routes/web.php

   Route::get('hello',HelloController@index');

5. Create a Blade template in the views directory:

   resources/views/hello.blade.php:

```
<html>
<body>
<h1>HelloWorld</h1>
</body>
```

```
</html>
```

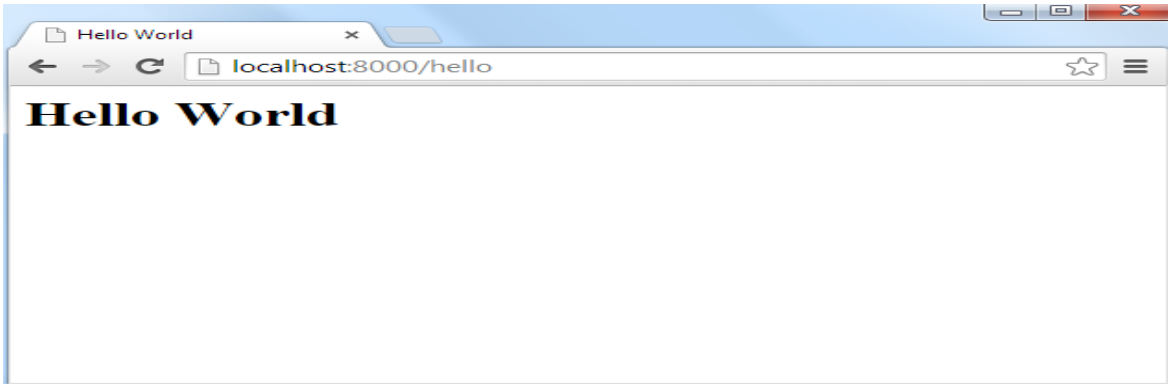
6. Now we tell index method to display the hello.blade.php template:

app/Http/Controllers/HelloController.php

```
<?php
 namespace App\Http\Controllers;
 use Illuminate\Http\Request;
 use App\Http\Requests;
class HelloController extends Controller
 {
    public function index ()
    {
       return view('hello');
    }
}
// ... other resources are listed below the index one above
```

7. You can serve your app using the following PHP Artisan Command:

```
php artisan serve;
```



P6.3 ANGULAR

Angular 6 is a JavaScript framework for building web applications and apps in JavaScript, html, and TypeScript, which is a superset of JavaScript. Angular provides built-in features for animation, http service, and materials which in turn has features such as auto-complete, navigation, toolbar, menus, etc. The code is written in TypeScript, which compiles to JavaScript and displays the same in the browser.

Step 1: Install the Angular CLI

Install the Angular CLI globally.

To install the CLI using npm, open a terminal/console window and enter the following command:

```
npm install -g @angular/cli
```

Step 2: Create a workspace and initial application

You develop apps in the context of an Angular workspace. A workspace contains the files for one or more projects. A project is the set of files that comprise an app, a library, or end-to-end (e2e) tests.

To create a new workspace and initial app project:

1. Run the CLI command ng new and provide the name my-app, as shown here:

```
ng new my-app
```

The ng new command prompts you for information about features to include in the initial app project. Accept the defaults by pressing the Enter or Return key.

The Angular CLI installs the necessary Angular npm packages and other dependencies. This can take a few minutes.

It also creates the following workspace and starter project files:

- A new workspace, with a root folder named my-app
- An initial skeleton app project, also called my-app (in the src subfolder)
- An end-to-end test project (in the e2e subfolder)

- Related configuration files
- The initial app project contains a simple Welcome app, ready to run.

Step3: Serve the Application

Angular includes a server, so that you can easily build and serve your app locally.

Go to the workspace folder (my-app).

Launch the server by using the CLI command ng serve, with the --open option.

```
cd my-app
ng serve --open
```

The ng serve command launches the server, watches your files, and rebuilds the app as you make changes

to those files.

The --open (or just -o) option automatically opens your browser to http://localhost:4200/.

Your app greets you with a message:

Step 4: Edit your first Angular component

Components are the fundamental building blocks of Angular applications. They display data on the screen, listen for user input, and take action based on that input.

As part of the initial app, the CLI created the first Angular component for you. It is the root component, and it is named app-root.

Open ./src/app/app.component.ts.

Change the title property from 'my-app' to 'My First Angular App'.

src/app/app.component.ts

```
@Component({
  selector: 'app-root',
  templateUrl: './app.component.html',
  styleUrls: ['./app.component.css']
})


export class AppComponent {
  title = 'My First Angular App!';
}
```

The browser reloads automatically with the revised title. That's nice, but it could look better.

Open ./src/app/app.component.css and give the component some style.

src/app/app.component.css

```
h1 {
  color: #369;
  font-family: Arial, Helvetica, sans-serif;
  font-size: 250%;
}
```

Welcome to My First Angular App!

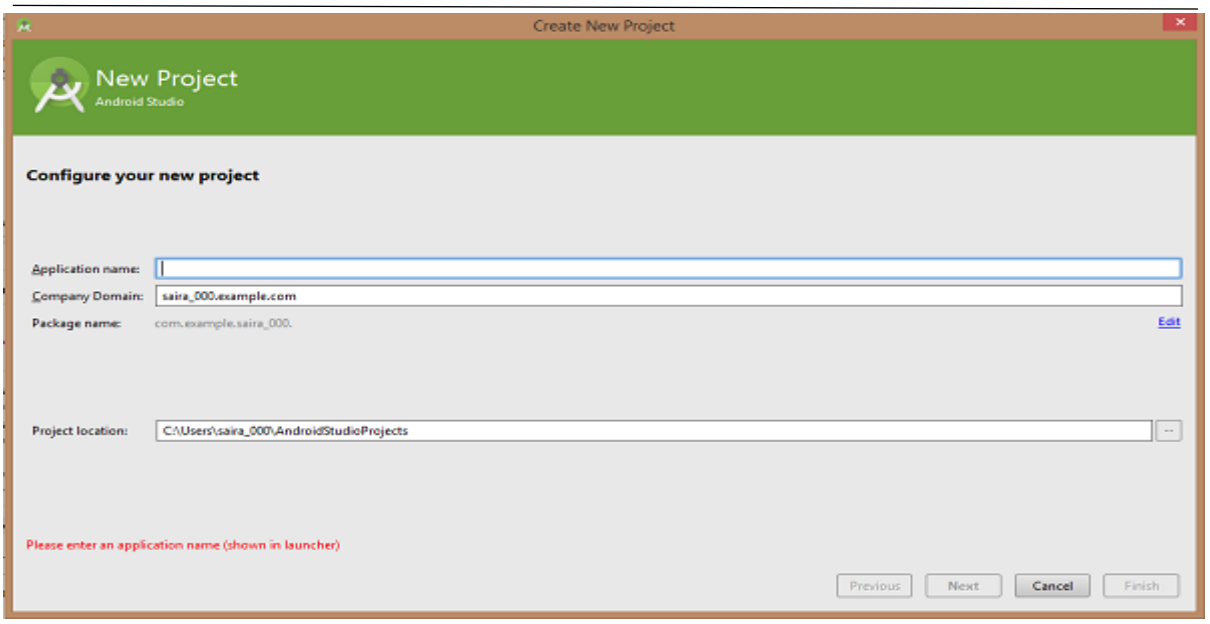
P6.4 ANDROID

Android is a software package and linux based operating system for mobile devices such as tablet computers and smart phones. It is developed by Google and later the OHA (Open Handset Alliance). Java language is mainly used to write the android code even though other languages can be used. The goal of android project is to create a successful real-world product that improves the mobile experience for end users. There are many code names of android such as Lollipop, Kitkat, Jelly Bean, Ice cream Sandwich, Froyo, Ecliar, Donut etc .

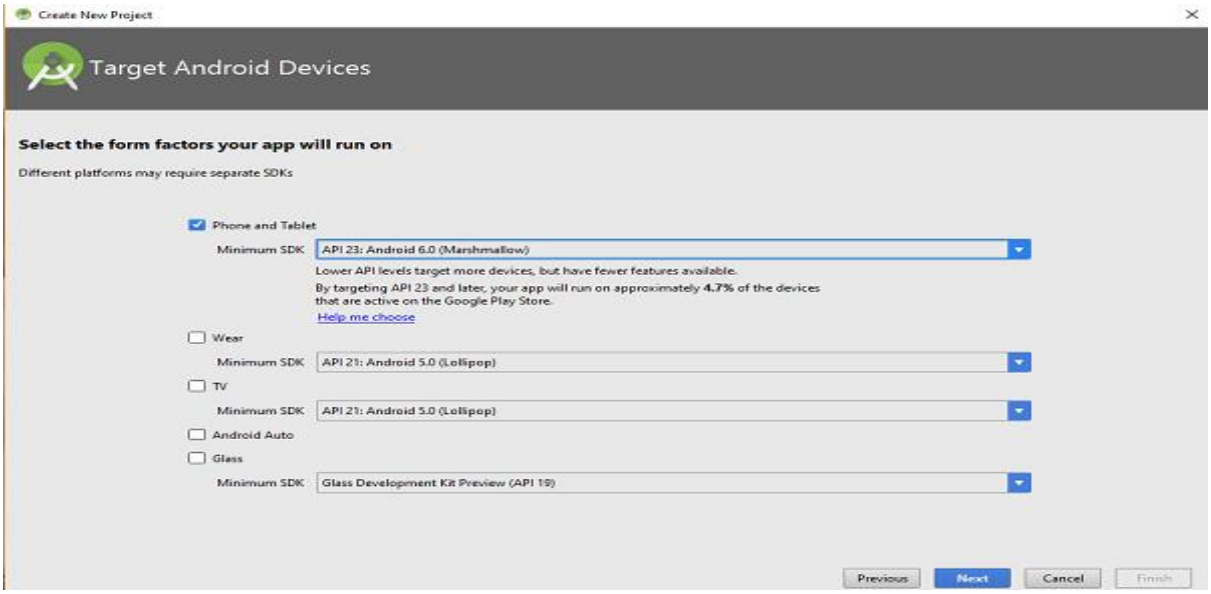
Creating Android Application

The first step is to create a simple Android Application using Android studio. When you click on Android studio icon, it will show screen as shown below

You can start your application development by calling start a new android studio project. in a new installation frame should ask Application name, package information and location of the project.−

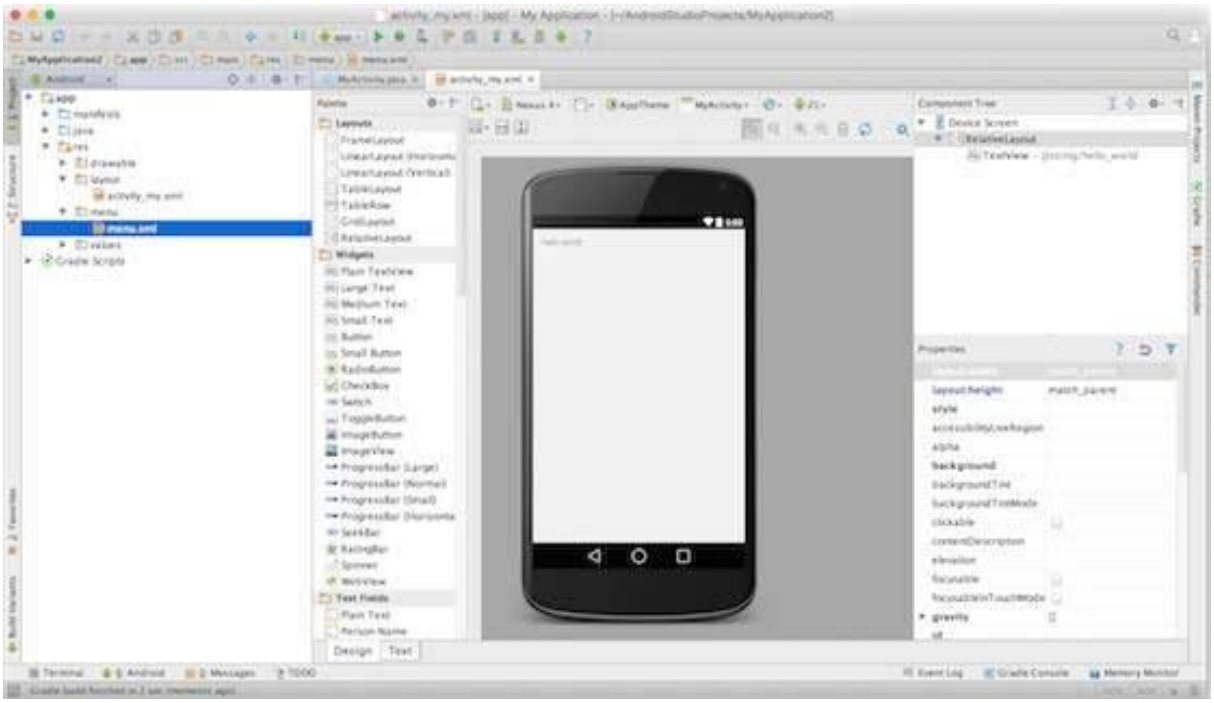


After entered application name, it going to be called select the form factors your application runs on, here need to specify Minimum SDK, in this example, I have declared as API23: Android 6.0(Marshmallow) –



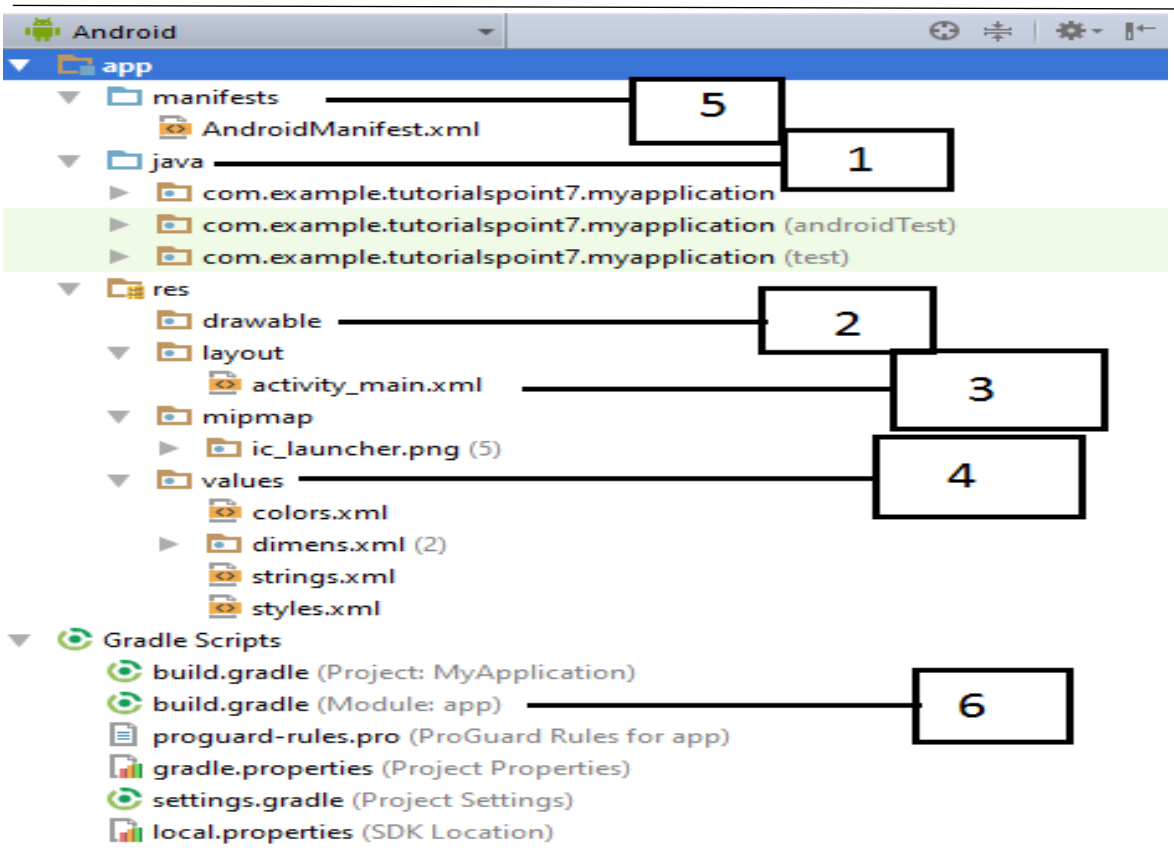
The next level of installation should contain selecting the activity to mobile, it specifies the default layout for Applications

At the final stage it going to be open development tool to write the application code.



Anatomy of Android Application

Before you run your app, you should be aware of a few directories and files in the Android



Following section will give a brief overview of the important application files.

