

# **Wedding Dreamz**

Project Report Submitted by

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**Reg. No: LAJC16MCA046**

In Partial fulfillment 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**

# **AMAL JYOTHI COLLEGE OF ENGINEERING**

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

## **DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS**



## **CERTIFICATE**

This is to certify that the project entitled "**“Wedding Dreamz”**" is a bonafide record of the work done by **RESHMA R (LAJC16MCA046)** 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. Rubin Thottupuram**

Head of the Department

**Mr. Binumon Joseph**

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Project Supervisor

**Expert from dept. of Computer Science and Engineering**  
Amal Jyothi College of Engineering

**External Expert appointed by the university**

## **DECLARATION**

I hereby declare that the project report "**Wedding Dreamz**" 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.....

**RESHMA R**

**KANJIRAPPALLY**

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## **ACKNOWLEDGEMENT**

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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** and my project guide **Ms. Dilu Mariya Joseph** 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.

**Reshma R**

## **ABSTRACT**

The “Wedding Dreamz” is designed for managing operations in a smooth and effective manner by a wedding planner. The main objective of this system is to provide more effective way of planning the wedding. The wedding planner can manage both the user and employees.

The packages provided to the users are catering, hall decoration, photography and dress. The users can search the packages according to their needs and pay for the selected packages for the wedding. It allows the wedding planner to schedule work to the employees and make payment to the employees for the completed works.

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## **LIST OF ABBREVIATIONS**

IDE - Integrated Development Environment

HTML - Hyper Text Markup Language

CSS - Cascading Style Sheet

SQL - Structured Query Language

GCP - Google Cloud Platform

AWS - Amazon Web Services

EC2 - Elastic Compute Cloud

S3 - Simple Storage Systems

## **PART 1**

### **DEPLOYMENT OF THE APPLICATION IN VARIOUS CLOUD PLATFORMS**

## 1.1 GOOGLE CLOUD PLATFORM

### 1.1.1 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

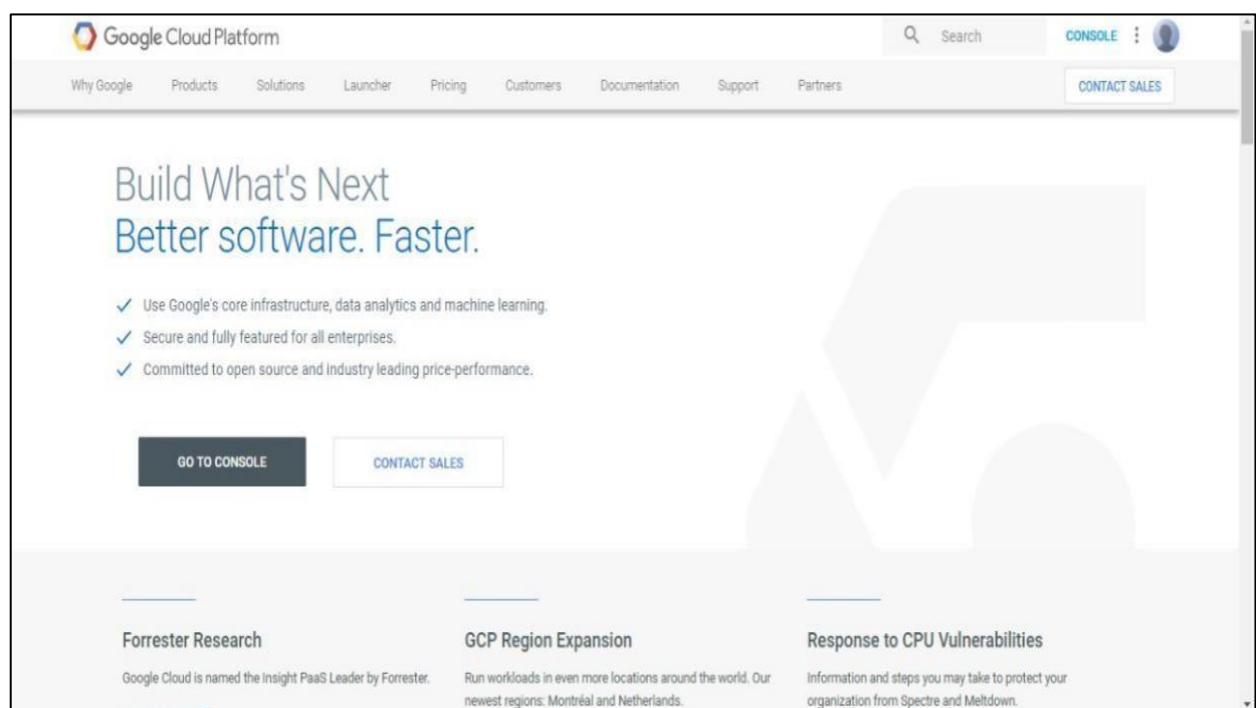
Any GCP resources that you allocate and use must belong to a project. You can think of a project as the organizing entity for what you're building. A project is made up of the settings, permissions, and other metadata that describe your applications. Resources within a single project can work together 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.

### 1.1.2 Compute Engine for the implementation of Application

Step 1: Log on to google cloud platform account



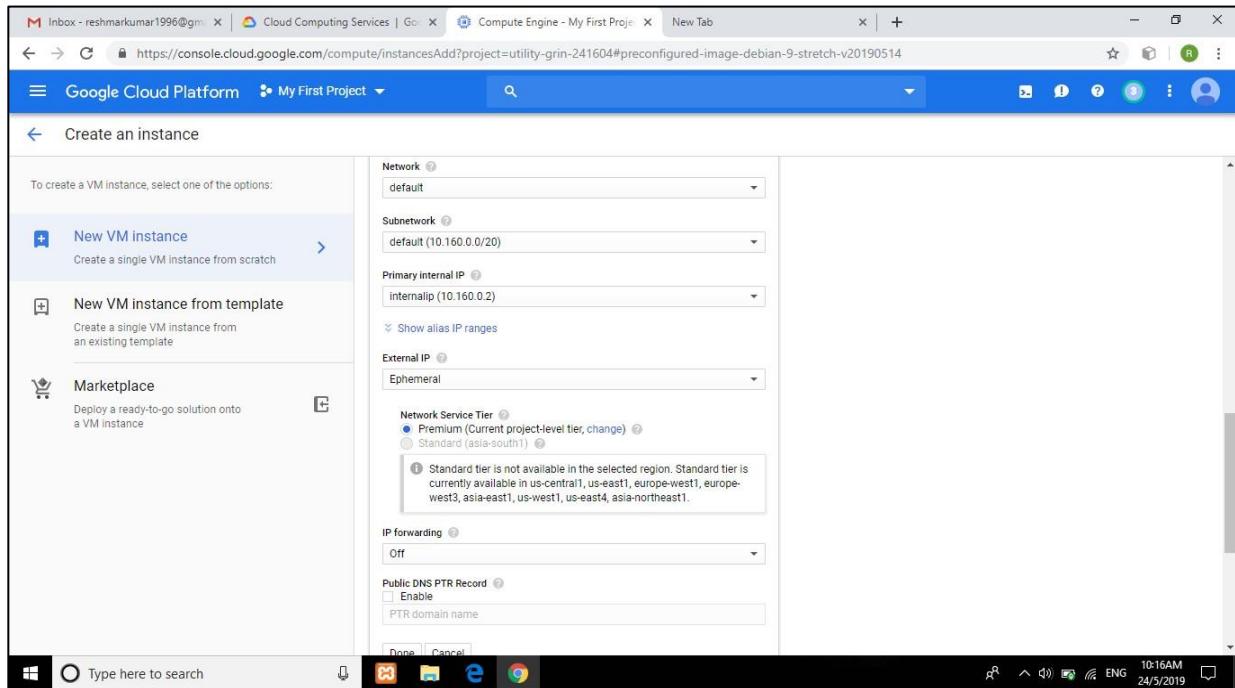
## Step 2: Creating a new project

The screenshot shows the Google Cloud Platform dashboard for the project 'My First Project'. The dashboard includes sections for Project info, Resources (Compute Engine), Compute Engine metrics (CPU % over time), Google Cloud Platform status (All services normal), Error Reporting (No sign of any errors), and News (FA creating a better future for football with Google Cloud). A sidebar on the left shows Project info (Project name: My First Project, Project ID: perfect-reserve-241504, Project number: 723640665520) and links to Go to project settings, Resources (Compute Engine 2 instances), and Trace (No trace data from the past 7 days). A bottom banner displays a file named 'RELIEF.docx' and a link to Go to Settings to activate Windows.

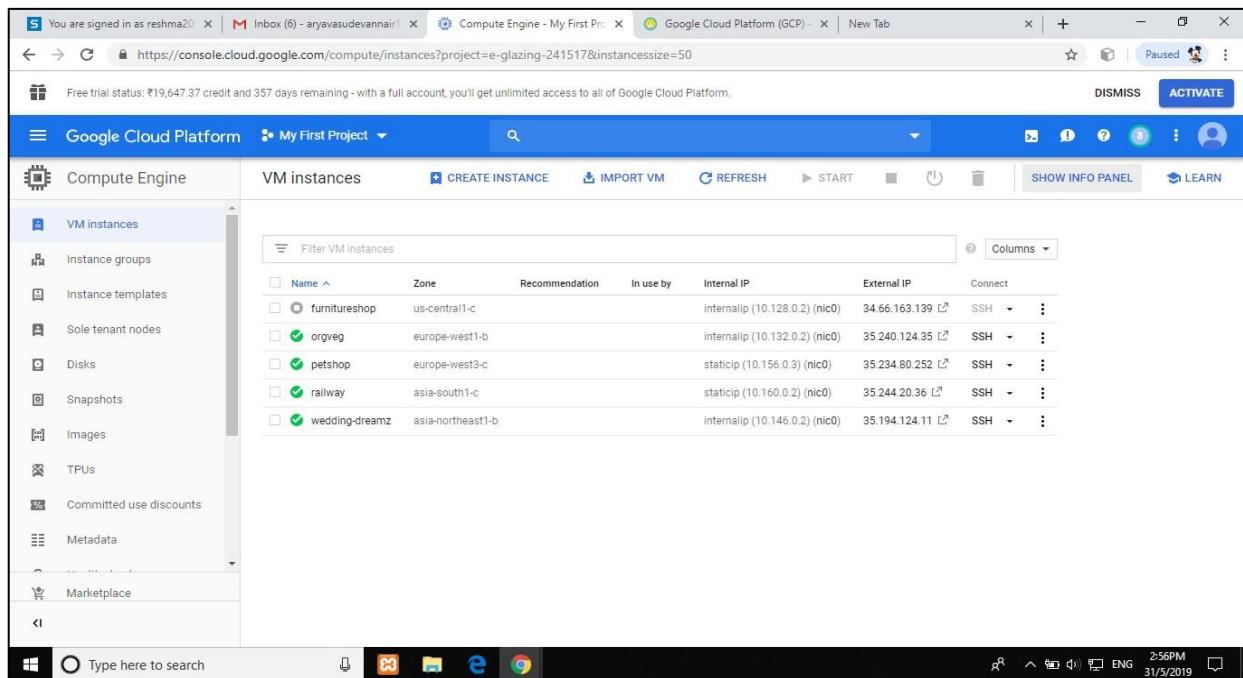
## Step 3: Creating a new virtual machine instance

The screenshot shows the 'Create an instance' form in the Google Cloud Platform Compute Engine section. The instance is named 'wedding-dreamz' and is being created in the 'asia-south1 (Mumbai)' region and 'asia-south1-c' zone. The machine type selected is '1 vCPU' and '3.75 GB memory'. The boot disk is set to 'New 10 GB standard persistent disk' with 'Image' as CentOS 7. Identity and API access is configured with 'Compute Engine default service account' and 'Allow default access'. The sidebar on the left lists options for New VM instance, New VM instance from template, and Marketplace.

From the network interface option, reserve static and external IP address



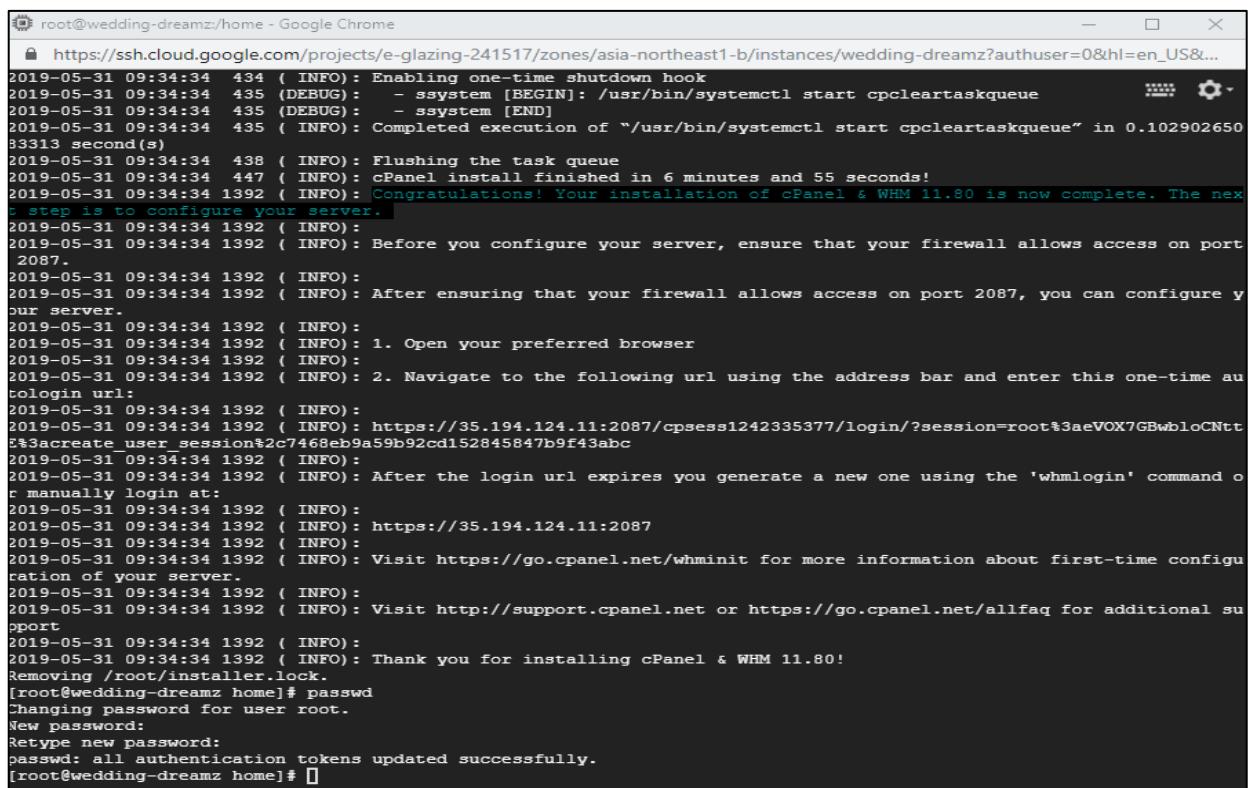
Step 4: Open the Shell by Clicking the SSH drop down appears on the right side of our Instance



Step 5: In the shell, type the following commands:

- a. To get the domain privileges type the command: sudo -a
- b. For updating type: yum update -y
- c. yum install -y perl
- d. yum install -y wget
- e. hostname centos. Your hostname.com

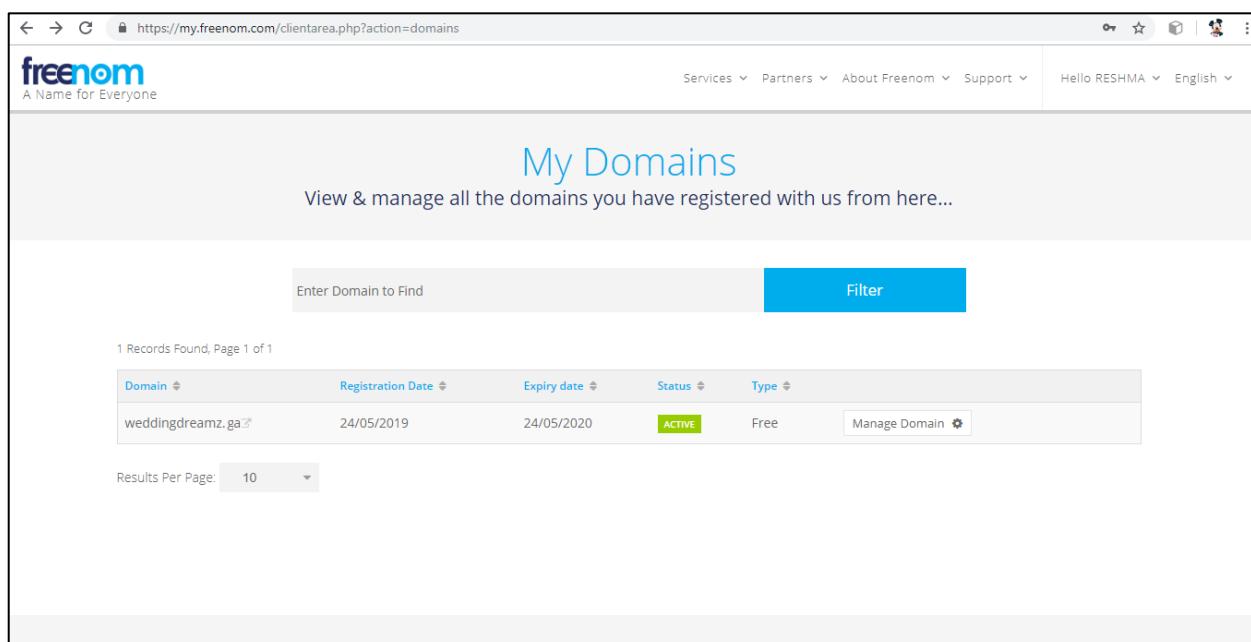
- f. systemctl stop Network Manager .service
- g. systemctl disable Network Manager.service
- h. type the command for install cPanel and WHM
- i. cd/home && curl -o latest -L https://securedownloads.cpanel.net/latest && sh latest.
- j. Set password for WHM by typing the command ‘passwd’ on the shell



```

root@wedding-dreamz:/home - Google Chrome
https://ssh.cloud.google.com/projects/e-glazing-241517/zones/asia-northeast1-b/instances/wedding-dreamz?authuser=0&hl=en_US&...
2019-05-31 09:34:34 434 { INFO}: Enabling one-time shutdown hook
2019-05-31 09:34:34 435 {DEBUG}: - ssystem [BEGIN]: /usr/bin/systemctl start cpcleartaskqueue
2019-05-31 09:34:34 435 {DEBUG}: - ssystem [END]
2019-05-31 09:34:34 435 { INFO}: Completed execution of "/usr/bin/systemctl start cpcleartaskqueue" in 0.102902650
3313 second(s)
2019-05-31 09:34:34 438 { INFO}: Flushing the task queue
2019-05-31 09:34:34 447 { INFO}: cPanel install finished in 6 minutes and 55 seconds!
2019-05-31 09:34:34 1392 { INFO}: Congratulations! Your installation of cPanel & WHM 11.80 is now complete. The next
step is to configure your server.
2019-05-31 09:34:34 1392 { INFO}:
2019-05-31 09:34:34 1392 { INFO}: Before you configure your server, ensure that your firewall allows access on port
2087.
2019-05-31 09:34:34 1392 { INFO}:
2019-05-31 09:34:34 1392 { INFO}: After ensuring that your firewall allows access on port 2087, you can configure your
server.
2019-05-31 09:34:34 1392 { INFO}:
2019-05-31 09:34:34 1392 { INFO}: 1. Open your preferred browser
2019-05-31 09:34:34 1392 { INFO}:
2019-05-31 09:34:34 1392 { INFO}: 2. Navigate to the following url using the address bar and enter this one-time au
tologin url:
2019-05-31 09:34:34 1392 { INFO}:
2019-05-31 09:34:34 1392 { INFO}: https://35.194.124.11:2087/cpsess1242335377/login/?session=root%3aeVOX7GBwblCNtt
E%3acreate user_session%2c7468eb9a59b92cd152845847b9f43abc
2019-05-31 09:34:34 1392 { INFO}:
2019-05-31 09:34:34 1392 { INFO}: After the login url expires you generate a new one using the 'whmlogin' command o
r manually login at:
2019-05-31 09:34:34 1392 { INFO}:
2019-05-31 09:34:34 1392 { INFO}: https://35.194.124.11:2087
2019-05-31 09:34:34 1392 { INFO}:
2019-05-31 09:34:34 1392 { INFO}: Visit https://go.cpanel.net/whminit for more information about first-time configu
ration of your server.
2019-05-31 09:34:34 1392 { INFO}:
2019-05-31 09:34:34 1392 { INFO}: Visit http://support.cpanel.net or https://go.cpanel.net/allfaq for additional su
pport
2019-05-31 09:34:34 1392 { INFO}:
2019-05-31 09:34:34 1392 { INFO}: Thank you for installing cPanel & WHM 11.80!
Removing /root/installer.lock.
[root@wedding-dreamz home]# passwd
Changing password for user root.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[root@wedding-dreamz home]# 
```

## Step 6: Purchase Domain from freenom



Domain	Registration Date	Expiry date	Status	Type
weddingdreamz.ga	24/05/2019	24/05/2020	ACTIVE	Free

## Step 7: Create cloud DNS Zone

You are signed in as reshma20

Inbox (6) - aryavasudevannair1 Managed zones create - My First Project Google Cloud Platform (GCP) New Tab

Free trial status: ₹19,647.37 credit and 357 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 Create a DNS zone

Load balancing Cloud DNS Cloud CDN Cloud NAT Traffic Director Marketplace

**Zone type:** Public

**Zone name:** wedding-dreamz

**DNS name:** weddingdreamz.ga

**DNSSEC:** On

**Description (Optional):**

After creating your zone, you can add resource record sets and modify the networks your zone is visible on.