The Main Activity File

The main activity code is a Java file **MainActivity.java**. This is the actual application file which ultimately gets converted to a Dalvik executable and runs your application. Following is the default code generated by the application wizard for *Hello World!* application −

```
package com.example.helloworld;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;


public class MainActivity extends AppCompatActivity {
```

```
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
  }
}
```

Here, *R.layout.activity_main* refers to the *activity_main.xml* file located in the *res/layout* folder. The *onCreate()* method is one of many methods that are figured when an activity is loaded.

The Manifest File

Whatever component you develop as a part of your application, you must declare all its components in a *manifest.xml* which resides at the root of the application project directory. This file works as an interface between Android OS and your application, so if you do not declare your component in this file, then it will not be considered by the OS. For example, a default manifest file will look like as following file −

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   package="com.example.albin7.myapplication">
  <application
    android:allowBackup="true"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:supportsRtl="true"
    android:theme="@style/AppTheme">
   <activity android:name=".MainActivity">
```

```
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
    </activity>
  </application>
</manifest>
```

Here <application>...</application> tags enclosed the components related to the application. Attribute *android:icon* will point to the application icon available under *res/drawable-hdpi*. The application uses the image named ic_launcher.png located in the drawable folders

The <activity> tag is used to specify an activity and *android:name* attribute specifies the fully qualified class name of the *Activity* subclass and the *android:label* attributes specifies a string to use as the label for the activity. You can specify multiple activities using <activity> tags.

The **action** for the intent filter is named *android.intent.action.MAIN* to indicate that this activity serves as the entry point for the application. The **category**for the intent-filter is named *android.intent.category.LAUNCHER* to indicate that the application can be launched from the device's launcher icon.

The *@string* refers to the *strings.xml* file explained below. Hence, *@string/app_name* refers to the *app_name* string defined in the strings.xml file, which is "HelloWorld". Similar way, other strings get populated in the application.

Following is the list of tags which you will use in your manifest file to specify different Android application components −

- <activity>elements for activities
- <service> elements for services
- <receiver> elements for broadcast receivers
- <provider> elements for content providers

The Strings File

The **strings.xml** file is located in the *res/values* folder and it contains all the text that your application uses. For example, the names of buttons, labels, default text, and similar types of strings go into this file. This file is responsible for their textual content. For example, a default strings file will look like as following file −

```
<resources>
   <string name="app_name">HelloWorld</string>
   <string name="hello_world">Hello world!</string>
   <string name="title_activity_main">MainActivity</string>
</resources>
```

The Layout File

The **activity_main.xml** is a layout file available in *res/layout* directory, that is referenced by your application when building its interface. You will modify this file very frequently to change the layout of your application. For your "Hello World!" application, this file will have following content related to default layout −

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent" >
   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_centerHorizontal="true"
      android:layout_centerVertical="true"
```

```
android:padding="@dimen/padding_medium"
    android:text="@string/hello_world"
    tools:context=".MainActivity" />
</RelativeLayout>
```

This is an example of simple RelativeLayout which we will study in a separate chapter. The TextView is an Android control used to build the GUI and it have various attributes like android:layout_width, android:layout_height etc which are being used to set its width and height etc.. The @string refers to the strings.xml file located in the res/values folder. Hence, @string/hello_world refers to the hello string defined in the strings.xml file, which is "Hello World!".

Running the Application

Let's try to run our **Hello World!** application we just created. I assume you had created your **AVD** while doing environment set-up. To run the app from Android studio, open one of your project's activity files and click Run  icon from the tool bar. Android studio installs the app on your AVD and starts it and if everything is fine with your set-up and application, it will display following Emulator window –

P7.4 Server Hardening

Server Hardening is the process of enhancing server security through a variety of means which results in a much more secure server operating environment. This is due to the advanced security measures that are put in place during the server hardening process.

The term "hardening," in the general sense, implies taking a soft surface or material and making changes to it which result in that surface becoming stronger and more resistant to damage. That is exactly how **server hardening** impacts server security. Hardened servers are more resistant to security issues than non-hardened servers. * In a time when nearly every computing resource is online and susceptible to attack, server hardening is a near absolute must to perform on your servers. * The Internet has vastly altered the complexion of the server hardening industry over the last decade. Much of the applications and system software that is now developed is intended for use on the Internet, and for connections to the Internet. * Many servers online today are attacked thousands of times per hour, tens and sometimes hundreds of thousands of times each and every day. The best defence against such attacks is to ensure that server hardening is a well-established practice within your organization or to outsource this task to an experienced & established server hardening agency.

Server Hardening, probably one of the most important tasks to be handled on your servers, becomes more understandable when you realize all the risks involved. The default config of most operating systems is not designed with security as the primary focus. Instead, default setups focus more on usability, communications and functionality. To protect your servers, you must establish solid and sophisticated server hardening policies for all servers

in your organization. Developing a server hardening checklist would likely be a great first step in increasing your server and network security. Make sure that your checklist includes minimum security practices that you expect of your staff. If you go with a consultant you can provide them with your server hardening checklist to use as a baseline.

Server Hardening Tips & Tricks: Every server security conscious organization will have their own methods for maintaining adequate system and network security. Often you will find that server hardening consultants can bring your security efforts up a notch with their specialized expertise. Some common server hardening tips & tricks include: - Use Data Encryption for your Communications - Avoid using insecure protocols that send your

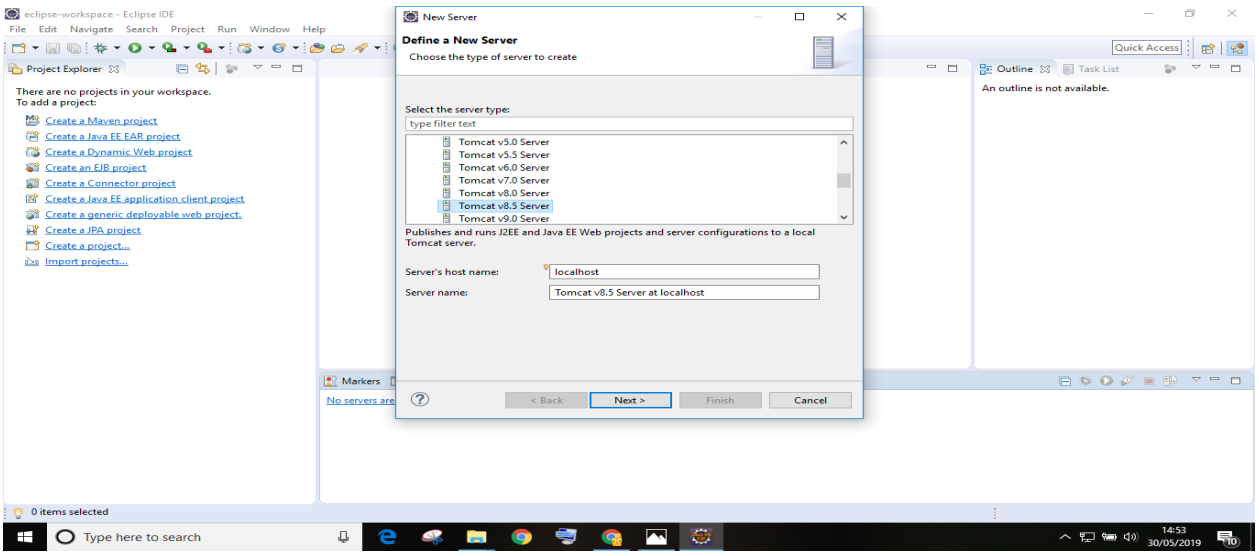
information or passwords in plain text. - Minimize unnecessary software on your servers. - Disable Unwanted SUID and SGID Binaries - Keep your operating system up to date, especially security patches. - Using security extensions is a plus. - When using Linux, SELinux should be considered. Linux server hardening is a primary focus for the web hosting industry, however in web hosting SELinux is probably not a good option as it often causes issues when the server is used for web hosting purposes. - User Accounts should have very strong passwords - Change passwords on a regular basis and do not reuse them - Lock accounts after too many login failures. Often these login failures are illegitimate attempts to gain access to your system. - Do not permit empty passwords. - SSH Hardening --- Change the port from default to a non-standard one --- Disable direct root logins. Switch to root from a lower level account only when necessary. - Unnecessary services should be disabled. Disable all instances of IRC - BitchX, bnc, eggdrop, generic-sniffers, guard services, ircd, psyBNC, ptlink. - Securing /tmp /var/tmp /dev/shm

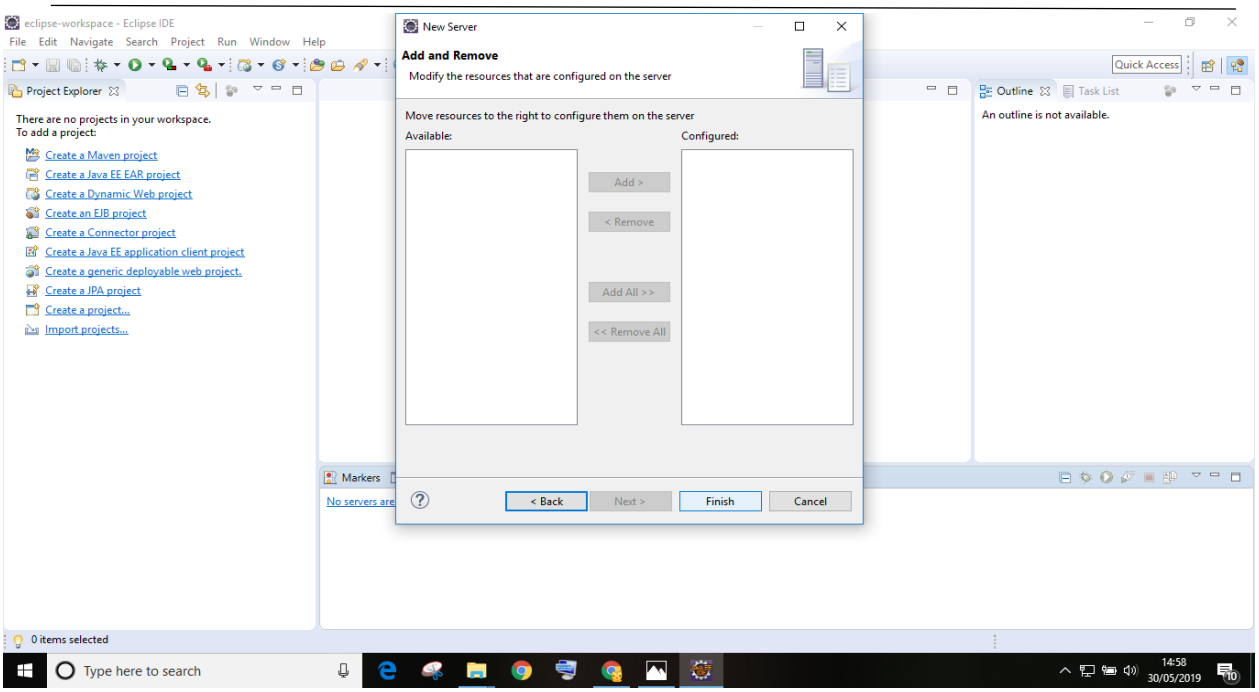
P6.8 Java Spring

P2.6.1 Introduction to Java Spring

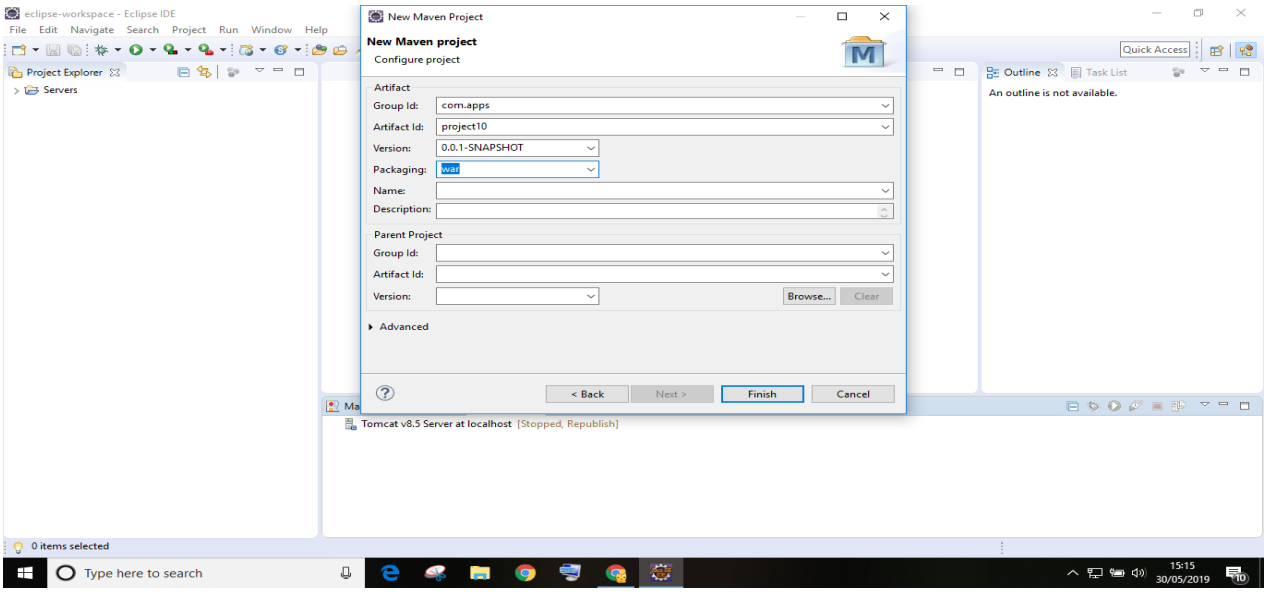
The **Spring Framework** is an application framework and inversion of control container for the Java platform. The framework's core features can be used by any Java application, but there are extensions for building web applications on top of the Java EE (Enterprise Edition) platform. Although the framework does not impose any specific programming model, it has become popular in the Java community as an addition to, or even replacement for the Enterprise JavaBeans (EJB) model. The Spring Framework is open source

P2.6.2 Sample Program Implementation**Step1:** Install JDK 1.8 and set Tomcat server

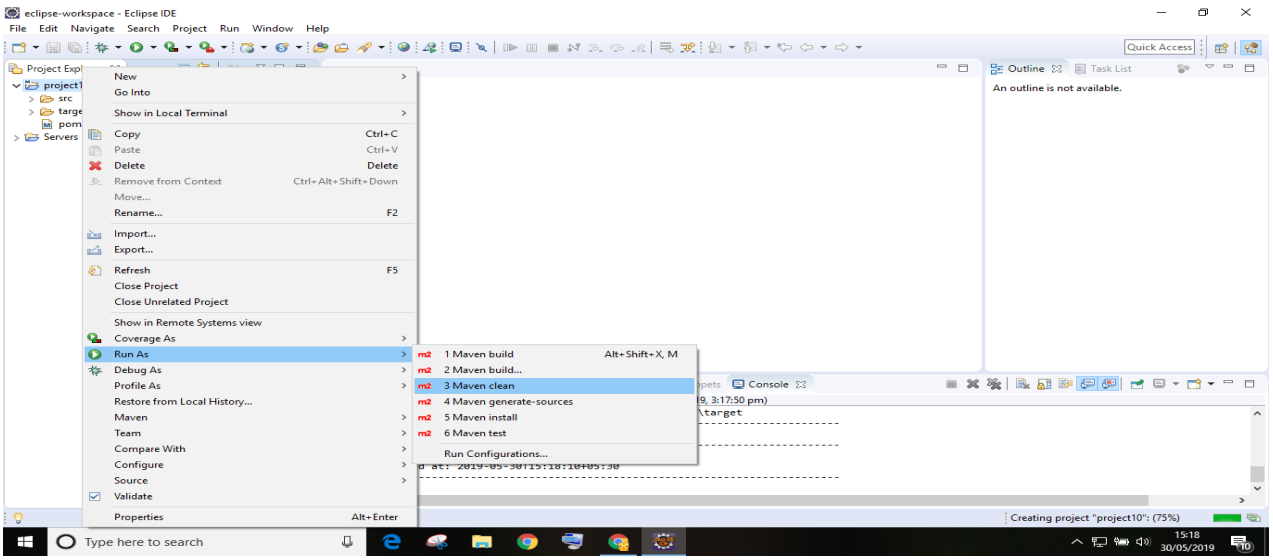




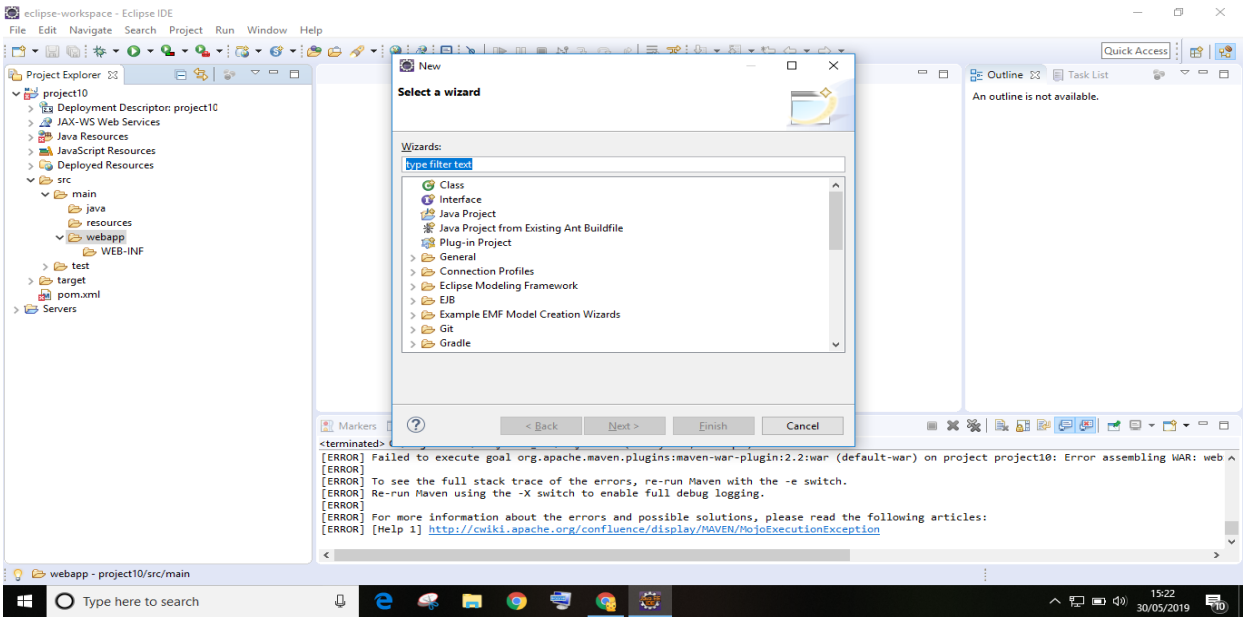
Step2: Start Maven project – file-> new -> maven



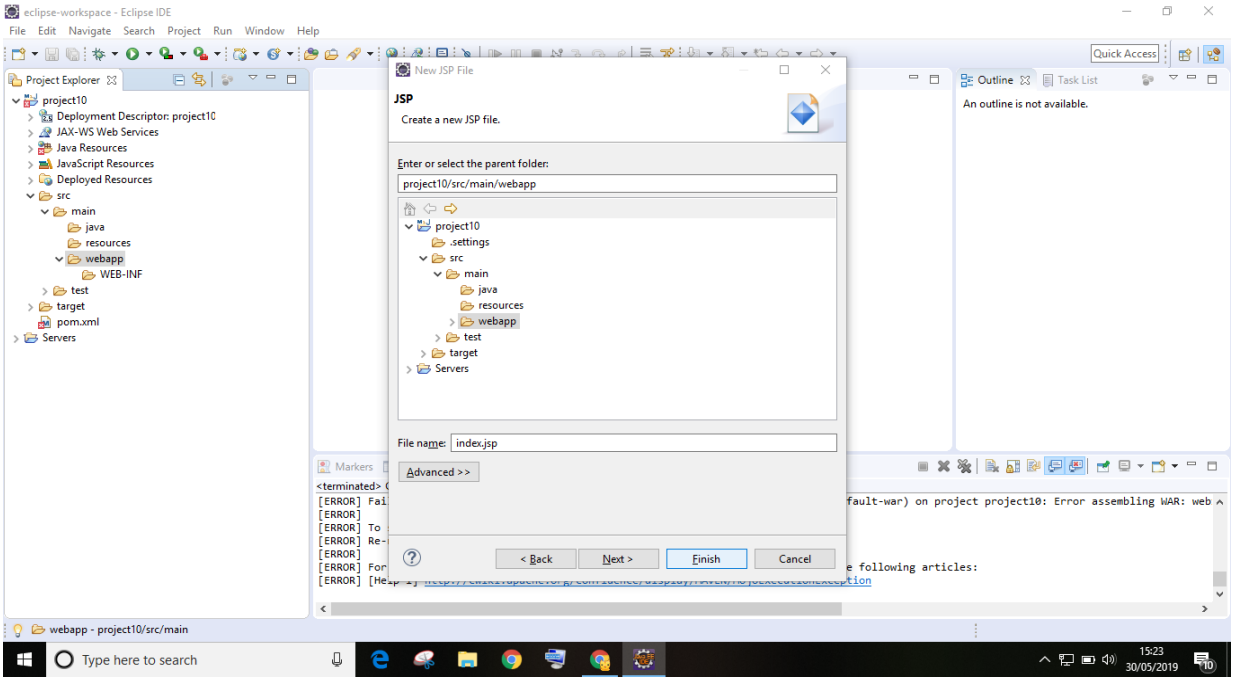
Step3: Build your maven project



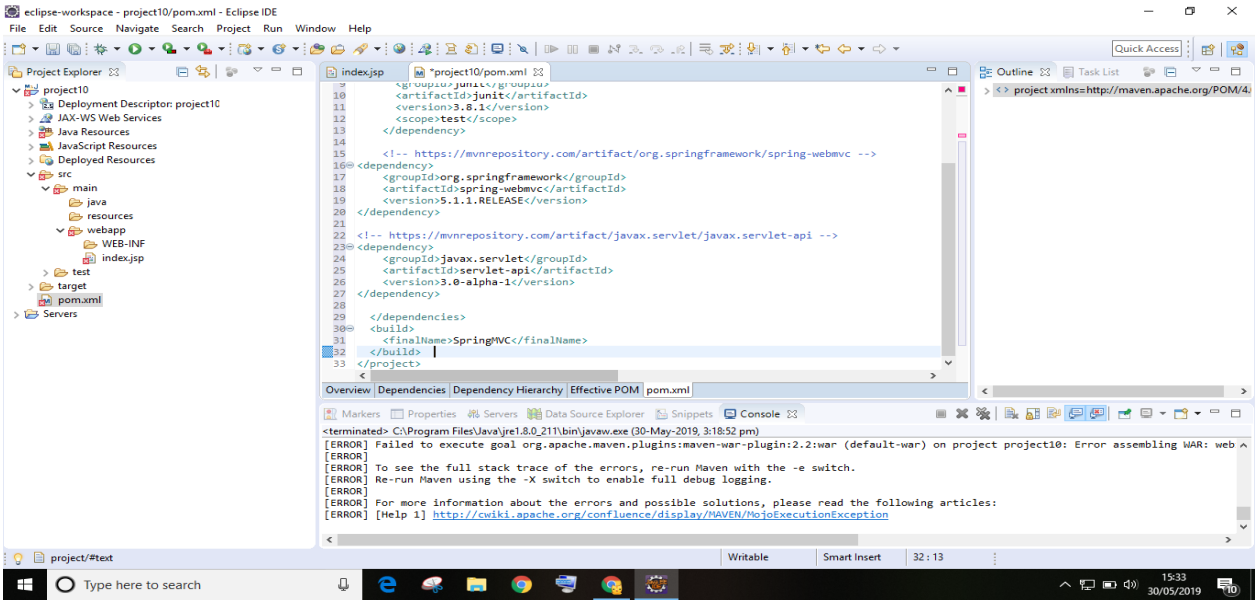
Step4: Add a folder in webapp and the folder name is WEB-INF



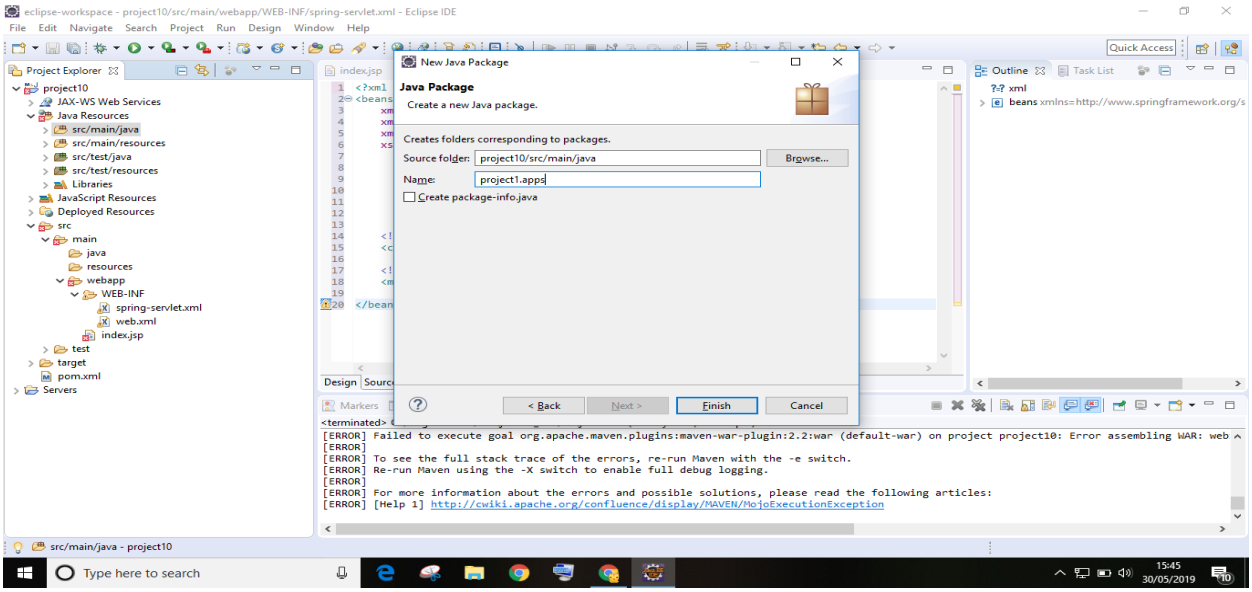
Step5: Click WEB-INF -> Ctrl+N -> select jsp file -> name the file with index.jsp1