Create Cancel

## Step 8: Add Record set in that DNS Zone. Create a record set as Type A and CNAME

You are signed in as reshma20

Inbox (6) - aryavasudevannair1 wedding-d... details - My First Project Google Cloud Platform (GCP) New Tab

Free trial status: ₹19,647.37 credit and 357 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 Zone details EDIT ADD RECORD SET DELETE ZONE

Load balancing Cloud DNS Cloud CDN Cloud NAT Traffic Director Marketplace

wedding-dreamz

DNS name: weddingdreamz.ga. Type: Public

DNS peering: Disabled

Record sets

Add record set Delete record sets

DNS name	Type	TTL (seconds)	Data
weddingdreamz.ga.	NS	21600	ns-cloud-c1.googledomains.com. ns-cloud-c2.googledomains.com. ns-cloud-c3.googledomains.com. ns-cloud-c4.googledomains.com.
weddingdreamz.ga.	SOA	21600	ns-cloud-c1.googledomains.com. cloud-dns-hostmaster.google.com. 1 21600 3600 259200 300

Equivalent REST

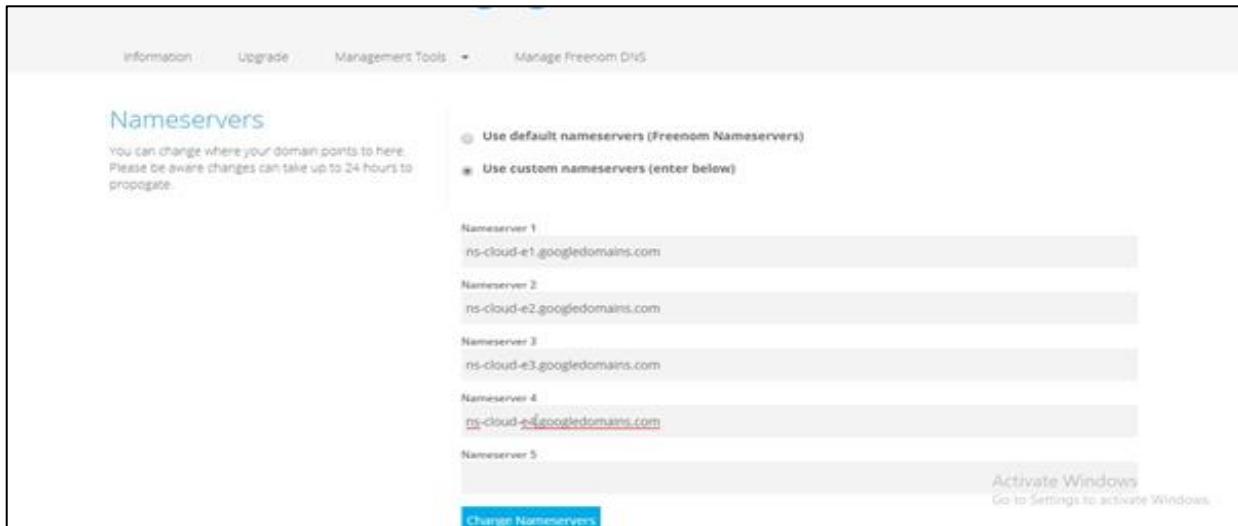
The screenshot shows the 'Create record set' interface for a static IP address. The 'DNS Name' field contains '.weddingdreamz.ga.' and the 'Resource Record Type' is set to 'A'. The 'TTL' is 5 and 'TTL Unit' is 'minutes'. The 'IPv4 Address' field contains '35.194.124.11'. A 'Create' button is visible at the bottom.

The screenshot shows the 'Create record set' interface for a CNAME record. The 'DNS Name' field contains 'www .weddingdreamz.ga.' and the 'Resource Record Type' is 'CNAME'. The 'TTL' is 5 and 'TTL Unit' is 'minutes'. The 'Canonical name' field contains 'weddingdreamz.ga'. A 'Create' button is visible at the bottom.

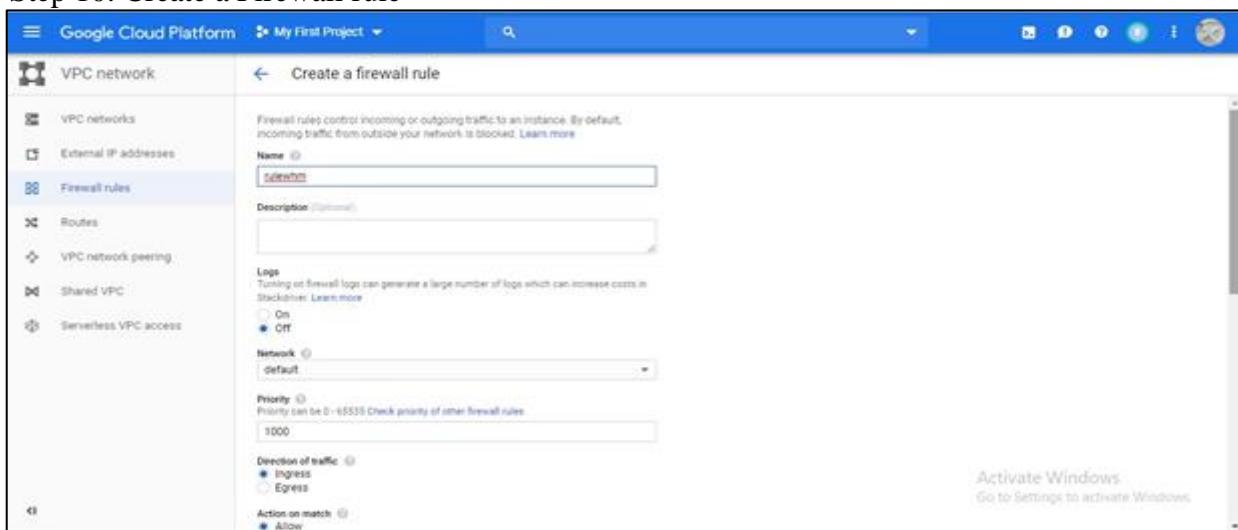
The screenshot shows the 'Zone details' page for the 'wedding-dreamz' zone. It lists several DNS records:

- A record for 'weddingdreamz.ga.' with TTL 300 and Data 35.194.124.11.
- NS records for 'weddingdreamz.ga.' with TTL 21600 and Data ns-cloud-c1.google domains, ns-cloud-c2.google domains, ns-cloud-c3.google domains, ns-cloud-c4.google domains.
- SOA record for 'weddingdreamz.ga.' with TTL 21600 and Data ns-cloud-c1.google domains, cloud-dns-hostmaster.google.com. 1 21600 3600 259200 300.
- CNAME record for 'www.weddingdreamz.ga.' with TTL 300 and Data weddingdreamz.ga.

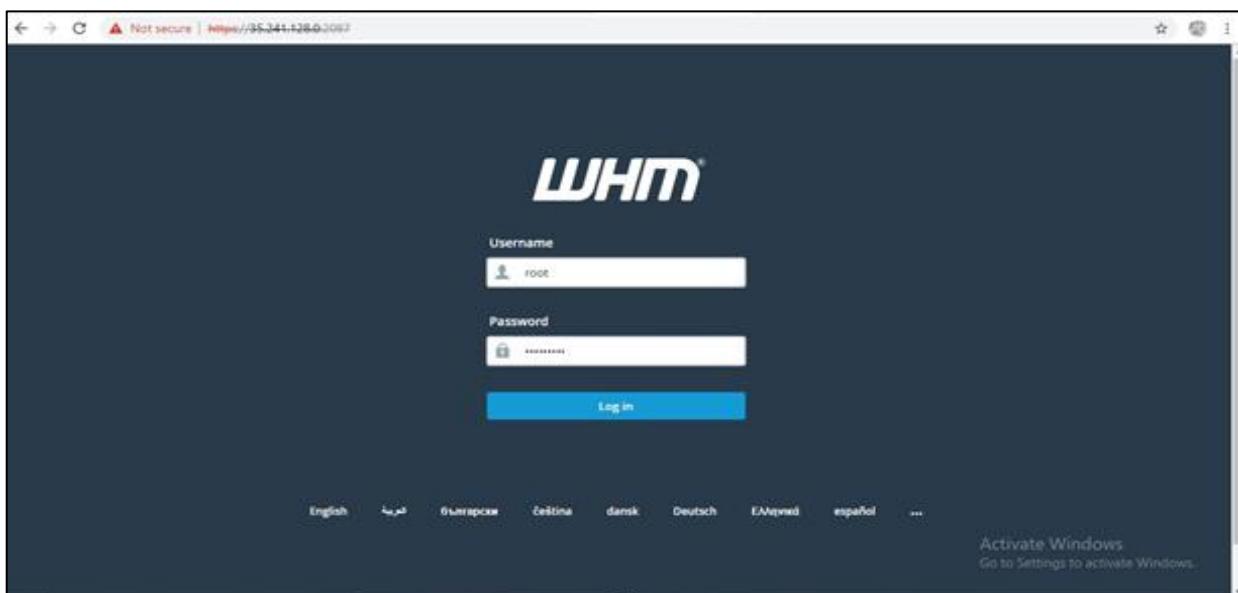
## Step 9: Enter the nameservers in the freenom



## Step 10: Create a Firewall rule

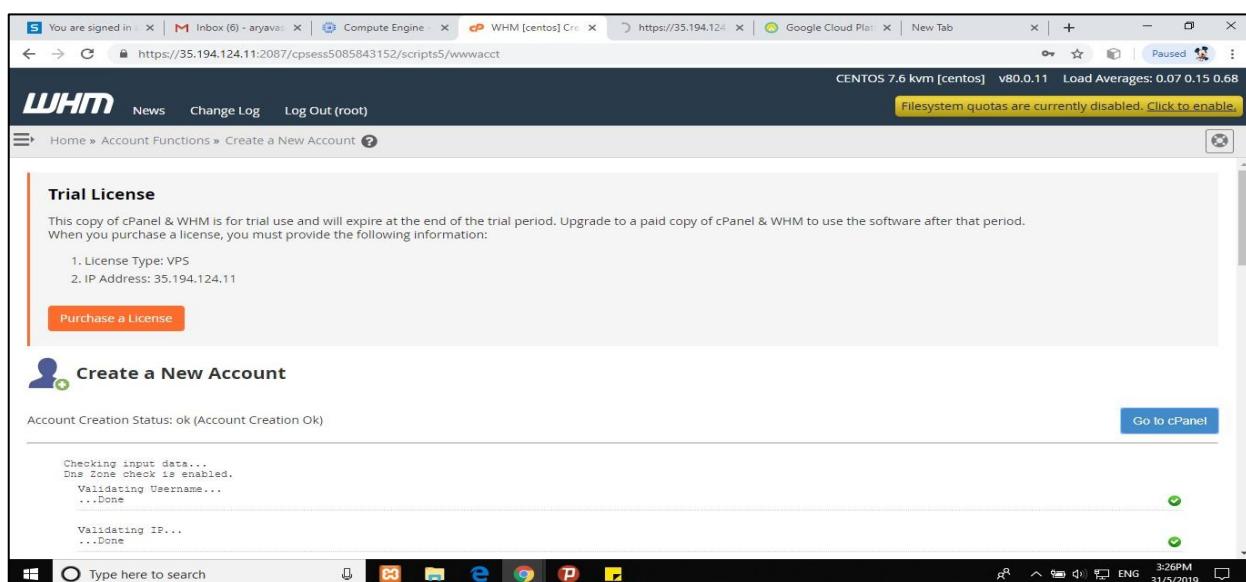
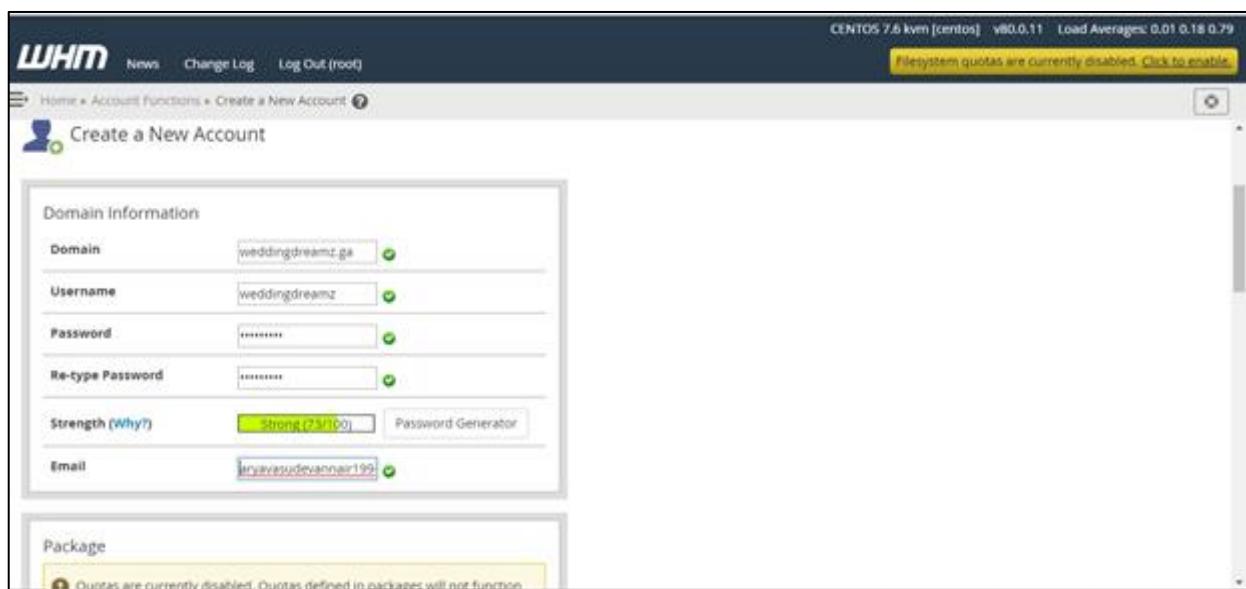


## Step11: Login to WHM using Instance Ext.IP:2087

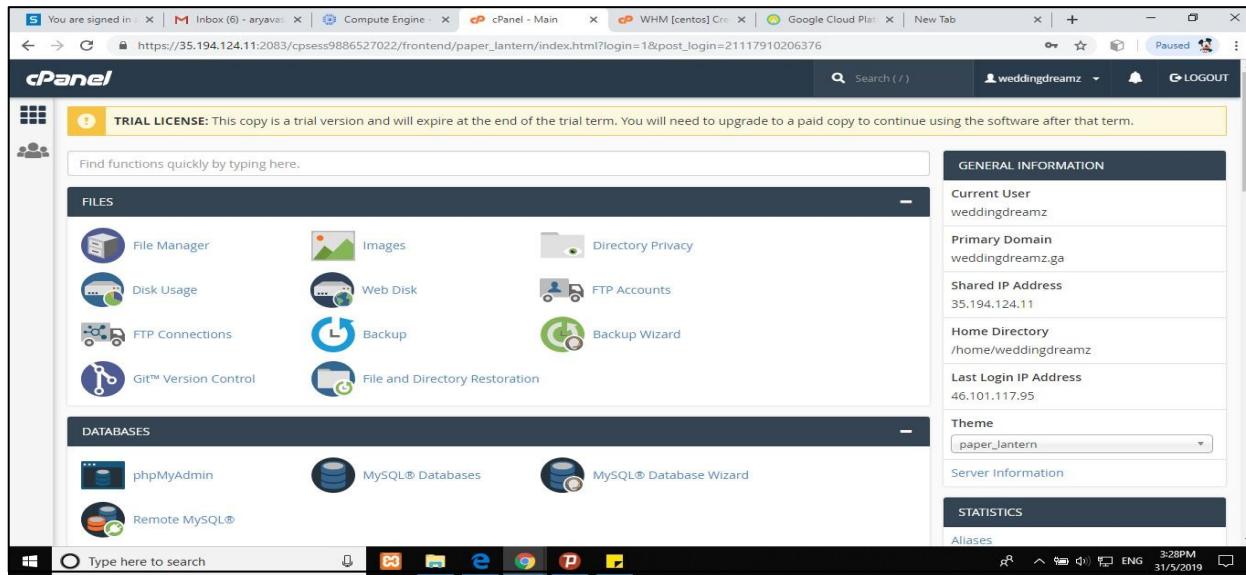




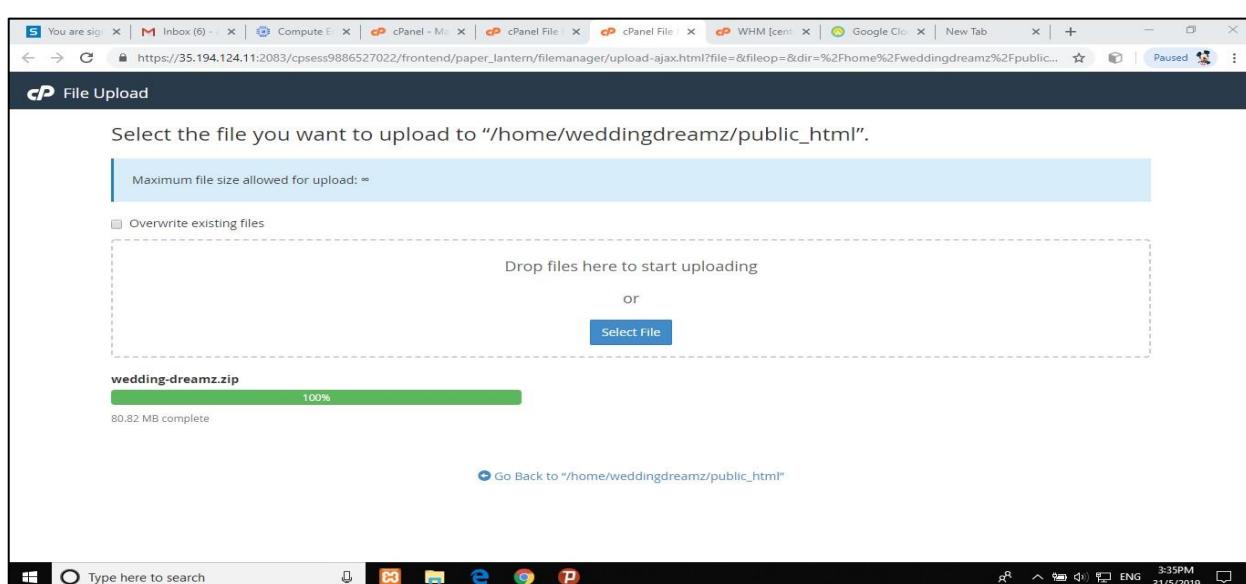
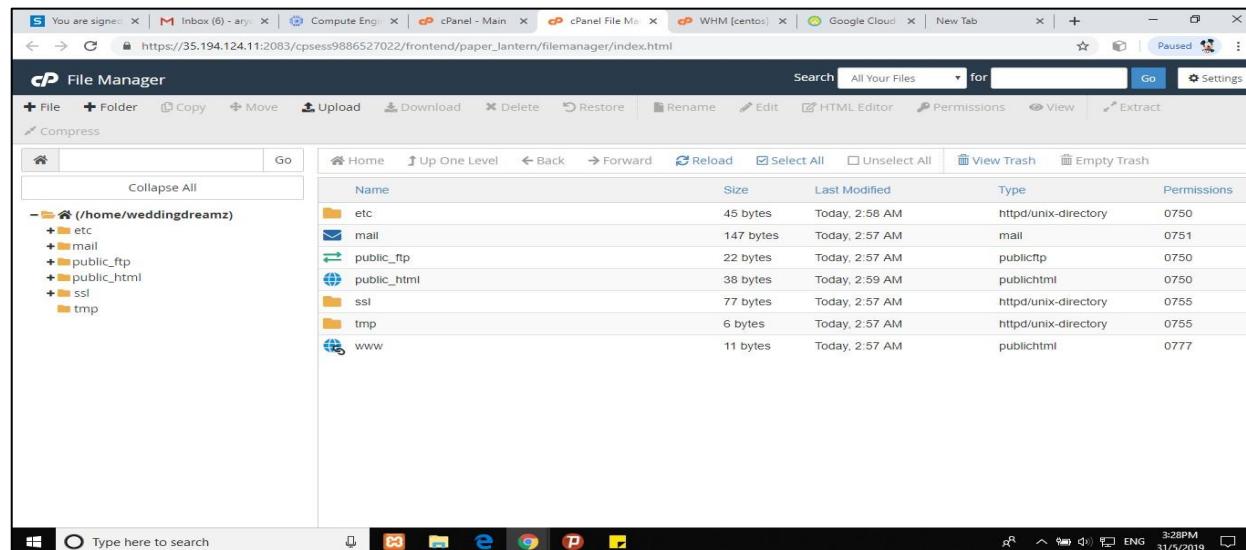
Step 12- Once you access the WHM panel, you can create a new cPanel Account cPanel. Account creation with your registered domain name