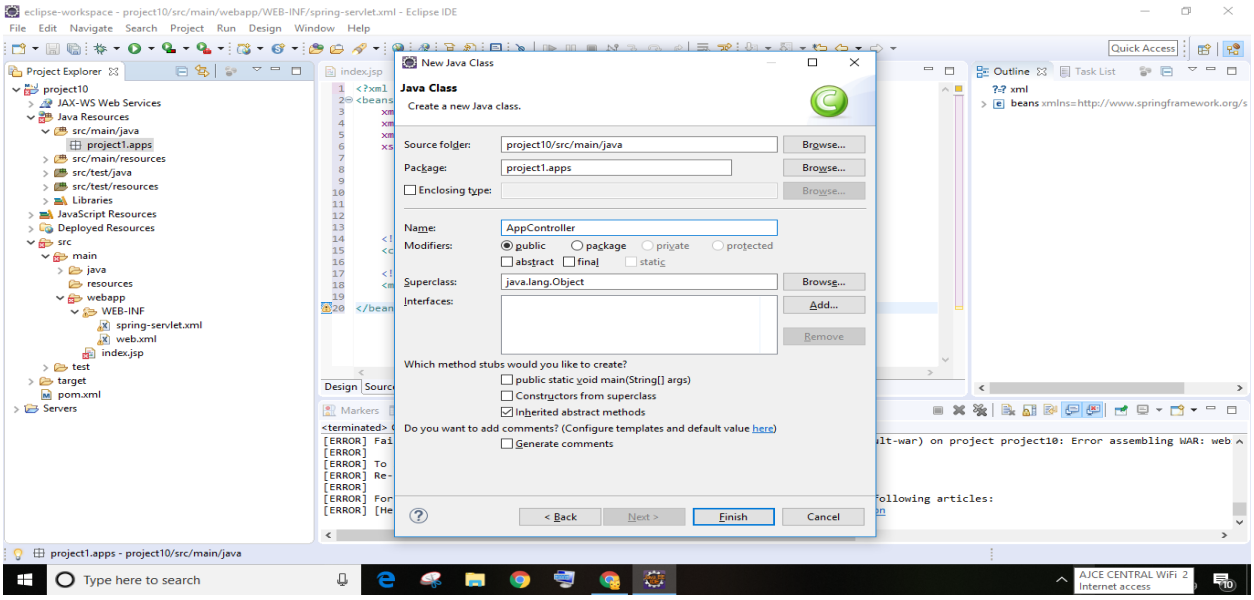
Step6: Set Pom file



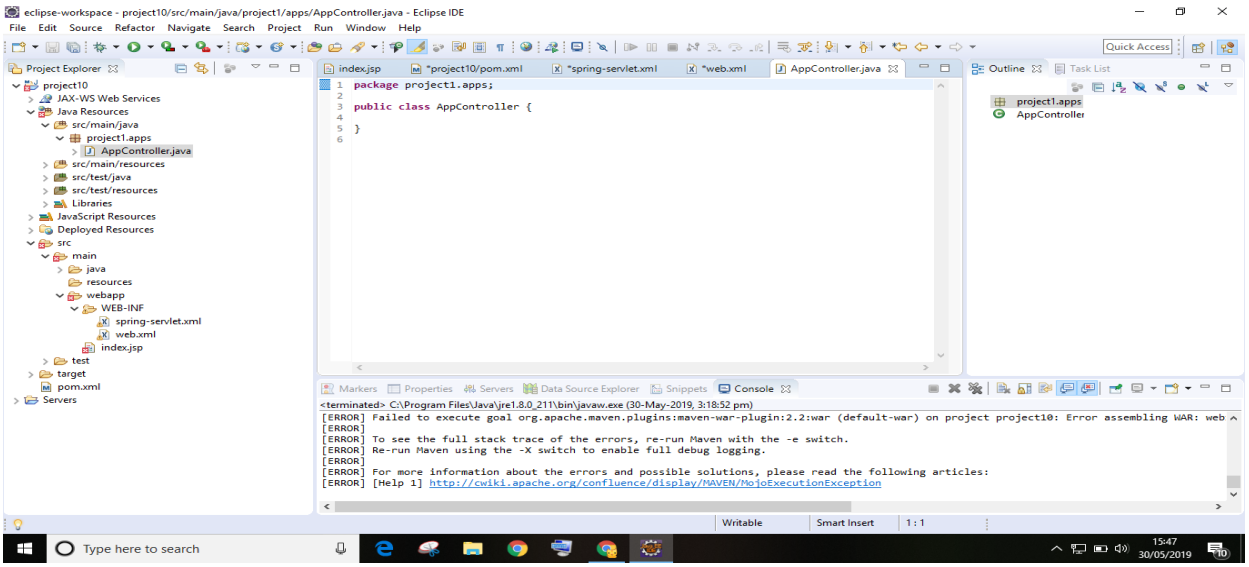
Step7: Create java packages



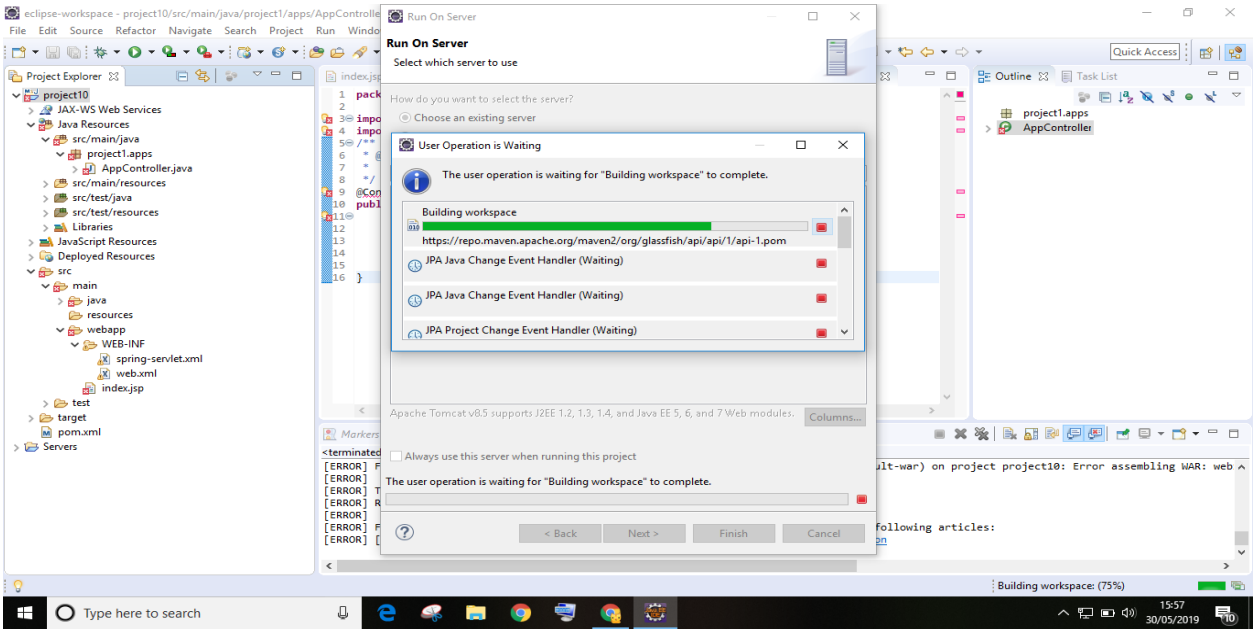
Step:8 Create java class

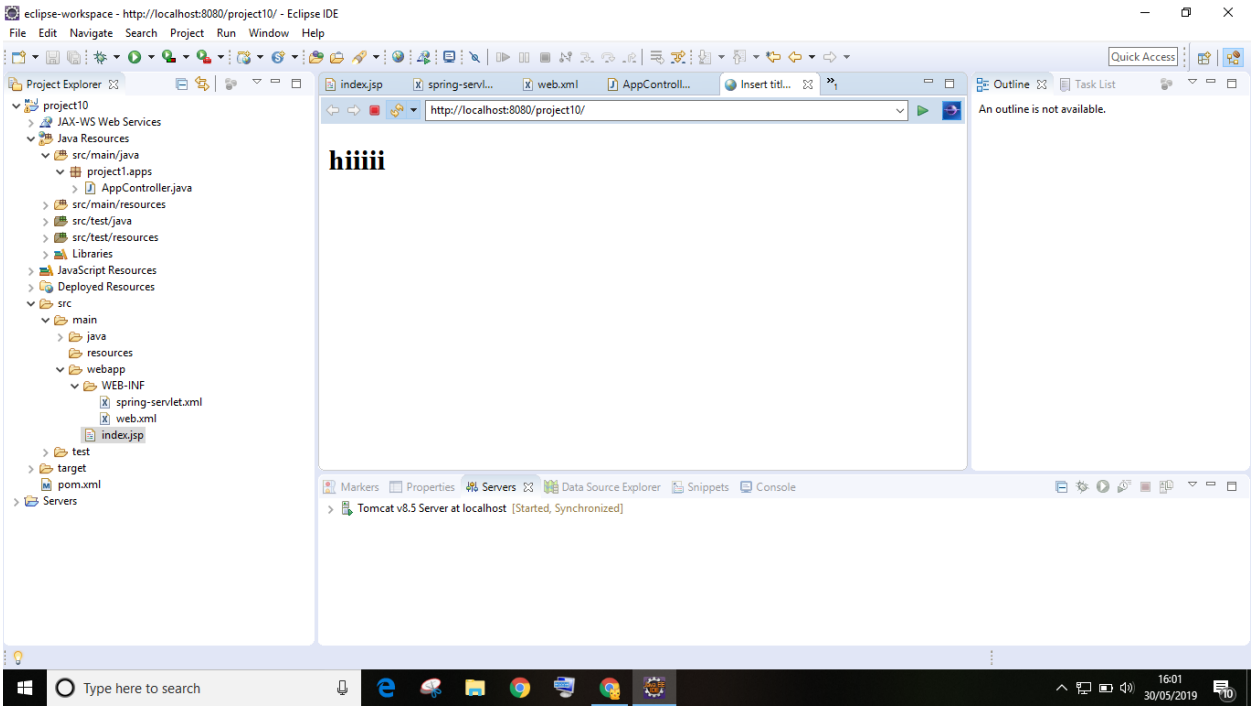


Step:9 Set AppController



Step:10 Run your project




eclipse-workspace - http://localhost:8080/project10/ - Eclipse IDE
File Edit Navigate Search Project Run Window Help
Quick Access
Project Explorer
project10
JAX-WS Web Services
Java Resources
src/main/java
project1.apps
AppController.java
src/main/resources
src/test/java
src/test/resources
Libraries
JavaScript Resources
Deployed Resources
src
main
java
resources
webapp
WEB-INF
spring-servlet.xml
web.xml
index.jsp
test
target
pom.xml
Servers
index.jsp
spring-servl...
web.xml
AppControll...
Insert titl...
http://localhost:8080/project10/
hiiiii
Outline
Task List
An outline is not available.
Markers
Properties
Servers
Data Source Explorer
Snippets
Console
Tomcat v8.5 Server at localhost [Started, Synchronized]
Type here to search
16:01
30/05/2019

PART 7

PROJECT DOCUMENTATION

P7.1 INTRODUCTION

P7.1.1 Project Overview

The project entitled '**Autoshop'** is an online Automobile shopping system that allows web users to purchase used vehicles in online.. **'Autoshop'** allows the user to purchase Automobile online and Bid vehicles in Auction. The Site Administrator updates the information about new Automobiles concurrently. Only registered customers can purchase Automobiles bid from Autoshop. The user must register in the site to access their accounts, after login they can buy used vehicles by bidding Automobiles which are available for auction. The user can bid a car with a high rate than the latest Bid Rate, before the date expires. After date expires, the site sends the Confirmation letter to the user who bid the vehicle with highest rate through email-id which they specified.

This system allows the users to search items category wise, then Brand wise and Model wise. Thus this system provides all the basic functionalities to a user who would like to purchase used vehicles in online.

1. To what extend the system is proposed for?

   The Autoshop system was developed by easy to sale by vehicles in online format.

2. Specify the Viewers/Public which is to be involved in the System?

The system is developed by public use. It is easy to sale vehicles in online format.

3. List the Modules included in your System?

   1. User Module

   The main processes in this module are given below:

   - Edit Details
   - Purchase
   - Bidding
   - Product Review

- View Updations about new product

2. Auction

- Select Vehicles
- Add to Auction
- Updating Details
- Setting Initial Rate
- Sending Confirmations

3.Admin Module

- Edit Profile
- Confirm Employee account
- Manage Customers
- Checking Products
- Add Vehicle to Auction
- Add delivery details

Identify the users in your project?

- User Module
- Auction
- Administrator Module
- Workshop

Who owns the system?

System Admin

System is related to which firm/industry/organization?

Public use

Details of person that you have contacted for data collection?

a) Search for OLX site.
b) Communication with an automobile workshop.

Questionnaire to collect details about the project? (min 10 questions, include descriptive answers, attach additional docs (e.g. Bill receipts, certificate models), if any?)

1.What are the different types of users in your system?

Ans:- Admin Module, User Module , Auction , Purchasing , Workshop

2.What are the different types of vehicles in your system?

Ans :-Any types of vehicles are sale with auction.

3.How the availability of vehicles in the showroom are informed to the customers?

Ans:-Admin can be updated new used vehicles in Atoshop site. The user can search and buy the vehicles.

4.How to add advertisement in your system?

Ans:-Either by advertising or by direct contacting the pre-registered. Customers.

5.How to provide warranty in your system?

Ans :-The warranty is important factor. The warranty is provided by 6 months form any complaint .

6.what are the different service providers in your system?

Ans:-My system can provide any types of vehicle company are provided the services.

7.Which types of payment systems are allocated form your system?

Ans:-My system can provide online payment is used(debit card, phonePe, google pay etc.

8.How to manage extra fitting add different vehicles in your system?

Ans :-The adding extra fitting facility are provided my system. The system workshop module can manage extra fittings fron the system.

9.Spot assistant providence is possible for your system?

Ans :-yes. Spot assistant providence is provided from the system.

10.How to communicate with user and site?

Ans :-The user and site can be communicate with online communication (fb, whatsapp) and mobile contact, e-mail etc.

P7.1.2 Project Specification

This is a website in which we will get the services of several service providers. It will be a simple platform for users to access services for their huge needs. It provides the services are the vehicle service appointment, buy spare, buy used vehice….etc

The system includes 2 modules. They are:

- **Administrator**: The administrator of the company is allowed to access all the services in the system. And approve vehicle services appointment, add all products
- **Registered User Module :**customers can book bid for vehicles online and also customer can Buy second hand vehicles . And chat to the admin

The main features of the project

- Booking auction vehicle Facility
- Booking approval via message notification
- Searching and buy vehicles
- Online demo payment facility
- Buy Used Vehicle Facility
- Compare Vehicles
- Chatting to the admin

P7.2 SYSTEM STUDY

P7.2.1 Introduction

System analysis is a process of gathering and interpreting facts, diagnosing problems and the information to recommend improvements on the system. It is a problem solving activity that requires intensive communication between the system users and system developers. System analysis or study is an important phase of any system development process. The system is studied to the minute's detail and analysed. The system analyst plays the role of the interrogator and dwells deep into the working of the present system. The system is viewed as a whole and the input to the system are identified. The outputs from the organizations are traced to the various processes. System analysis is concerned with becoming aware of the problem, identifying the relevant and decisional variables, analysing and synthesizing the various factors and determining an optimal or at least a satisfactory solution or program of action.

A detailed study of the process must be made by various techniques like interviews, questionnaires etc. The data collected by these sources must be scrutinized to arrive to a conclusion. The conclusion is an understanding of how the system functions. This system is called the existing system. Now the existing system is subjected to close study and problem areas are identified. The designer now functions as a problem solver and tries to sort out the difficulties that the enterprise faces. The solutions are given as proposals. The proposal is then weighed with the existing system analytically and the best one is selected. The proposal is presented to the user for an endorsement by the user. The proposal is reviewed on user request and suitable changes are made. This is loop that ends as soon as the user is satisfied with proposal.

Preliminary study is the process of gathering and interpreting facts, using the information for further studies on the system. Preliminary study is problem solving activity that requires intensive communication between the system users and system developers. It does various feasibility studies. In these studies, a rough figure of the system activities can be obtained, from which the decision about the strategies to be followed for effective system study and analysis can be taken

P7.2.2 PROPOSED SYSTEM

To overcome limitations of existing system, we can introduce a site for Autoshop. In the proposed system. It provides the services to the users who are searching for service like auction for vehicle service, buy used vehicles and also provided vehicles compare facility and chatting facility . This is a website in which we will get the several services.

The existing system has several limitations and more difficulties to work well. The proposed system provide proper security and reduces the manual work, and it helps the user to work user friendly and he can easily do this job without time delay.

The main features include:

- Registered users can book the service of system
- Provide facility of giving feedback admin
- Easy access information

ADVANTAGES OF PROPOSED SYSTEM

The system is very simple in design and to implement. The system requires very low system resources and the system will work in almost all configurations. It has got following features:

- *Better security: -*

For data to remain secure measures must be taken to prevent unauthorized access. Security means that data are protected from various forms of destruction. The system security problem can be divided into four related issues: security, integrity, privacy and confidentiality. Username and password requirement to sign in ensures security. It will also provide data security as we are using the secured databases for maintaining the documents.

- *Ensure data accuracy: -*

The proposed system eliminates the manual errors while entering the details of the users during the registration.

- *Better service: -*

The product will avoid the burden of hard copy storage. We can also conserve the time and human resources for doing the same task. The data can be maintained for longer period with no loss of data.

- *User friendliness and interactive: -*

The proposed system will help the user to reduce the workload and provides user friendly environment so that they can easily do their jobs. The system alerts the users for each activity to be carried out, through notification.

- *Minimum time required: -*

The data are management is in such a way that a particular registered user can search service provider very easily.

P7.3 REQUIREMENT ANALYSIS

P7.3.1 Feasibility Study

Feasibility study is made to see if the project on completion will serve the purpose of the organization for the amount of work, effort and the time that spend on it. Feasibility study lets the developer foresee the future of the project and the usefulness. A feasibility study of a system proposal is according to its workability, which is the impact on the organization, ability to meet their user needs and effective use of resources. Thus, when a new application is proposed it normally goes through a feasibility study before it is approved for development.

The document provides the feasibility of the project that is being designed and lists various areas that were considered very carefully during the feasibility study of this project such as Technical, Economic and Operational feasibilities. The following are its features:

P7.3.1.1 Economical Feasibility

The developing system must be justified by cost and benefit. Criteria to ensure that effort is concentrated on project, which will give best, return at the earliest. One of the factors, which affect the development of a new system, is the cost it would require.

The following are some of the important financial questions asked during preliminary investigation:

- The costs conduct a full system investigation.
- The cost of the hardware and software.
- The benefits in the form of reduced costs or fewer costly errors.

Since the system is developed as part of project , there is no manual cost to spend for the proposed system. Also all the resources are already available, it give an indication of the system is economically possible for development.

Autoshop will be a simple platform for users to access services for their huge needs. It is completely free. Using this system large number people can solve their problems with free of cost.

P7.3.1.2 Technical Feasibility

The system must be evaluated from the technical point of view first. The assessment of this feasibility must be based on an outline design of the system requirement in the terms of input, output, programs and procedures. Having identified an outline system, the investigation must go on to suggest the type of equipment, required method developing the system, of running the system once it has been designed.

Technical issues raised during the investigation are:

- Does the existing technology sufficient for the suggested one?
- Can the system expand if developed?

The project should be developed such that the necessary functions and performance are

achieved within the constraints. Through the technology may become obsolete after some period of time, due to the fact that newer version of same software supports older versions, the system may still be used. So, there are minimal constraints involved with this project. The system has been developed using php in front end and MySql in server in back end, the project is technically feasible for development.

P7.3.1.3 Behavioural Feasibility

This includes the following questions:

- Is there sufficient support for the users?
- Will the proposed system cause harm?

The project would be beneficial because it satisfies the objectives when developed and installed. All behavioral aspects are considered carefully and conclude that the project is behaviorally feasible.

At your service, GUI is simple so that users can easily use it. E-workshop is simple enough so that no training is needed.

P7.4 Requirement Modeling

P7.4.1 UML Use Case Diagram

A use case diagram is a graphic depiction of the interactions among the elements of a system. A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. In this context, the term "system" refers to something being developed or operated, such as a mail-order product sales and service Web site. Use case diagrams are employed in UML (Unified Modeling Language), a standard notation for the modeling of real-world objects and systems.

System objectives can include planning overall requirements, validating a hardware design, testing and debugging a software product under development, creating an online help reference, or performing a consumer-service-oriented task. For example, use cases in a product sales environment would include item ordering, catalog updating, payment processing, and customer relations. A use case diagram contains four components.

- The boundary, which defines the system of interest in relation to the world around it.
- The actors, usually individuals involved with the system defined according to their roles.
- The use cases, which are the specific roles played by the actors within and around the system.
- The relationships between and among the actors and the use cases.

UML Diagrams

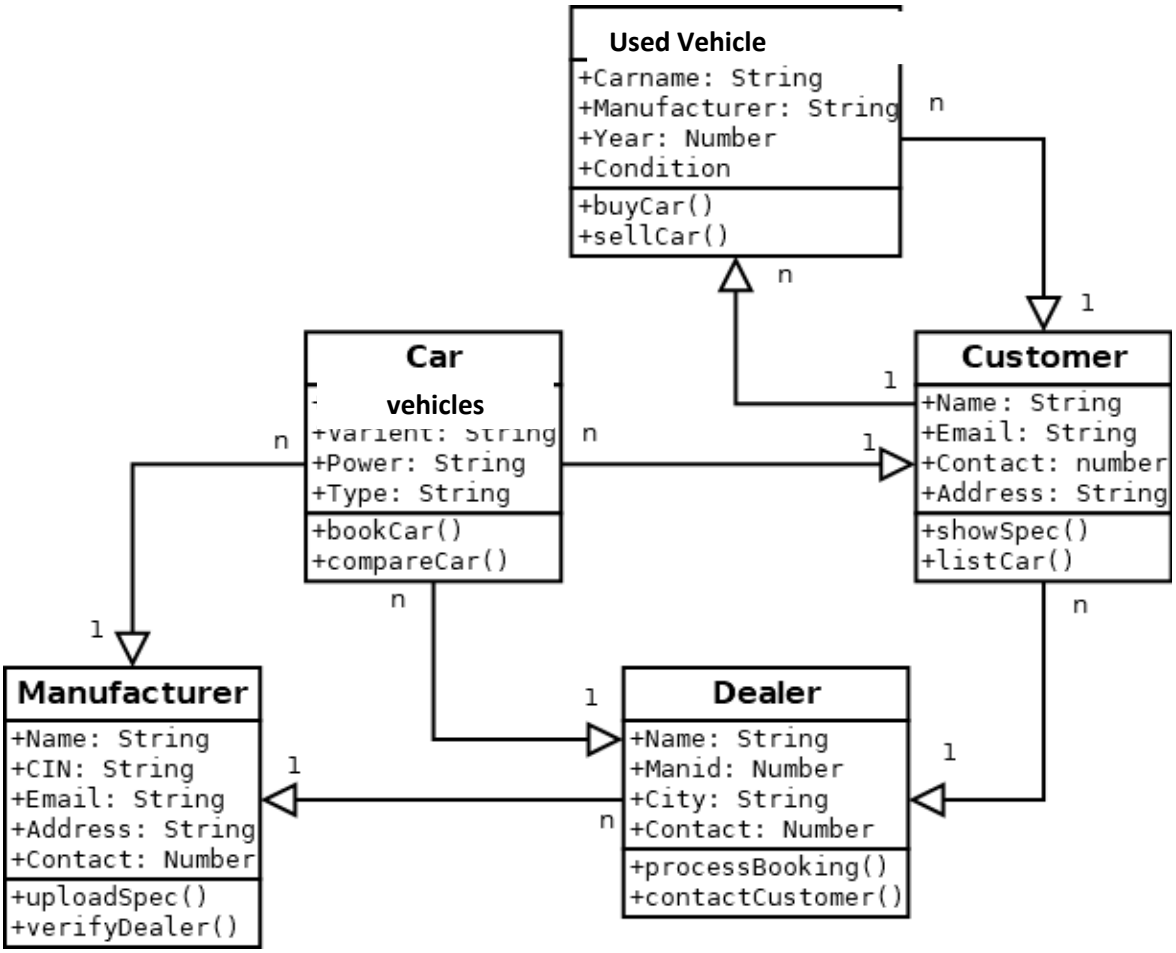
P7.4.2 UML Sequence Diagram

A sequence diagram is an interaction diagram that shows how objects operate with one another and in what order. It is a construct of a message sequence chart.

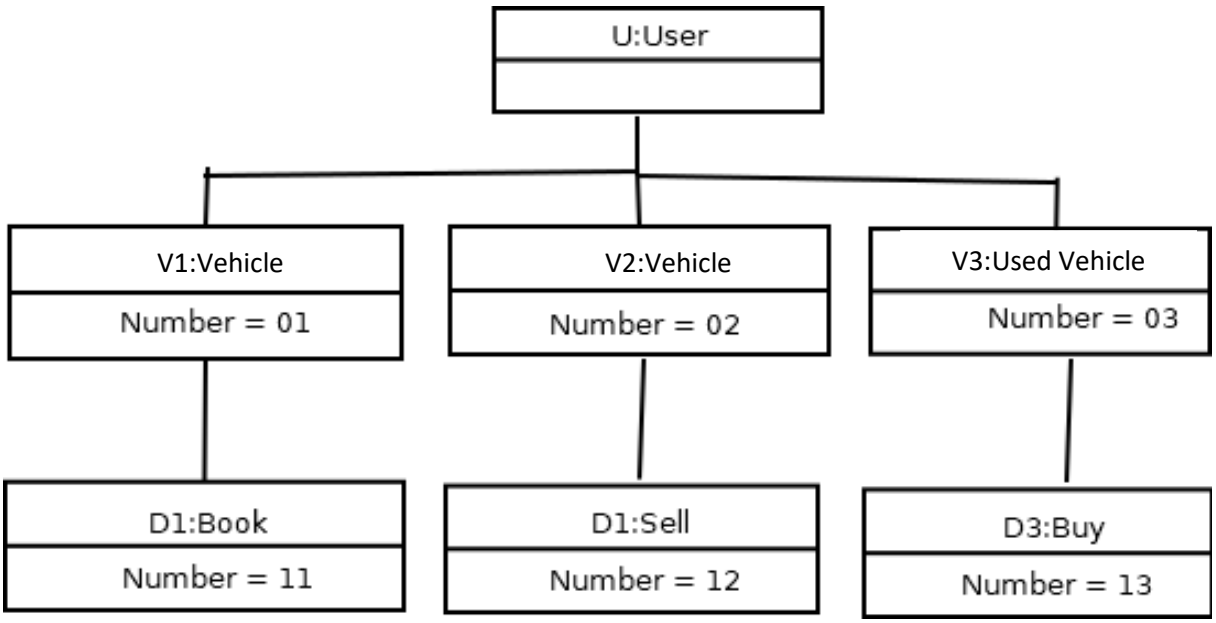
A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario. Sequence diagrams are typically associated with use case realizations in the Logical View of the system under development. Sequence diagrams are sometimes called event diagrams or event scenarios. A sequence diagram shows, as parallel vertical lines (*lifelines*), different processes or objects that live simultaneously, and, as horizontal arrows, the messages exchanged between them, in the order in which they occur. This allows the specification of simple runtime scenarios in a graphical manner

Structural Diagrams

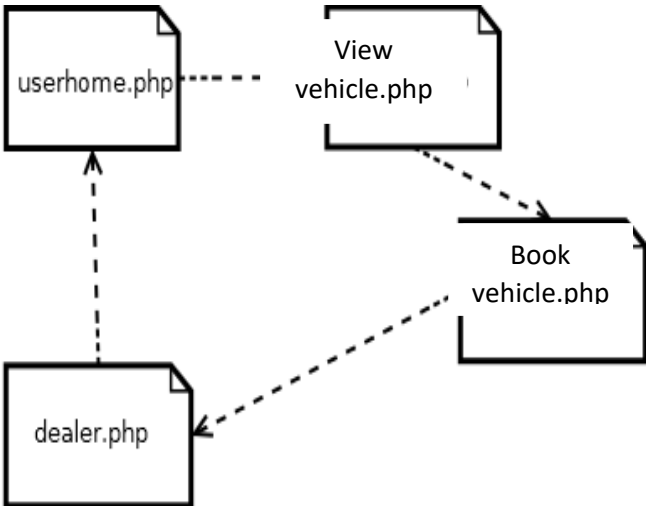
Class Diagram



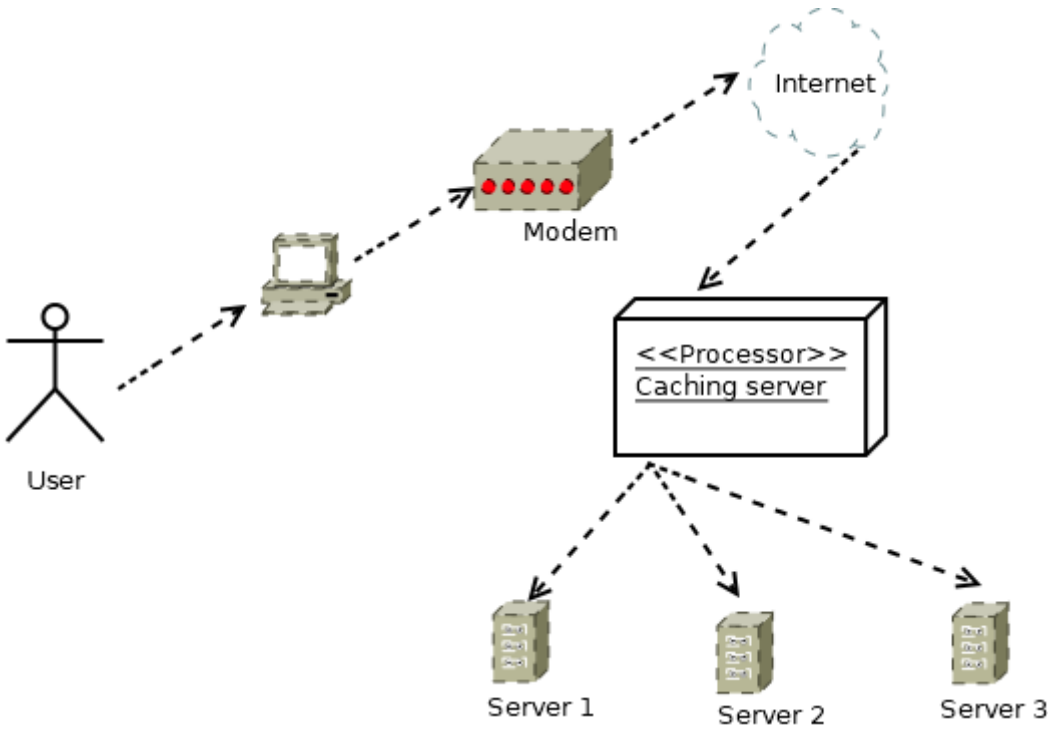
Object Diagram



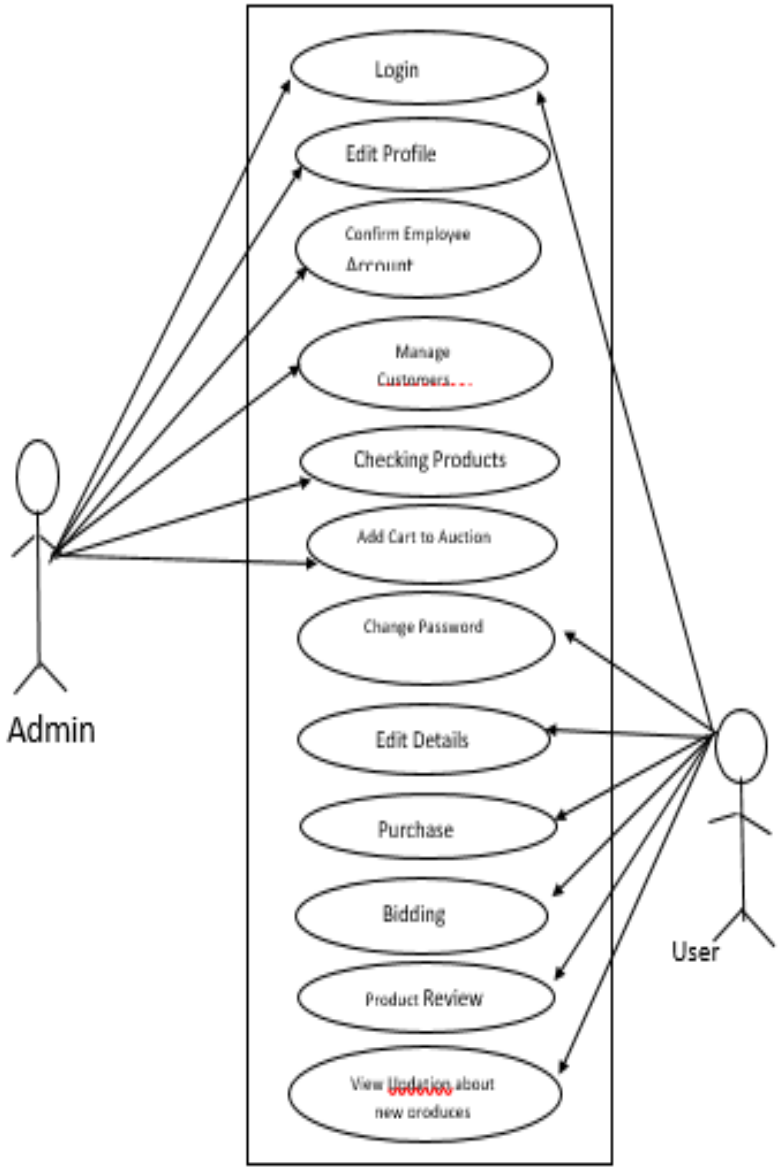
Component Diagram

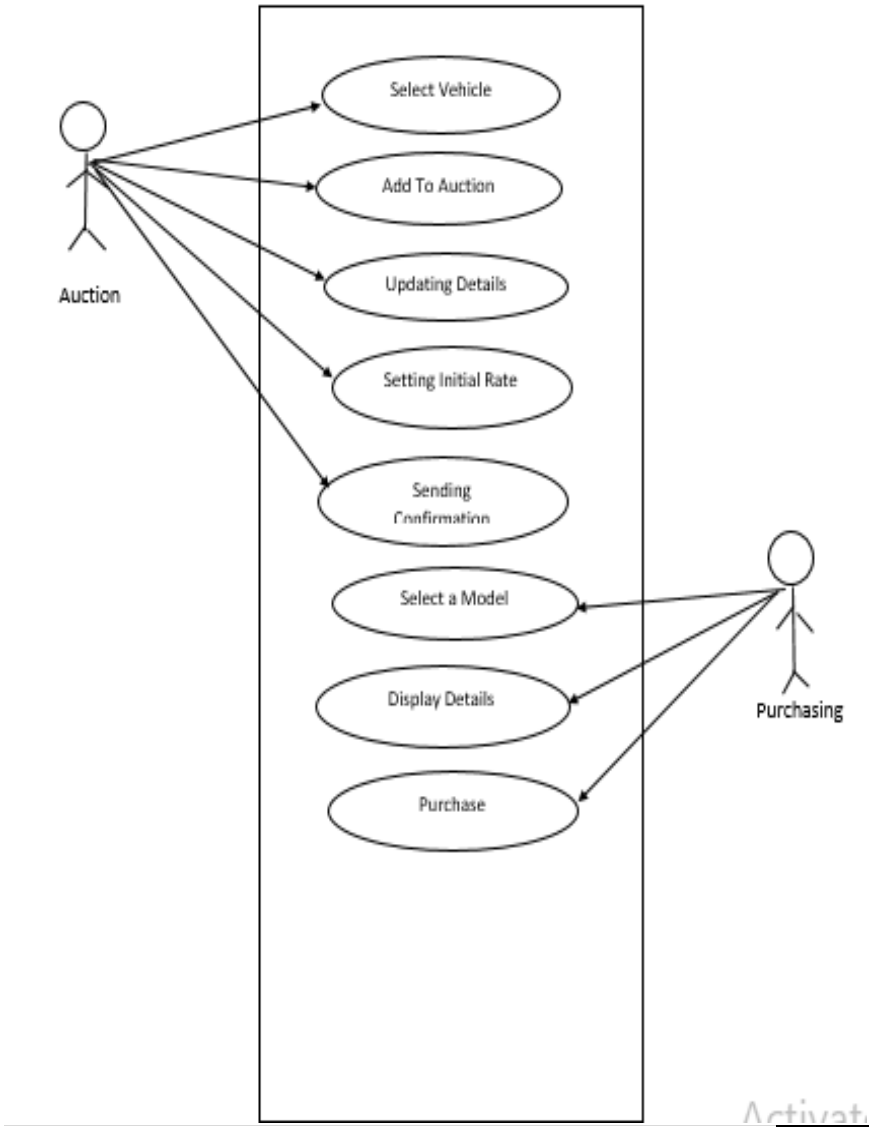


Deployment Diagram

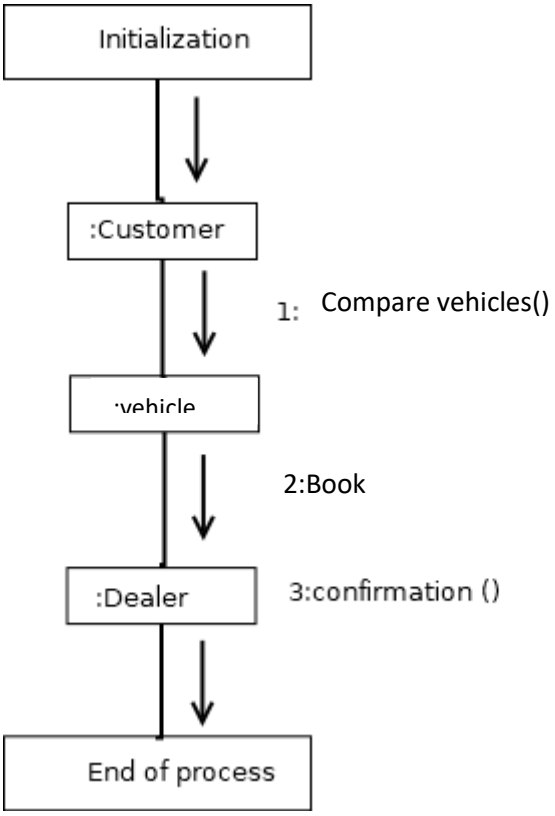


Use case diagram

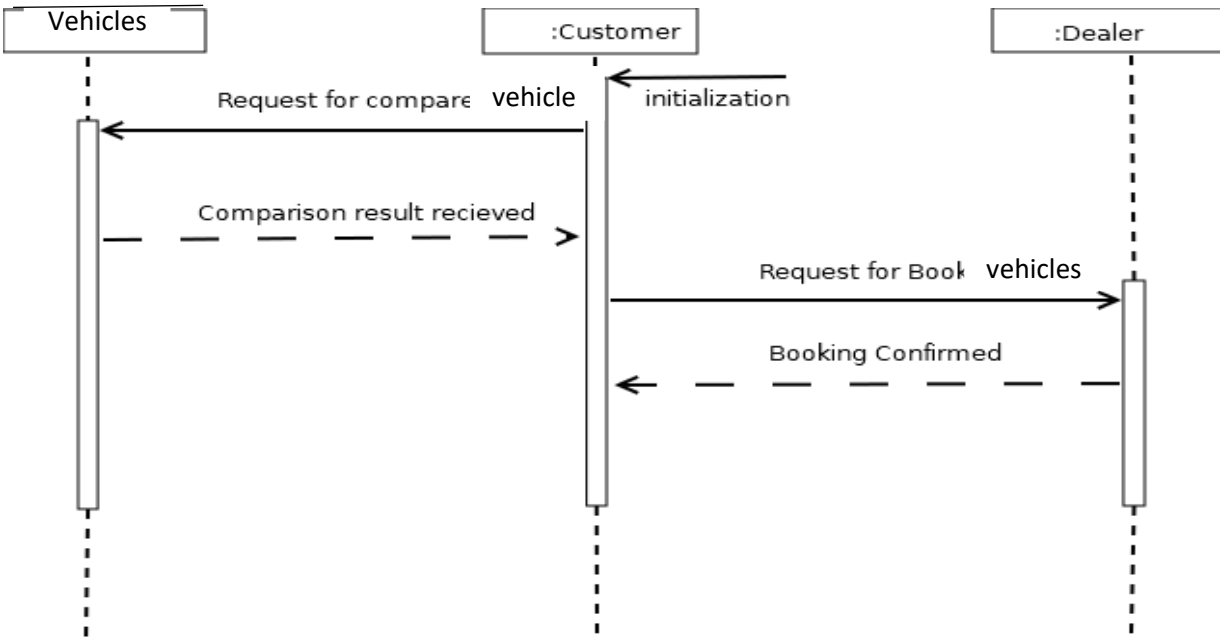



Select Vehicle
Add To Auction
Updating Details
Setting Initial Rate
Sending
Select a Model
Display Details
Purchase
Auction
Purchasing