### Step 13: Select File Manager Upload Project in Public HTML



### Step 15: Open public\_html folder to store your project files



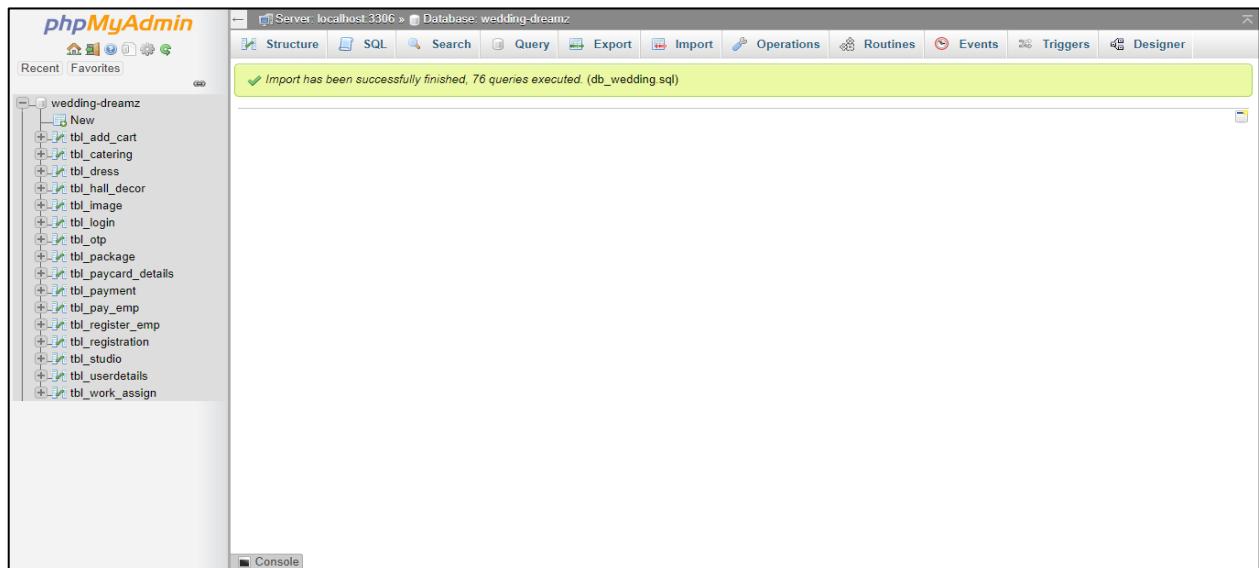
### Step 14: Connect Database go to mysql database

The screenshot shows the cPanel control panel for a domain named 'weddingdreamz'. In the 'DATABASES' section, there are three main links: 'phpMyAdmin', 'MySQL® Databases', and 'MySQL® Database Wizard'. The 'MySQL® Database Wizard' link is highlighted, indicating it is the active section.

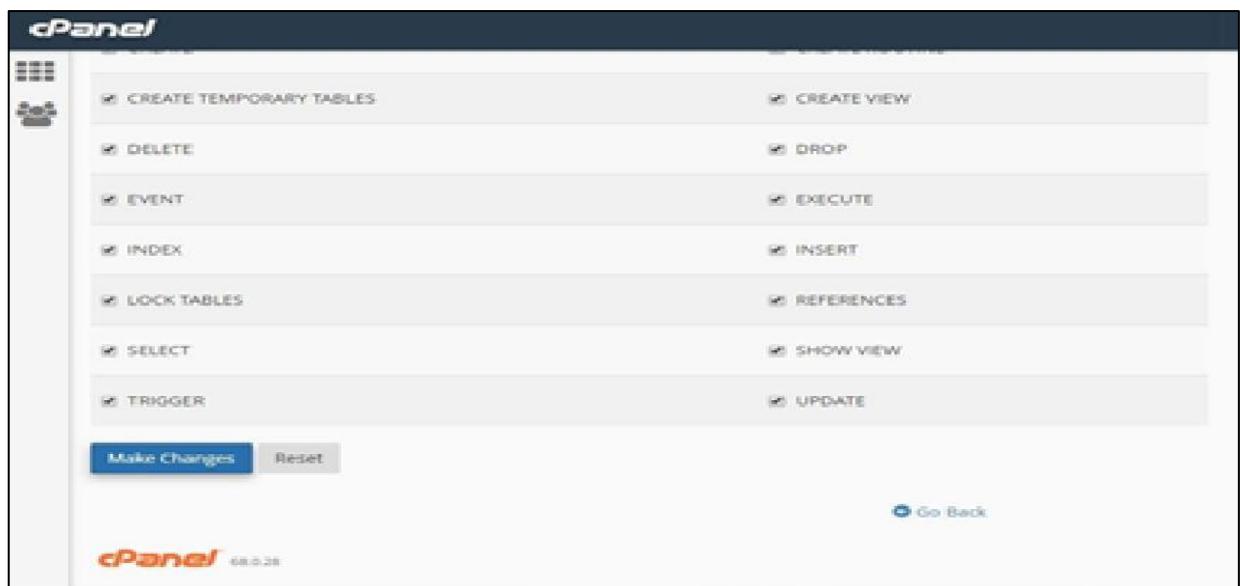
### Step 16: Create New Database

The screenshot shows the 'MySQL® Database Wizard' step 1 page. The heading is 'Step 1: Create A Database'. A text input field contains 'weddingd\_db\_wedding'. Below the input field is a note: 'Note: 54 characters max.' A blue 'Next Step' button is visible at the bottom left. At the bottom of the page, there is a footer with the cPanel logo and links to Home, Trademarks, Privacy Policy, and Documentation.

## Step 18: Upload Database File in Php myadmin



Set Data Base privileges



### 1.1.3 GOOGLE APP ENGINE

Google App Engine is a Platform as a Service (PaaS) product that provides Web app developers and enterprises with access to Google's scalable hosting and tier 1 Internet service.

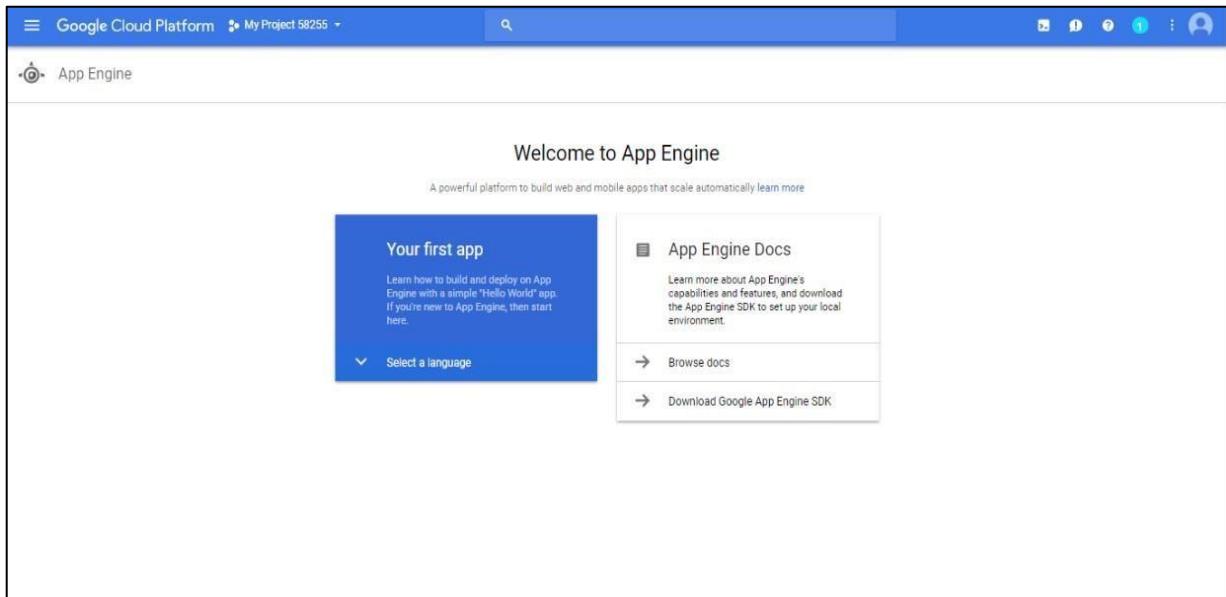
Google App Engine is Google's platform as a service offering that allows developers and businesses to build and run applications using Google's advanced infrastructure. These applications are required to be written in one of a few supported languages, namely: Java, Python, PHP and Go. It also requires the use of Google query language and that the database used is Google Big Table. Applications must abide by these standards, so applications either must be developed with GAE in mind or else modified to meet the requirements.

GAE is a platform, so it provides all of the required elements to run and host Web applications, be it on mobile or Web. Without this all-in feature, developers would have to source their own servers, database software and the APIs that would make all of them work properly together, not to mention the entire configuration that must be done. GAE takes this burden off the developers so they can concentrate on the app front end and functionality, driving better user experience.