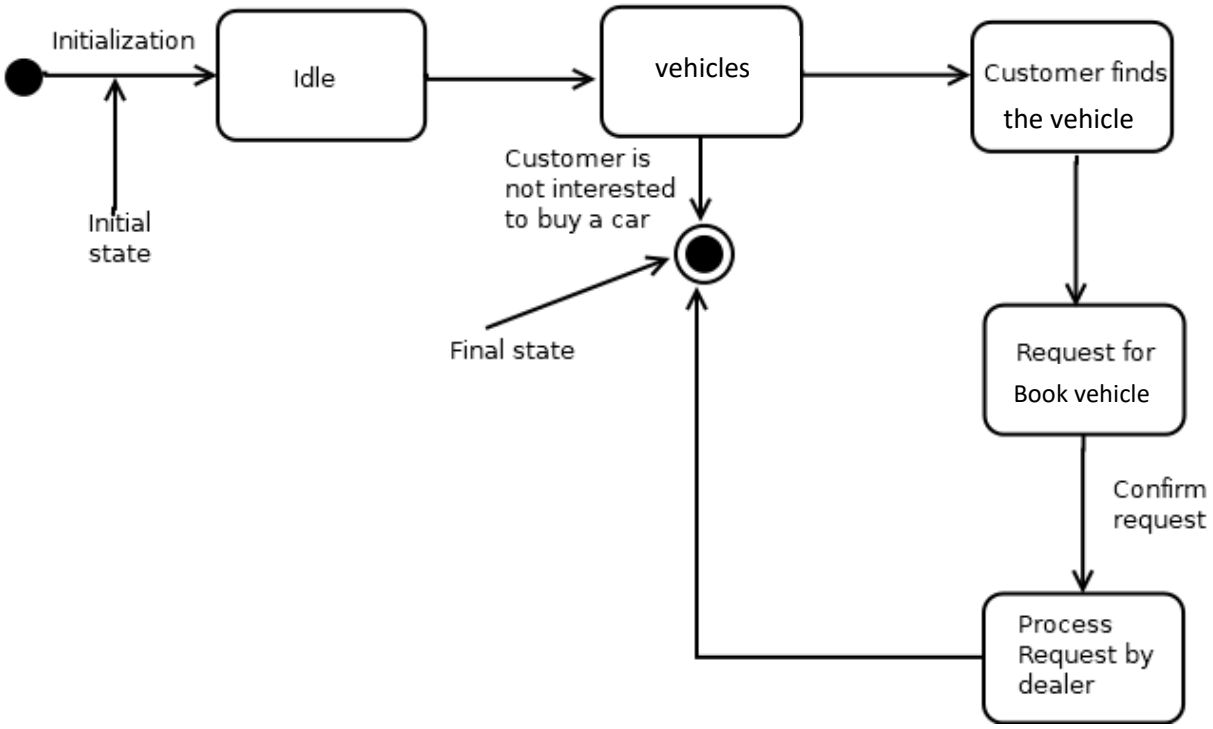
Collaboration Diagram



Sequence Diagram



Statechart Diagram



P7.5 System Specification

P7.5.1 Hardware Specification

Processor - Pentium IV/AMD Dual core

RAM - 1 GB

Hard disk - 500 GB

P7.5.2 Software Specification

Front End - PHP

Backend - MYSQL

Client on PC - Windows 10

Technologies used - JS, HTML5, AJAX, J Query, PHP, CSS

P7.6 Software Description

P7.6.1 PHP

PHP is a server side scripting language designed for web development but also used as a general purpose programming language PHP is now installed on more than 244 million websites and 2.1 million web servers. Originally created by Rasmus Ledorf in 1995, the reference implementation of PHP is now produced by the PHP group. While PHP originally stood for personal Home page ,it now stands for PHP: Hypertext Preprocessor, a recursive acronym.PHP code is interpreted by a web server with a PHP processor module which generates the resulting web page.PHP commands can be embedded directly into a HTML source document rather than calling an external file to process data. It has also evolved to include a command-line interface capability and can be used in standalone incompatible with the GNU General Public License (GPL) due to restrictions on the usage of the term PHP.PHP can be deployed on most web servers and also as a standalone shell on almost every operating system and platform, free of charge.

P7.6.2 MySQL

MySQL, the most popular Open Source SQL database management system, is developed, distributed, and supported by Oracle Corporation. The MySQL Web site provides the latest information about MySQL software.

- MySQL is a database management system.

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications.

- MySQL databases are relational.

A relational database stores data in separate tables rather than putting all the data in one big storeroom. The database structures are organized into physical files optimized for speed. The logical model, with objects such as databases, tables, views, rows, and columns, offers a flexible programming environment. You set up rules governing the relationships between different data fields, such as one-to-one, one-to-many, unique, required or optional, and "pointers" between different tables. The database enforces these rules, so that with a well-designed database, your application never sees inconsistent, duplicate, orphan, out-of-date, or missing data.

The SQL part of "MySQL" stands for "Structured Query Language". SQL is the most common standardized language used to access databases. Depending on your programming environment, you might enter SQL directly (for example, to generate reports), embed SQL statements into code written in another language, or use a language- specific API that hides the SQL syntax. SQL is defined by the ANSI/ISO SQL Standard. The SQL standard has been evolving since 1986 and several versions exist. In this manual, "SQL92" refers to the standard released in 1992, "SQL:1999" refers to the standard released in 1999, and "SQL:2003" refers to the current version of the standard. We use the phrase "the SQL standard" to mean the current version of the SQL Standard at any time.

- MySQL software is Open Source.

Open Source means that it is possible for anyone to use and modify the software. Anybody can download the MySQL software from the Internet and use it without paying anything. If you wish, you may study the source code and change it to suit your needs. The MySQL software uses the GPL (GNU General Public License), to define what you may and may not do with the software in different situations. If you feel uncomfortable with the GPL or need to embed MySQL code into a commercial application, you can buy a

commercially licensed version from us. See the MySQL Licensing Overview for more information.

- The MySQL Database Server is very fast, reliable, scalable, and easy to use.

If that is what you are looking for, you should give it a try. MySQL Server can run comfortably on a desktop or laptop, alongside your other applications, web servers, and so on, requiring little or no attention. If you dedicate an entire machine to MySQL, you can adjust the settings to take advantage of all the memory, CPU power, and I/O capacity available. MySQL can also scale up to clusters of machines, networked together.

MySQL Server was originally developed to handle large databases much faster than existing solutions and has been successfully used in highly demanding production environments for several years. Although under constant development, MySQL Server today offers a rich and useful set of functions. Its connectivity, speed, and security make MySQL Server highly suited for accessing databases on the Internet.

- MySQL Server works in client/server or embedded systems.

The MySQL Database Software is a client/server system that consists of a multi-threaded SQL server that supports different backends, several different client programs and libraries, administrative tools, and a wide range of application programming interfaces (APIs).
We also provide MySQL Server as an embedded multi-threaded library that you can link into your application to get a smaller, faster, easier-to-manage standalone product.

- A large amount of contributed MySQL software is available.

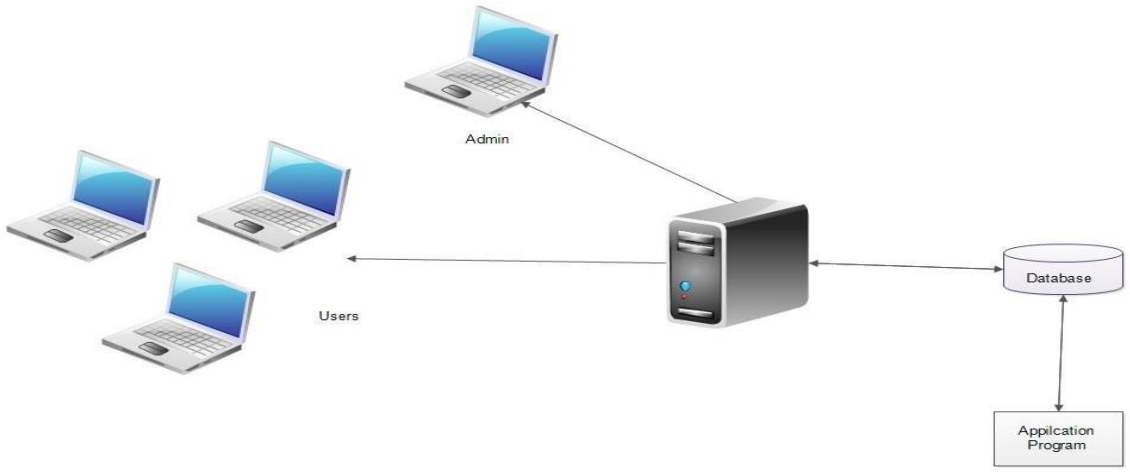
MySQL Server has a practical set of features developed in close cooperation with our users. It is very likely that your favorite application or language supports the MySQL Database Server.

P2.7 System Design

Design is the first step into the development phase for any engineered product or system. Design is a creative process. A good design is the key to effective system. The term “design” is defined as “the process of applying various techniques and principles for the purpose of defining a process or a system in sufficient detail to permit its physical

realization". It may be defined as a process of applying various techniques and principles for the purpose of defining a device, a process or a system in sufficient detail to permit its physical realization. Software design sits at the technical kernel of the software engineering process and is applied regardless of the development paradigm that is used. The system design develops the architectural detail required to build a system or product. As in the case of any systematic approach, this software too has undergone the best possible design phase fine tuning all efficiency, performance and accuracy levels. The design phase is a transition from a user oriented document to a document to the programmers or database personnel. System design goes through two phases of development: Logical and Physical Design

P7.7.1 Architectural Design



The registered user, admin, service provider can accesses the e-workshop through internet using their Laptop, Smart Phone, Tablet or Desktop Computer. The System's application program processes the user's request and provides the required services by taking data from the system database

P7.7.2 Module Design

Admin Module

The administrator of the company is allowed to access all the services in the system. And approve vehicle services appointment, add all products

e user details, Add Used Vehicles	Block/Activate the registered users.
Adding Bid Vehicles	View ending auction details

Registered User Module

After registration, customers can book appointments for vehicle service online and also customer can Buy second hand vehicles and spare parts. And chat to the admin

User registration, login	Search products/Add to cart
Request for bid vehicle	Manage profile
Compare Vehicles	Search Used Vehicles

P7.7.4 Database Design

A database is an organized mechanism that has the capability of storing information through which a user can retrieve stored information in an effective and efficient manner. The data is the purpose of any database and must be protected.

The database design is a two level process. In the first step, user requirements are gathered together and a database is designed which will meet these requirements as clearly as possible. This step is called Information Level Design and it is taken independent of any individual DBMS.

In the second step, this Information level design is transferred into a design for the specific DBMS that will be used to implement the system in question. This step is called Physical Level Design, concerned with the characteristics of the specific DBMS that will be used. A database design runs parallel with the system design. The organization of the data in the database is aimed to achieve the following two major objectives.

- Data Integrity
- Data independence

Relational Database Management System (RDBMS)

A relational model represents the database as a collection of relations. Each relation resembles a table of values or file of records. In formal relational model terminology, a row is called a tuple, a column header is called an attribute and the table is called a relation. A relational database consists of a collection of tables, each of which is assigned a unique name. A row in a tale represents a set of related values.

Relations, Domains & Attributes

A table is a relation. The rows in a table are called tuples. A tuple is an ordered set of n elements. Columns are referred to as attributes. Relationships have been set between every table in the database. This ensures both Referential and Entity Relationship Integrity. A domain D is a set of atomic values. A common method of specifying a domain is to specify a data type from which the data values forming the domain are drawn. It is also useful to specify a name for the domain to help in interpreting its values. Every value in a relation is atomic, that is not decomposable.

Relationships

- Table relationships are established using Key. The two main keys of prime importance are Primary Key & Foreign Key. Entity Integrity and Referential Integrity Relationships can be established with these keys.
- Entity Integrity enforces that no Primary Key can have null values.
- Referential Integrity enforces that no Primary Key can have null values.
- Referential Integrity for each distinct Foreign Key value, there must exist a matching Primary Key value in the same domain. Other key are Super Key and Candidate Keys.

Normalization

Data are grouped together in the simplest way so that later changes can be made with minimum impact on data structures. Normalization is formal process of data structures in manners that eliminates redundancy and promotes integrity. Normalization is a technique of separating redundant fields and breaking up a large table into a smaller one. It is also used to avoid insertion, deletion, and updating anomalies. Normal form in data modelling use two concepts, keys and relationships. A key uniquely identifies a row in a table. There are two types of keys, primary key and foreign key. A primary key is an element or a combination of elements in a table whose purpose is to identify records from the same table. A foreign key is a column in a table that uniquely identifies record from a different table. All the tables have been normalized up to the third normal form.

As the name implies, it denotes putting things in the normal form. The application developer via normalization tries to achieve a sensible organization of data into proper tables and columns and where names can be easily correlated to the data by the user. Normalization eliminates repeating groups at data and thereby avoids data redundancy which proves to be a great burden on the computer resources. These include:

- ✓ Normalize the data.
- ✓ Choose proper names for the tables and columns.
- ✓ Choose the proper name for the data.

First Normal Form

The First Normal Form states that the domain of an attribute must include only atomic values and that the value of any attribute in a tuple must be a single value from the domain of that attribute. In other words 1NF disallows “relations within relations” or “relations as attribute values within tuples”. The only attribute values permitted by 1NF are single atomic or indivisible values. The first step is to put the data into First Normal Form. This can be donor by moving data into separate tables where the data is of similar type in each table. Each table is given a Primary Key or Foreign Key as per requirement of the project. In this we form new relations for each non-atomic attribute or nested relation. This eliminated repeating groups of data. A relation is said to be in first normal form if only if it satisfies the constraints that contain the primary key only.

Second Normal Form

According to Second Normal Form, for relations where primary key contains multiple attributes, no non-key attribute should be functionally dependent on a part of the primary key. In this we decompose and setup a new relation for each partial key with its dependent attributes. Make sure to keep a relation with the original primary key and any attributes that are fully functionally dependent on it. This step helps in taking out data that is only dependent on a part of the key. A relation is said to be in second normal form if and only if it satisfies all the first normal form conditions for the primary key and every non-primary key attributes of the relation is fully dependent on its primary key alone.

Third Normal Form

According to Third Normal Form, Relation should not have a non-key attribute functionally determined by another non-key attribute or by a set of non-key attributes. That is, there should be no transitive dependency on the primary key. In this we decompose and set up relation that includes the non-key attributes that functionally determines other non-key attributes. This step is taken to get rid of anything that does not depend entirely on the Primary Key. A relation is said to be in third normal form if only if it is in second normal form and more over the non key attributes of the relation should not be depend on other non-key attribute.