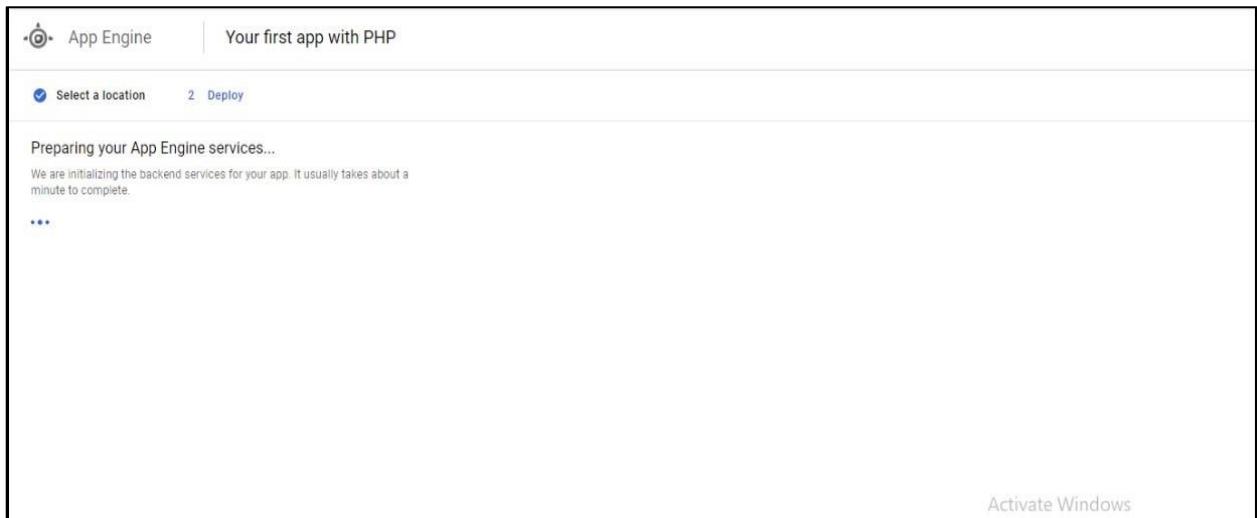
Advantages of GAE include:

- Readily available servers with no configuration requirement
- Power scaling function all the way down to "free" when resource usage is minimal
- Automated cloud computing tools

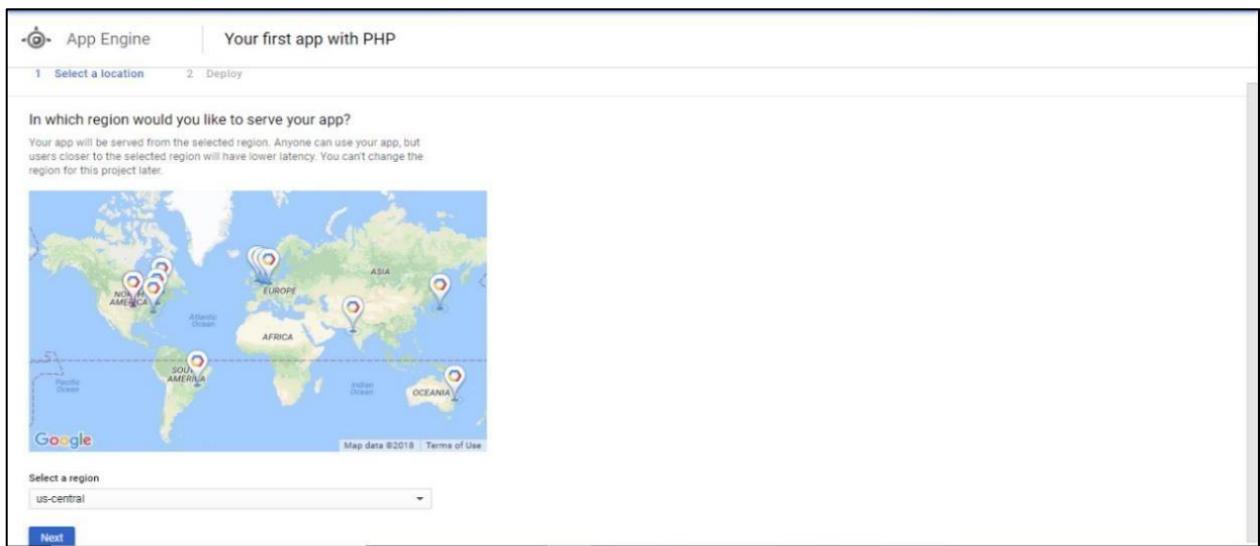
#### Step 1- Starting App Engine



## Step 2- Choosing language (Php)



## Step 3: Choose the region



App Engine Quickstart

**Introduction**

This tutorial shows you how to deploy a sample PHP application to Google App Engine using the `gcloud` command.

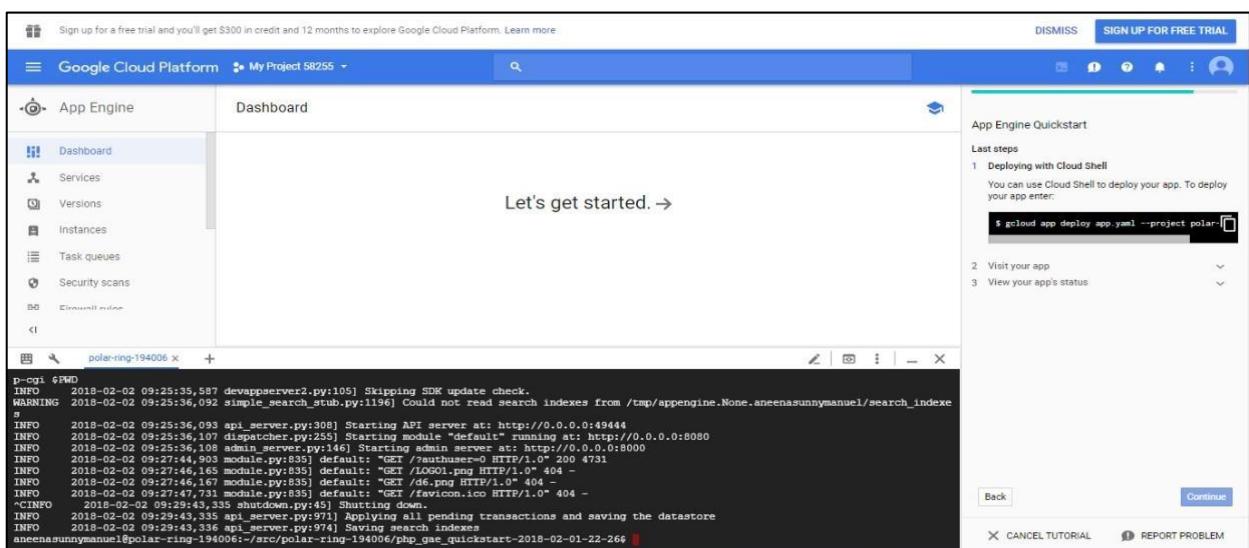
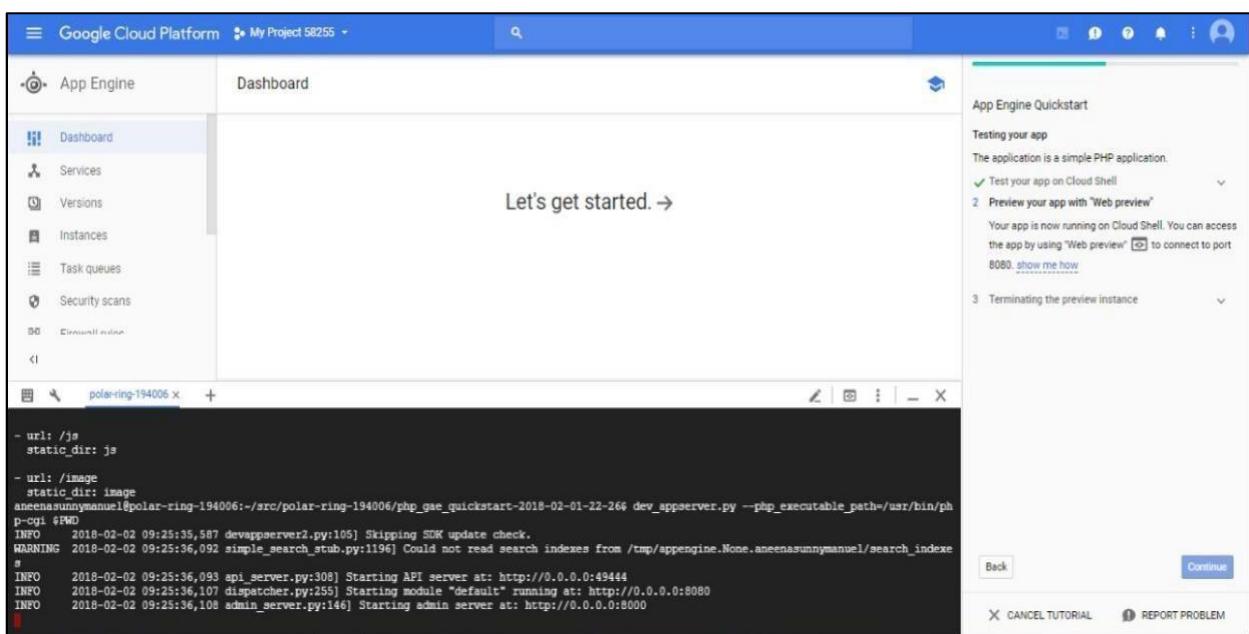
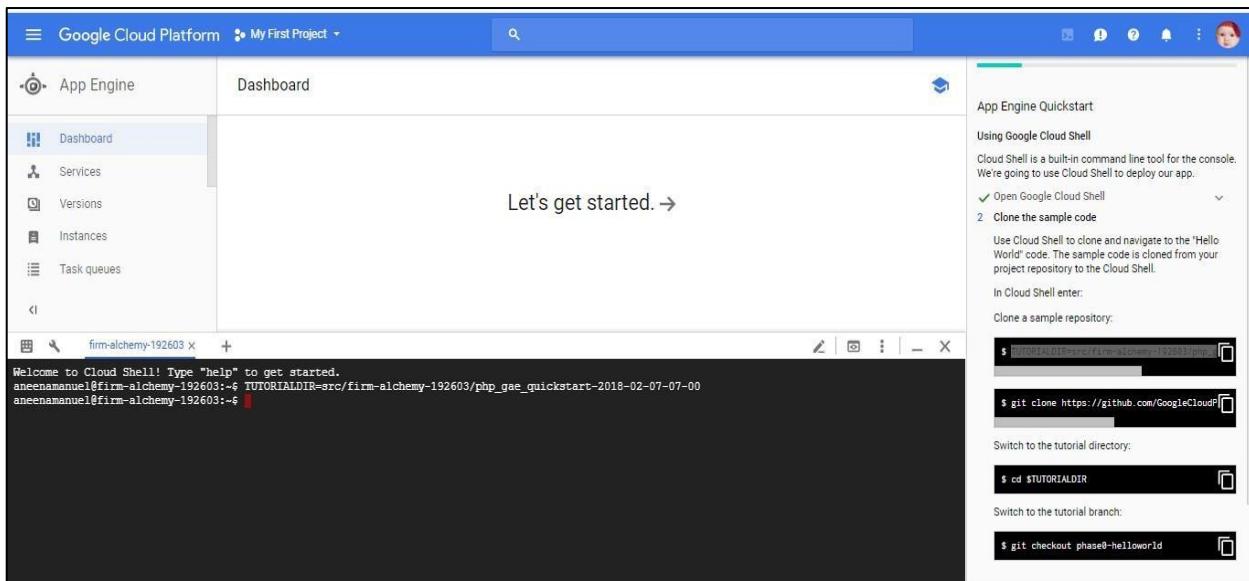
Here are the steps you will be taking:

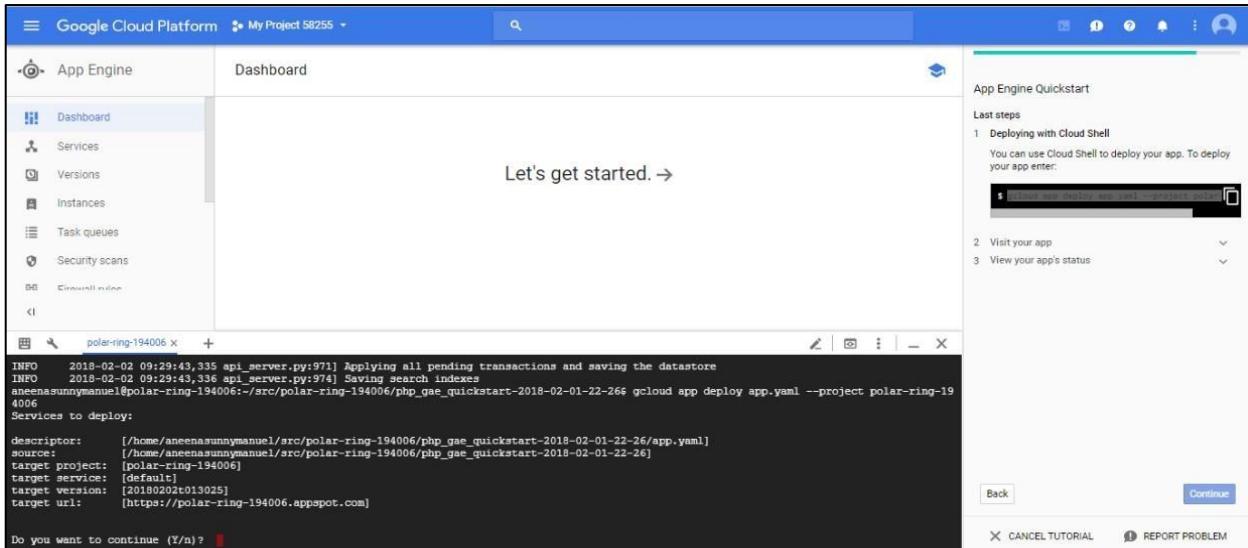
- Build and run your "Hello, world!" app  
You will learn how to run your app using Google Cloud Shell, right in your browser. At the end you'll deploy your app to the web using the `gcloud` command.
- After the app...  
Your app will be real and you'll be able to experiment with it after you deploy, or you can remove it and start fresh.

Learn more about PHP and the PHP logo at [php.net](http://php.net).

**Continue**

X CANCEL TUTORIAL Activate Windows REPORT PROBLEM



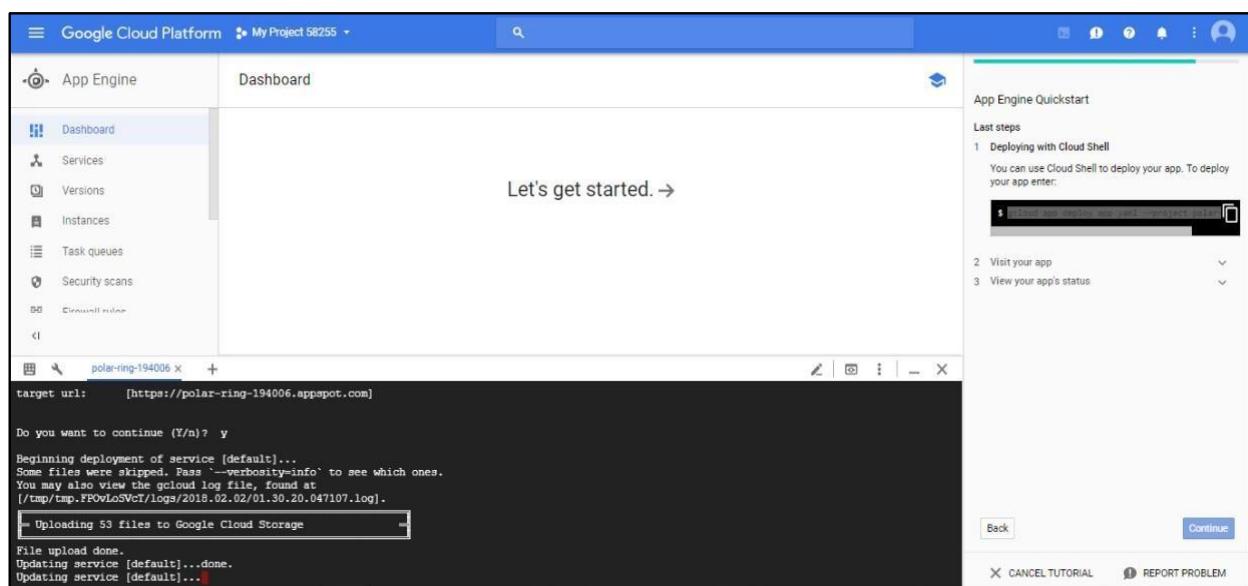


```

INFO 2018-02-02 09:29:43,335 api_server.py:971] Applying all pending transactions and saving the datastore
INFO 2018-02-02 09:29:43,336 api_server.py:974] Saving search indexes
aneenasunnymanuel@polar-ring-194006:~/src/polar-ring-194006$ gcloud app deploy app.yaml --project polar-ring-194006
Services to deploy:
descriptor: [/home/aneenasunnymanuel/src/polar-ring-194006/php_gae_quickstart-2018-02-01-22-26/app.yaml]
source: [/home/aneenasunnymanuel/src/polar-ring-194006/php_gae_quickstart-2018-02-01-22-26]
target project: [polar-ring-194006]
target service: [default]
target version: [20180202t013025]
target url: [https://polar-ring-194006.appspot.com]

Do you want to continue (Y/n)? 

```

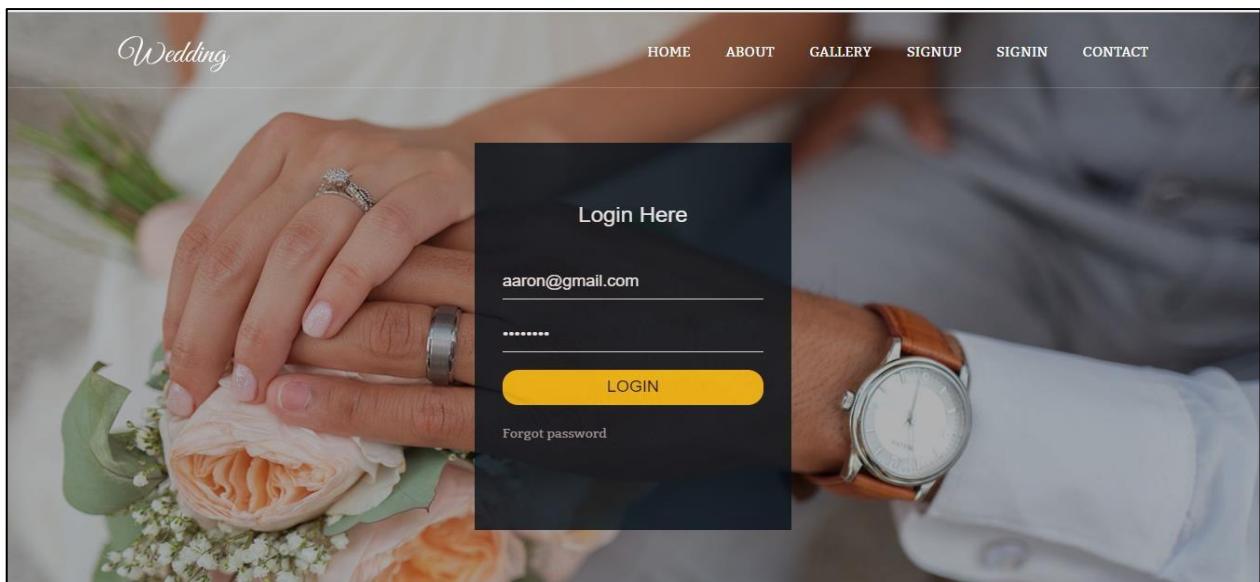
```

target url: [https://polar-ring-194006.appspot.com]

Do you want to continue (Y/n)? y
Beginning deployment of service [default]...
Some files were skipped. Pass '--verbosity=info' to see which ones.
You may also view the gcloud log file, found at
(/tmp/tmp.FP0vLoSVcI/logs/2018.02.02/01.30.20.047107.log).
Uploading 53 files to Google Cloud Storage
File upload done.
Updating service [default]...done.
Updating service [default]...

```

Website successfully hosted in Google App Engine



## 1.1.4 CLOUD LAUNCHER

Google Cloud Launcher lets you quickly deploy functional software packages that run on Google Cloud Platform. Even if you are unfamiliar with services like Compute Engine or Cloud Storage, you can easily start up a familiar software package without having to manually configure the software, virtual machine instances, storage, or network settings. Deploy a software package now, and scale that deployment later when your applications require additional capacity. Google Cloud Platform updates the images for these software packages to fix critical issues and vulnerabilities but doesn't update software that you have already deployed.