TABLES

1.REGISTRATION

Table name :- tbl_registration

Primary key :-user_id

Table Description : To store User details

FIELDS	DATA TYPE	CONSTRAINTS	DESCRIPTION
Uid	Int(10)	Primary Key	Unique User_identification
l_id	Int(10)	Foreign Key	Login_identification
f_name	Varchar(50)	Not null	First Name of the user
m_name	Varchar(50)	Not null	Middle Name of the user
l_name	Varchar(50)	Not null	Last Name of the user
Address	Varchar(50)	Not null	Address of the user
Dob	Varchar(50)	Not null	Dob of the user
Phone	Numeric(50)	Not null	Contact_nunmber
e-mail	Varchar(50)	Not null	Email_id of the user
Password	Varchar(50)	Not Null	Enter the valid password

2.LOGIN

Table Name:-tbl_login_autoshop1

Primary key :-l_id

FIELDS	DATA TYPE	CONSTRAINTS	DESCRIPTION
l_id	Int(10)	Primary Key	Unique Login_id entification
Username	Varchar(50)	Not null	Username
Password	Varchar(50)	Not null	Password
Rol	Varchar(20)	Not null	Role
Status	Varchar(20)	Not null	Status

3.AUCTION

Table Name:-tbl_auction

Primary Key:-auction_id

FILDS	DATA TYPE	CONSTRAINTS	DESCRIPTION
auction_id	Int(10)	Primary Key	Unique Auction_identification
u_id	Int(10)	Foreign_Key	User_identfiction
Amount	Numeric (50)	Not null	Auction Bid_amount
Time	Timestamp	Not Null	Auction Bid_Time
v_id	Int(10)	Foreign_Key	Car identification

4.ADD VEHICLE

Table Name:-tbl_addvehicle

Primary Key:-vehicleid

FIELDS	DATA TYPE	CONSTRAINTS	DESCRIPTION
v_id	Int(10)	Primary Key	Unique Vehicle identification
Vehicle	Varchar(50)	Not null	Name of the Vehicles
basic_price	Numeric(50)	Not null	Basic price of the vehicles
Image	Varchar(50)	Not Null	Adding Vehicle images
description	Varchar(20)	Not null	Description of the vehicles
Model	Varchar(50)	Not null	Model
Color	Varchar(50)	Not null	Different Colors of vehicles
Fuel	Varchar(50)	Not null	Fueltype
Year	Numeric(50)	Not null	Year
Mileage	Numeric(50)	Not null	Mileage of the vehicles
transmission	Varchar(50)	Not null	Transmission of the vehicles
Registered	Varchar(50)	Not null	Check for Registered vehicles
add_date	Date	Not Null	Adding The Auction starting Date
l_date	Date	Not Null	Adding The Auction Ending Date
Brate	Numeric(10)	Not Null	Adding Starting Bid amount
Status	Varchar(50)	Not null	Status

5.NOTIFICATION MESSAGE

Table Name:-tbl_send_sms

Primary Key:-msg_id

FIELDS	DATA TYPE	CONSTRAINTS	DESCRIPTION
msg_id	Int(20)	Primary Key	Message_ identification
Uid	Int(20)	Foregin Key	Unique user_identification
Message	Varchar(100)	Not null	Admin send the message
con_message	Varchar(100)	Not Null	User send the Confirmation Message
Status	Varchar(20)	Not Null	Status of the message

6.PAYMENT

Table Name:-tbl_bank_details

Primary Key:-bank_id

FIELD	DATA TYPE	CONSTRAINTS	DESCRIPTION
bank_id	Int(10)	Primary Key	Bank_identification
Bank name	Varchar(50)	Not Null	Current Bank Details
Cardtype	Varchar(50)	Not null	ATM Card Type
Accountno	Numeric(16)	Not null	Enter The ATM Card Number
Month	Varchar(20)	Not null	Adding the Month of the Card
Year	Varchar(20)	Not null	Adding the year Expery Date of the ATM Card
Cvv	Numeric(10)	Not null	Adding The cvv Number of the card
Amount	Numeric(20)	Not null	Adding the balance amount of the card
Status	Varchar(20)	Not null	Adding bank details status

P7.8 System Testing

P7.8.1 Introduction

Software Testing is the process of executing software in a controlled manner, in order to answer the question - Does the software behave as specified? Software testing is often used in association with the terms verification and validation. Validation is the checking or testing of items, includes software, for conformance and consistency with an associated specification. Software testing is just one kind of verification, which also uses techniques such as reviews, analysis, inspections, and walkthroughs. Validation is the process of checking that what has been specified is what the user actually wanted.

Validation **:** Are we doing the right job? Verification **:** Are we doing the job right?

Software testing should not be confused with debugging. Debugging is the process of analyzing and localizing bugs when software does not behave as expected. Although the identification of some bugs will be obvious from playing with the software, a methodical approach to software testing is a much more thorough means for identifying bugs. Debugging is therefore an activity which supports testing, but cannot replace testing.

Other activities which are often associated with software testing are static analysis and dynamic analysis. Static analysis investigates the source code of software, looking for problems and gathering metrics without actually executing the code. Dynamic analysis looks at the behavior of software while it is executing, to provide information such as execution traces, timing profiles, and test coverage information.

Testing is a set of activity that can be planned in advanced and conducted systematically. Testing begins at the module level and work towards the integration of entire computers based system. Nothing is complete without testing, as it vital success of the system testing objectives, there are several rules that can serve as testing objectives. They are:

Testing is a process of executing a program with the intent of finding an error.

- A good test case is one that has high possibility of finding an undiscovered error.
- A successful test is one that uncovers an undiscovered error.

If a testing is conducted successfully according to the objectives as stated above, it would uncover

errors in the software. Also testing demonstrate that the software function appear to be working

according to the specification, that performance requirement appear to have been met.

There are three ways to test program.

- For correctness
- For implementation efficiency
- For computational complexity

Test for correctness are supposed to verify that a program does exactly what it was designed to do. This is much more difficult than it may at first appear, especially for large programs.

P2.8.2 Test Plan

A test plan implies a series of desired course of action to be followed in accomplishing various testing methods. The Test Plan acts as a blue print for the action that is to be followed. The software engineers create a computer program, its documentation and related data structures. The software developers is always responsible for testing the individual units of the programs, ensuring that each performs the function for which it was designed. There is an independent test group (ITG) which is to remove the inherent problems associated with letting the builder to test the thing that has been built. The specific objectives of testing should be stated in measurable terms. So that the mean time to failure, the cost to find and fix the defects, remaining defect density or frequency of occurrence and test work-hours per regression test all should be stated within the test plan.

The levels of testing include:

- ❖ Unit testing
- ❖ Integration Testing
- ❖ Data validation Testing
- ❖ Output Testing

P7.8.2.1 Unit Testing

Unit testing focuses verification effort on the smallest unit of software design – the software component or module. Using the component level design description as a guide, important control paths are tested to uncover errors within the boundary of the module.

The relative complexity of tests and uncovered scope established for unit testing. The unit testing is white-box oriented, and step can be conducted in parallel for multiple components. The modular interface is tested to ensure that information properly flows into and out of the program unit under test. The local data structure is examined to ensure that data stored temporarily maintains its integrity during all steps in an algorithm's execution. Boundary conditions are tested to ensure that all statements in a module have been executed at least once. Finally, all error handling paths are tested.

Tests of data flow across a module interface are required before any other test is initiated. If data do not enter and exit properly, all other tests are moot. Selective testing of execution paths is an essential task during the unit test. Good design dictates that error conditions be anticipated and error handling paths set up to reroute or cleanly terminate processing when an error does occur. Boundary testing is the last task of unit testing step. Software often fails at its boundaries.

Unit testing was done by treating each module as separate entity and testing each one of them with a wide spectrum of test inputs. Some flaws in the internal logic of the modules were found and were rectified. After coding each module is tested and run individually. All unnecessary code where removed and ensured that all modules are working, and gives the expected result.

P7.8.2.2 Integration Testing

Integration testing is systematic technique for constructing the program structure while at the same time conducting tests to uncover errors associated with interfacing. The objective is to take unit tested components and build a program structure that has been dictated by design. The entire program is tested as whole. Correction is difficult because isolation of causes is complicated by vast expanse of entire program. Once these errors are corrected, new ones appear and the process continues in a seemingly endless loop.

After performing unit testing in the System all the modules were integrated to test for any inconsistencies in the interfaces. Moreover differences in program structures were removed and a unique program structure was evolved.

P7.8.2.3 Validation Testing

This is the final step in testing. In this the entire system was tested as a whole with all forms, code, modules and class modules. This form of testing is popularly known as Black Box testing or System tests.

Black Box testing method focuses on the functional requirements of the software. That is, Black Box testing enables the software engineer to derive sets of input conditions that will fully exercise all functional requirements for a program.

Black Box testing attempts to find errors in the following categories; incorrect or missing functions, interface errors, errors in data structures or external data access, performance errors and initialization errors and termination errors.

P7.8.2.4 User Acceptance Testing

The system considered is tested for user acceptance; here it should satisfy the firm's need. The software should keep in touch with perspective system; user at the time of developing and making changes whenever required. This done with respect to the following points:

- Input Screen Designs,
- Output Screen Designs,

The above testing is done taking various kinds of test data. Preparation of test data plays a vital role in the system testing. After preparing the test data, the system under study is tested using that test data. While testing the system by which test data errors are again uncovered and corrected by using above testing steps and corrections are also noted for future use.

P8.8.3 Test Case

Test Case 1

Project Name: AUTOSHOP					
Login Test Case					
Test Case ID:Fun_1			**Test Designed by:** JISHNUMON PB		
Test Priority(Low/Medium/High):High			**Test Designed date:** 02-05-2019		
Module Name: Login screen			**Test Executed by:** MR.JINSON DEVIS		
Test Title: Verify login with valid username and Password			Test Execution date: 13-05-2019		
Description: Test the Login Page					
Pre-conditions: User has Valid username and Password					
Step	**Test Steps**	**Test Data**	**Expected Result**	**Actual Result**	**Status (Pass /Fail)**
1	Navigation to login page		Login Page for users	Login page of Users	Pass
2	Provide Valid username	Username admin	User should be able to login	Logged in and the User is navigated to Dashboard with Records.	Pass
3	Provide valid password	Password: Admin			
4	Click on login Button				
5	Provide invalid username or password	Username ad@gmail Password: ad11	User should not be able to login	Message for enter valid user name and valid Password	Pass
6	Provide null username or password	Username : null Password: null			
Post conditions: User is validated with database and successfully login to account. The account session details are logged in database					

Test Case 2

Project Name :					
User Registration Test Case					
Test Case ID : Fun_2				**Test Designed By** : JISHNUMON PB	
Test Priority(Low/Medium/High) : Medium				Test Designed date :5 02-05-2019	
Module Name : User Registration				Test Executed by : Mr. JINSON DEVIS	
Test Title : To register new user				Test Execution date :6 12-05-2019	
Description : Test the user registration					
Pre-conditions : User should not be already registered					
Step	Test Steps	Test Data	Expected Result	Actual Result	Status (Pass /Fail)
1	Navigation to User registration		User registration form	User registration form	Pass
2	Provide null information	User name:null	Message for enter user name	Message for enter user name	Pass
3	Provide Valid details of user	Registration details of user	user registration	User registered and user can login	Pass
4	Click on Register Button				
Post conditions: User is validated with database and then user can successfully login to account. The account session details are logged in database					

P8.9 Implementation

Implementation is the stage of the project where the theoretical design is turned into a working system. It can be considered to be the most crucial stage in achieving a successful new system gaining the users confidence that the new system will work and will be effective and accurate. It is primarily concerned with user training and documentation. Conversion usually takes place about the same time the user is being trained or later. Implementation simply means convening a new system design into operation, which is the process of converting a new revised system design into an operational one.

At this stage the main work load, the greatest upheaval and the major impact on the existing system shifts to the user department. If the implementation is not carefully planned or controlled, it can create chaos and confusion.

Implementation includes all those activities that take place to convert from the existing system to the new system. The new system may be a totally new, replacing an existing manual or automated system or it may be a modification to an existing system. Proper implementation is essential to provide a reliable system to meet organization requirements. The process of putting the developed system in actual use is called system implementation. This includes all those activities that take place to convert from the old system to the new system. The system can be implemented only after through testing is done and if it is found to be working according to the specifications. The system personnel check the feasibility of the system. The more complex the system being implemented, the more involved will be the system analysis and design effort required to implement the three main aspects: education and training, system testing and changeover.

The implementation state involves the following tasks:

- Careful planning.
- Investigation of system and constraints.
- Design of methods to achieve the changeover. Training of the staff in the changeover phase.

P8.9.1 Implementation Procedure

Implementation of software refers to the final installation of the package in its real environment, to the satisfaction of the intended uses and the operation of the system. In many organizations someone who will not be operating it, will commission the software development project. In the initial stage people doubt about the software but we have to ensure that the resistance does not build up, as one has to make sure that:

- The active user must be aware of the benefits of using the new system.
- Their confidence in the software is built up.
- Proper guidance is imparted to the user so that he is comfortable in using the application.

Before going ahead and viewing the system, the user must know that for viewing the result, the server program should be running in the server. If the server object is not up running on the server, the actual process won't take place

8.9.2 User Training

User training is designed to prepare the user for testing and converting the system. To achieve the objective and benefits expected from computer based system, it is essential for the people who will be involved to be confident of their role in the new system. As system becomes more complex, the need for training is more important. By user training the user comes to know how to enter data, respond to error messages, interrogate the database and call up routine that will produce reports and perform other necessary functions.

Training on the Application Software

After providing the necessary basic training on computer awareness the user will have to be trained on the new application software. This will give the underlying philosophy of the use of the new system such as the screen flow, screen design type of help on the screen, type of errors while entering the data, the corresponding validation check at each entry and the ways to correct the date entered. It should then cover information needed by the specific user/ group to use the system or part of the system while imparting the training of the program on the

application. This training may be different across different user groups and across different levels of hierarchy.

8.9.3 Operational Document

After providing the necessary basic training on computer awareness the user will have to be trained on the new application software. This will give the underlying philosophy of the use of the new system such as the screen flow, screen design type of help on the screen, type of errors while entering the data, the corresponding validation check at each entry and the ways to correct the date entered. It should then cover information needed by the specific user/ group to use the system or part of the system while imparting the training of the program on the application. This training may be different across different user groups and across different levels of hierarchy.

P7.9.4 System Maintenance

Maintenance is the enigma of system development. The maintenance phase of the software cycle is the time in which a software product performs useful work. After a system is successfully implemented, it should be maintained in a proper manner. System maintenance is an important aspect in the software development life cycle. The need for system maintenance is for it to make adaptable to the changes in the system environment. Software maintenance is of course, far more than "Finding Mistakes".

P8.10 Conclusion &Future Enhancements

P8.10.1 Future Enhancement

- The system is designed in such a way that the payment of service provider should be done in completely online mode.
- Provide more security

P8.10.2 CONCLUSION

The software reduces the time consumption and the manual efforts of searching a products. It will be a simple platform for users to access services for their huge needs.

The benefits, we can obtain from the new system are:

- Timely and accurate information will be available
- Reduced data loss
- The access time and process time is highly reduced
- Quick data view
- Error free output

The proposed system is expected to replace manual system and provide more efficient performance and services.

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- IEEE Std 1016 Recommended Practice for Software Design Descriptions.

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- www.w3schools.com
- www.jquery.com
- http://homepages.dcc.ufmg.br/~rodolfo/es-1-03/IEEE-Std-830-1998.pdf
- www.agilemodeling.com/artifacts/useCaseDiagram.html

P8.12 APPENDIX

P8.12.1 SAMPLE CODE

Connection code

```
<?php
$conn = mysqli_connect("localhost","root","","autoshop");

// Check connection
if (mysqli_connect_errno())
  {
  echo "Failed to connect to MySQL: " . mysqli_connect_error();
  }
?>
```

Admin Add Vehicles

```
<?php
require "connect.php";
if(isset($_POST["submit"]))
{
        $vehicle=$_POST["vehicle"];
        //$basic_price=$_POST["basic_price"];

        $description=$_POST["description"];
        $model=$_POST["model"];
        $color=$_POST["color"];
        $fuel=$_POST["fuel"];
        $registred=$_POST["registred"];
        $year=$_POST["year"];
        $milage=$_POST["milage"];
        $transmission=$_POST["transmission"];
        $target_dir = "uploads/";
```

```
$target_file = $target_dir . basename($_FILES["image"]["name"]);
move_uploaded_file($_FILES["image"]["tmp_name"], $target_file);


$image=$target_file;
echo $suc =mysqli_query($conn, "insert into
    addvehicle(vehicle,image,description,model,color,fuel,registred,year,milage,transmission)
    values('$vehicle','$target_file','$description','$model','$color','$fuel','$registred','$year','$milage','
    $transmission')") or die (mysqli_error());
    }
?>
<html>
<head>
<link href="css\style1.css" rel="stylesheet">
</head>

<body background="images/123.PNG">
<div id="main">
<center>
<div id="top"><b>ADD VEHICLES</b></div>
<div id="menu"><center><a href="adminhome1.php">HOME    </a>
<!-- </a><a href="addvehicles.php" >ADD CARS   </a>
</a><a href="confirmation_mail.php">CONFIRM   </a>
</a><a href="login_autosh.php">CUSTOMERS   </a>
</a><a href="login_autosh.php">SALES   </a>
</a><a href="login_autosh.php">PROFILE   </a>
</a><a href="logout.php">LOGOUT   </a> -->
<br>
<br>
<br>
```

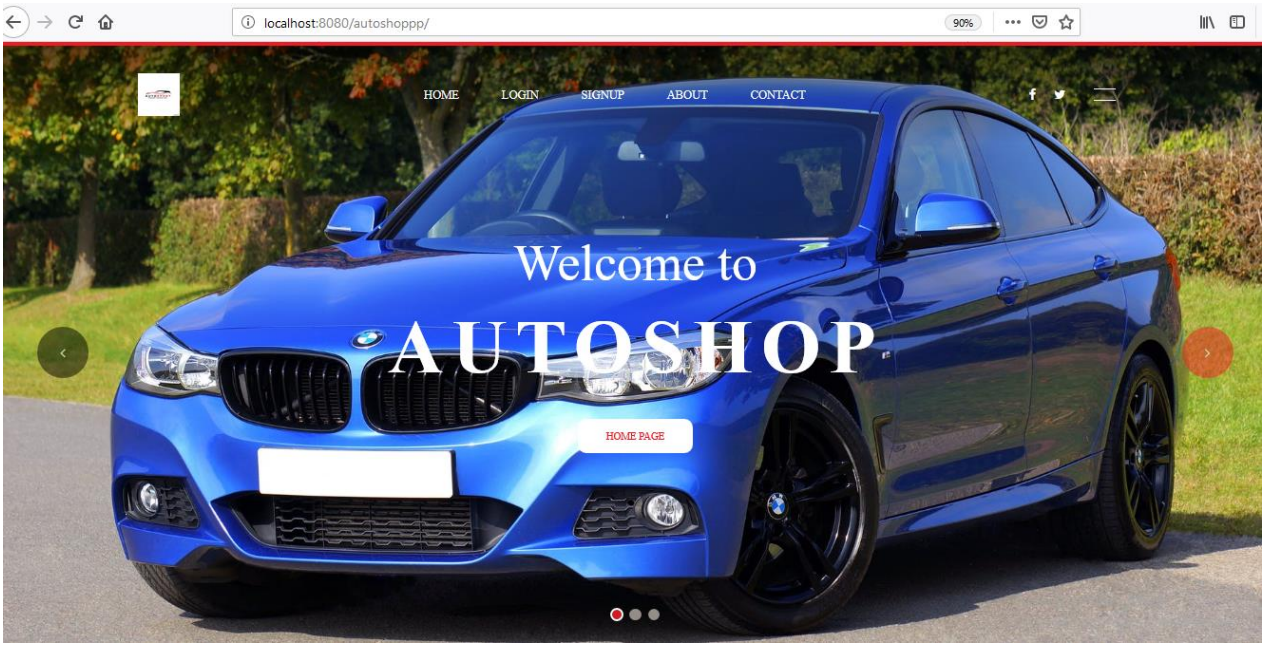
```
<form action="#" method="post" onsubmit="Alert()" enctype="multipart/form-data" >
<div id="signup">
<h2 class="smp">UPLOAD DETAILS<h2>
<center>
<font size="4px">
<label>Vehicle Name:</label>
<input id="vehicle" name="vehicle"  placeholder="Please Enter the Vehicle Name" type="text" required pattern="^[a-zA-Z0-9]+$"><br>
<!--<label>Basic Price:</label>
<input id="basic_price" name="basic_price" placeholder="Basic Price" type="number" pattern="\d+(\.\d{2})?" required><br>
!--><br>
<label>Upload Image:<br></label>
<input type="file" id ="image" name="image" accept=".png,.jpg,.jpeg,.JPG" placeholder="Upload Vehicles Image"><br><bR>
<label>Description:</label><br>
<textarea placeholder="description" name="description" required></textarea><br>
<h2 class="smp">FEATURES<h2>
<label>Models:</label>
<input id="model" name="model"  placeholder="Model Name" type="text" required><br>
<label>Color:</label>
<input id="color" name="color" pattern="^[a-zA-Z0-9]+$"  placeholder="Color" type="text" required><br>
<label>Fuel Type:</label>
<select id="fuel" name="fuel"  pattern="^[a-zA-Z0-9]+$" placeholder="Fuel" type="text" required>
<option value="">Select</option>
<option value="Petrol">Petrol</option>
<option value="Diesel">Diesel</option>
<option value="Diesel">Gas</option>
```

```
</select><br>
<label>Registerd:</label><br>

Yes<input id="registred" name="registred" placeholder="Registred" type="radio" value="yes" required><br>

No<input id="" name="registred" placeholder="Registred" type="radio" value="no" required><br>

<label>Year:</label>
<input id="year" name="year" pattern="[0-9]{4}" placeholder="Year" type="date" required><br>
<label>Milage:</label>
<input id="milage" name="milage" placeholder="Milage" type="text" required><br>

<label>Transmission:</label>
<select id="transmission" name="transmission" pattern="^[a-zA-Z0-9]+$" placeholder="transmission" type="text" required>
<option value="">Select</option>
<option value="Automated">Automated</option>
<option value="Manuel">Manuel</option>
<option value="Manuel">Automated & Manuel</option>
</select><br>

<!--<label>Transmission:</label>
<input id="transmission" name="transmission" placeholder="Transmission" type="text" required><br>
<br>!--><br>
<input name="submit" type="submit" value=" SUBMIT ">
<br>
<script>
```

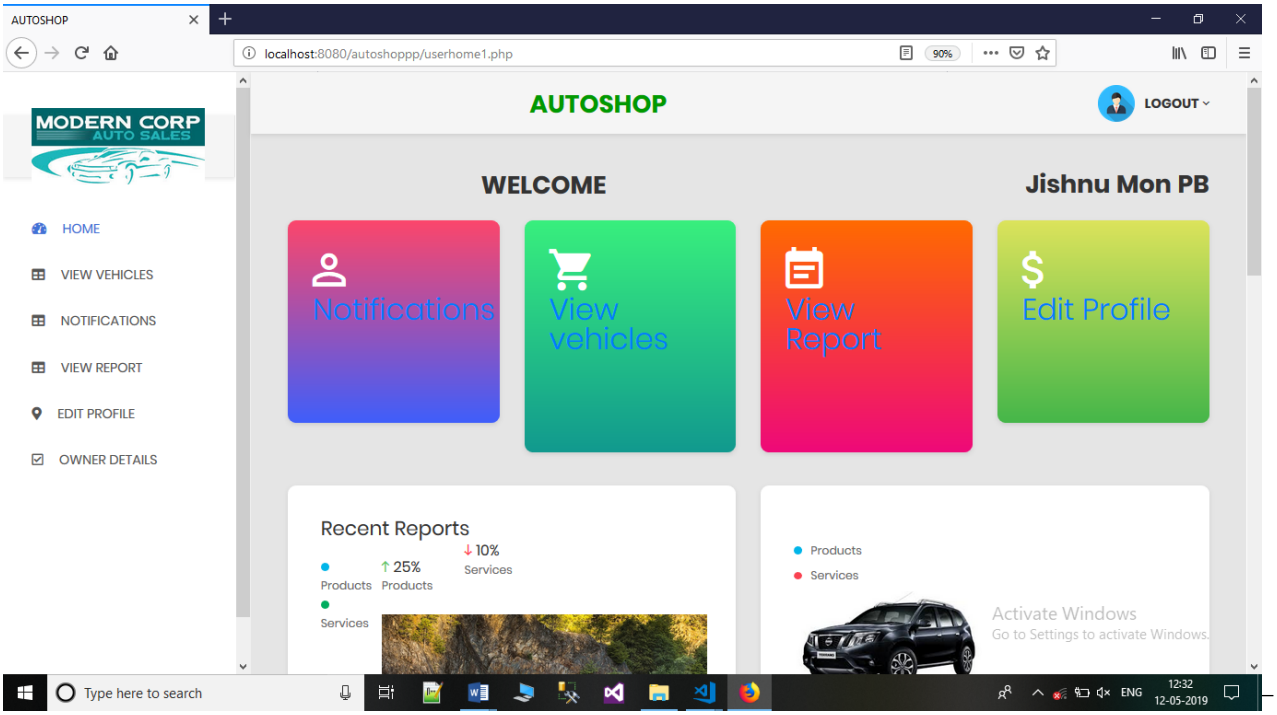
```
function Alert()
{
    alert("Successfully Updated!!!!!");
}
</script>
</font>
</center>
</div>
</form>
<body>
    </html>
```

P8.12.2 SCREENSHOTS

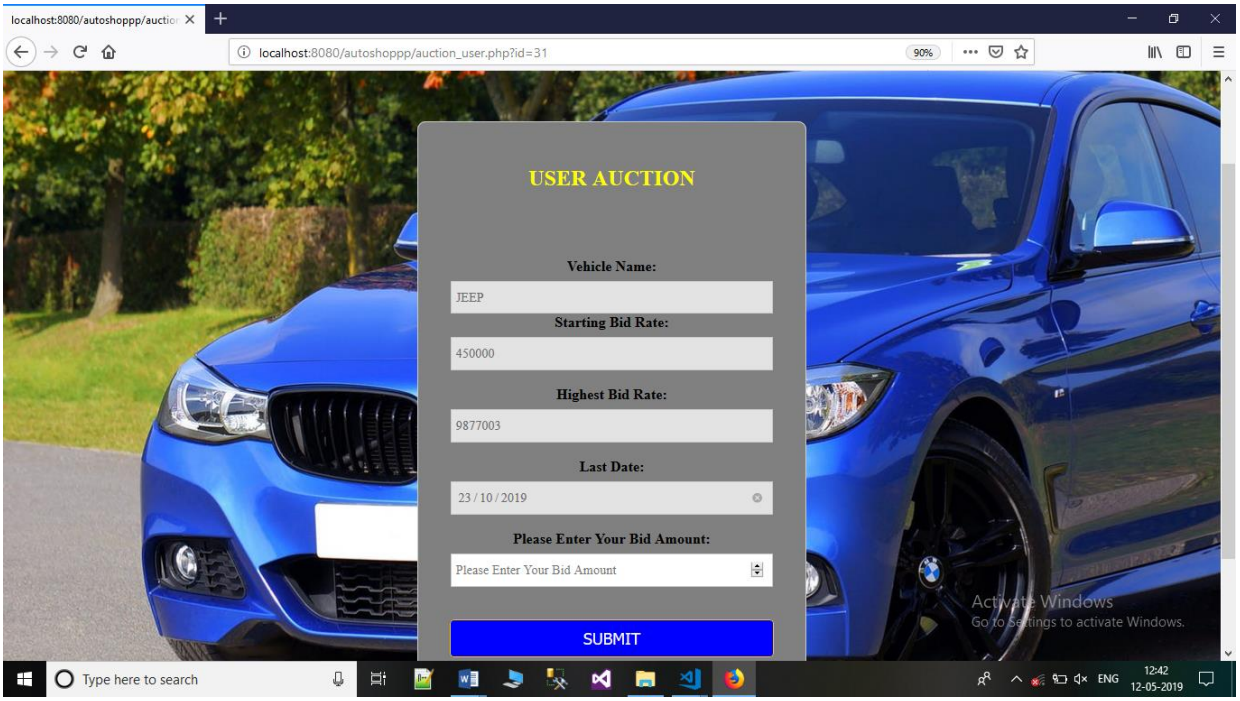
Main Home (Index) page



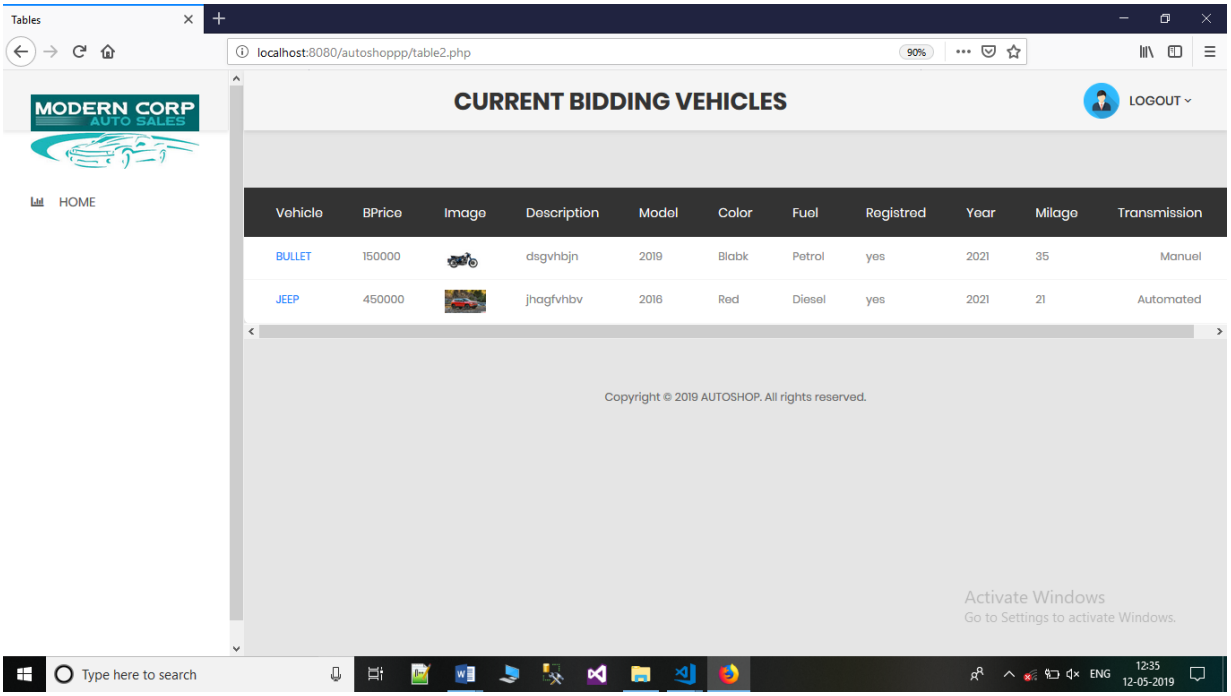
User home



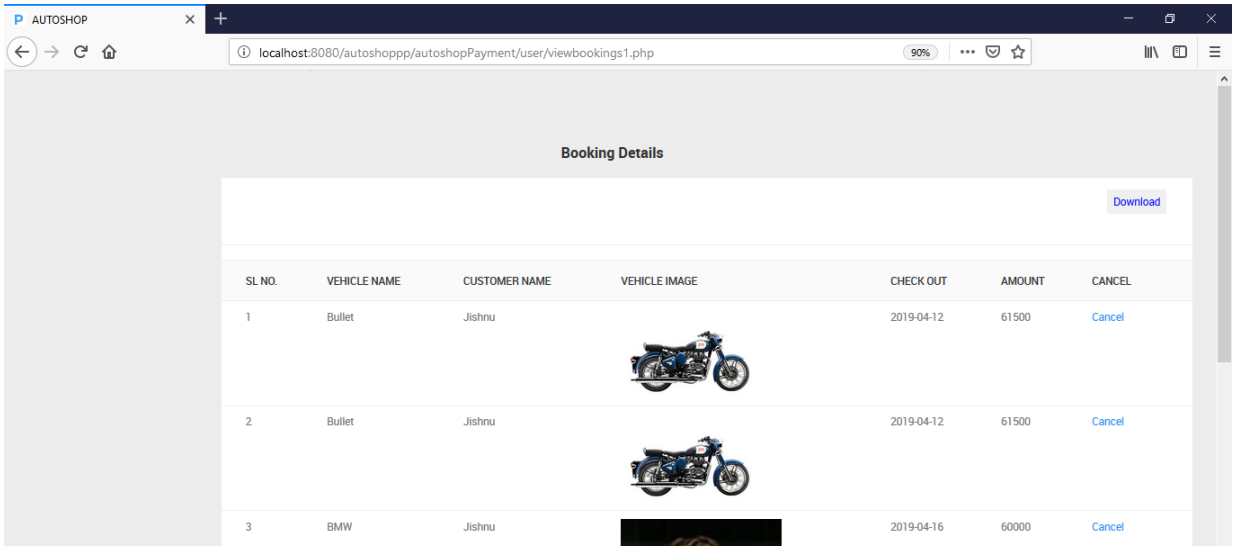
Bidding



Search vehicles page



Admin view appointments



Admin Add vehicle detail