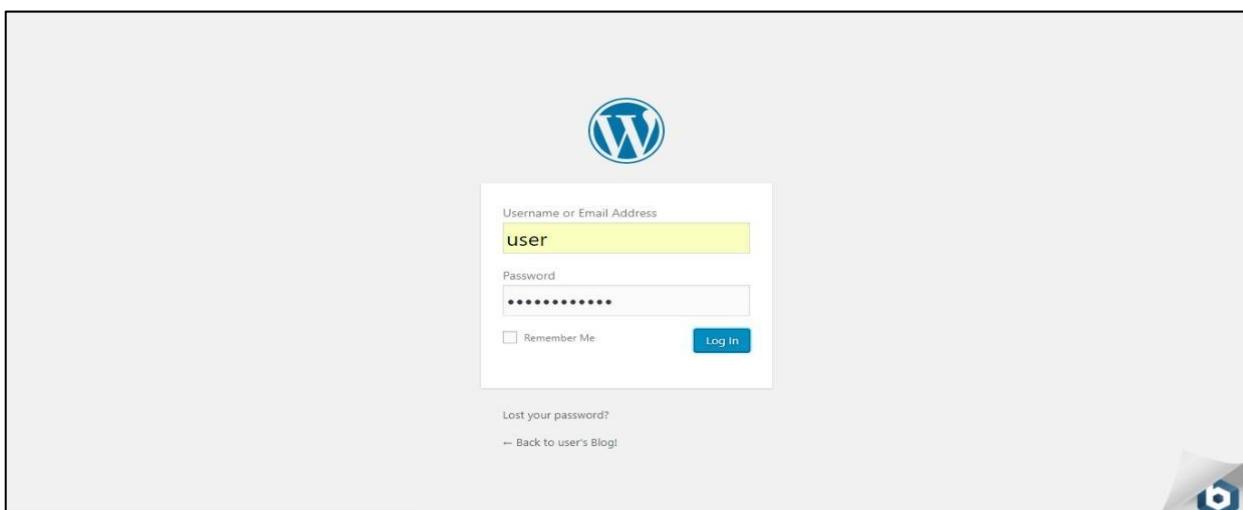
Step 1- Move to Cloud Launcher and select wordpress

The screenshot shows the Google Cloud Platform Cloud Launcher interface. At the top, there's a banner with the text "Explore, launch, and manage solutions in just a few clicks" and a search bar labeled "Search for solutions". On the left, there are filters for "Your solutions" and "Filter by" categories such as Virtual machines, APIs & services, Containers, Datasets, Operating systems, Developer stacks, and Networking. In the center, there are four featured solutions: SAP HANA, express edition (server + applications) by SAP; Traffic Manager Enterprise Edition & WAF - 1 Gbps by Pulse Secure, LLC; Secured SQL Server 2016 Enterprise on Windows Server 2016 by Cognosys Inc.; and Hardened SQL Server 2016 Enterprise by Type Virtual machines. On the right, there's a sidebar titled "App Engine Quickstart" with steps for deploying with Cloud Shell, visiting the app, and viewing its status.

The screenshot shows the details page for "WordPress Certified by Bitnami" in the Google Cloud Platform Cloud Launcher. The page includes a Bitnami logo, estimated costs (\$14.20/month), and a "LAUNCH ON COMPUTE ENGINE" button. Below this, there's an "Overview" section with a detailed description of WordPress and its features. On the left, there are sections for "Runs on" (Google Compute Engine), "Type" (Virtual machines, Single VM), "Last updated" (1/31/18, 6:00 AM), and "Category" (Blog & CMS). The URL at the bottom is https://console.cloud.google.com/home/dashboard?project=healthy-highway-193805.

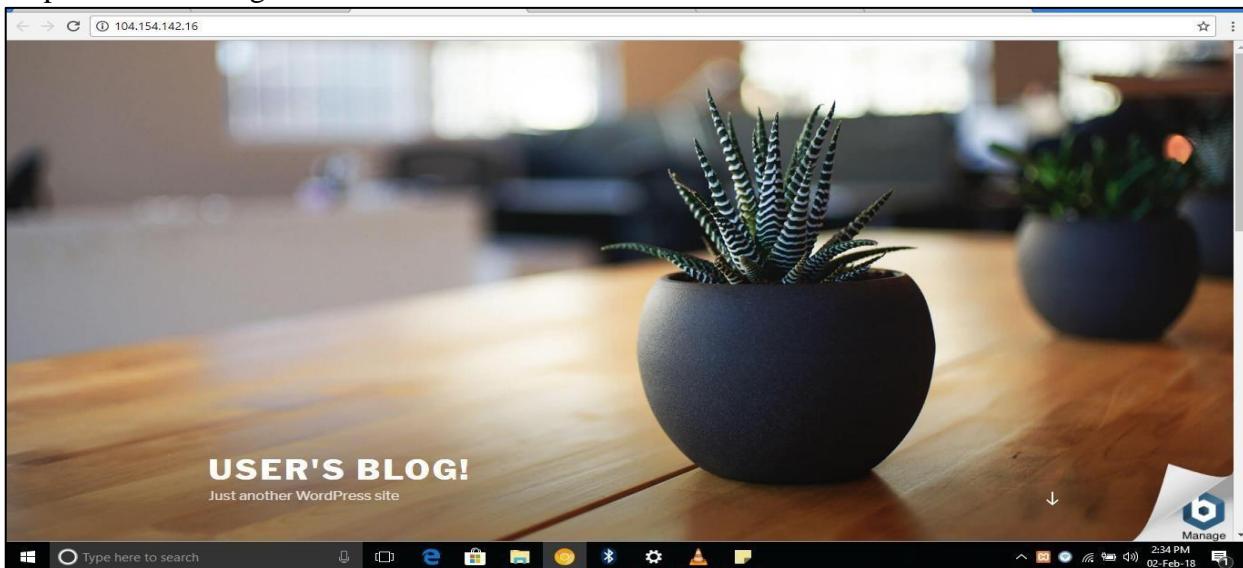
## Step 2- Deploying Wordpress

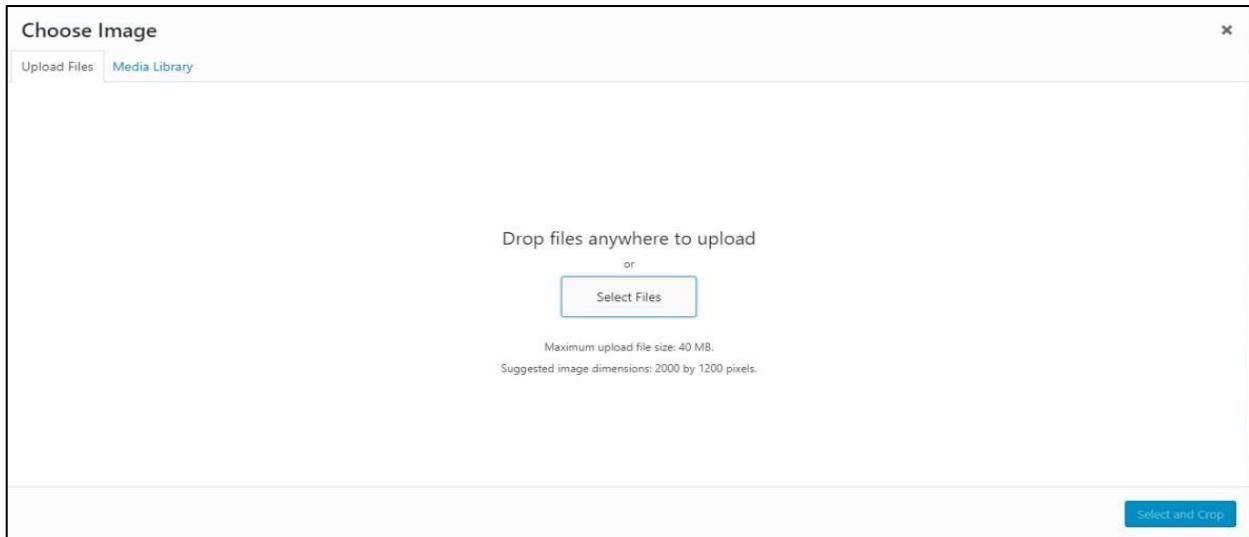
## Step 3- Setting username and password



## Step 4- Logging to WordPress

## Step 5- Customizing websites





## 1.1.5 WEB HOST MANAGEMENT TOOLS

### 1.1.5.1 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 going down 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.

### **1.1.5.1 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 are numerous tools within cPanel to handle a wide variety of tasks. It contains a full help menu that is easy to use.

### **1.1.5.3 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.

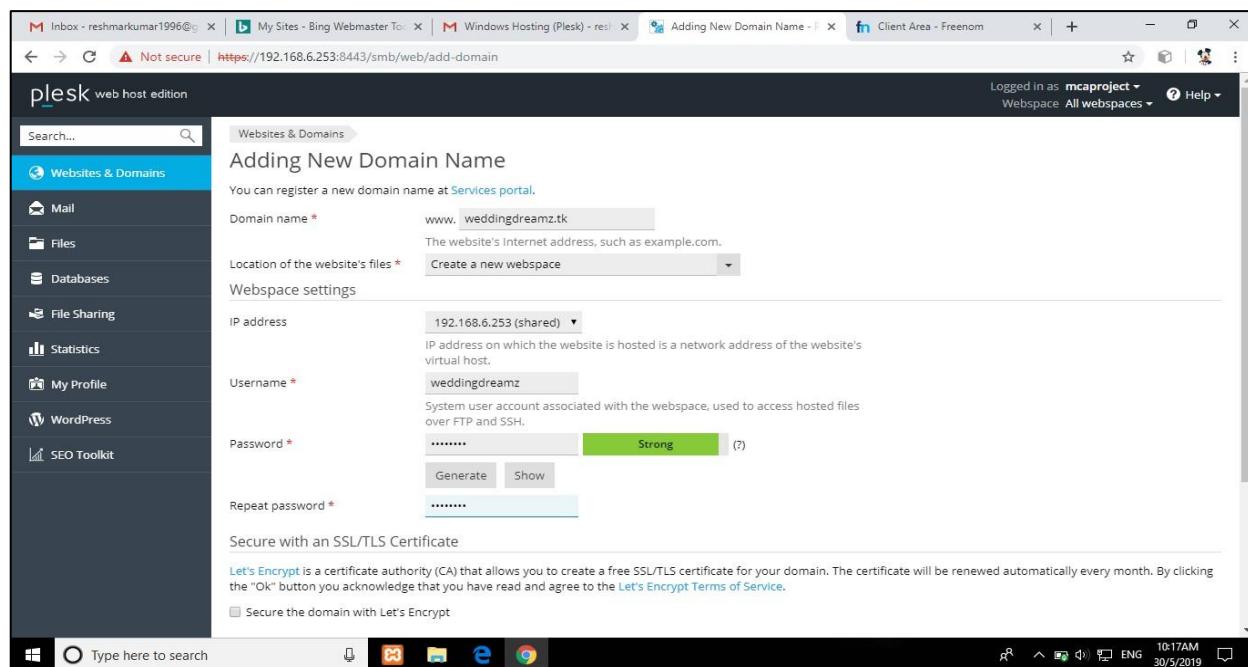
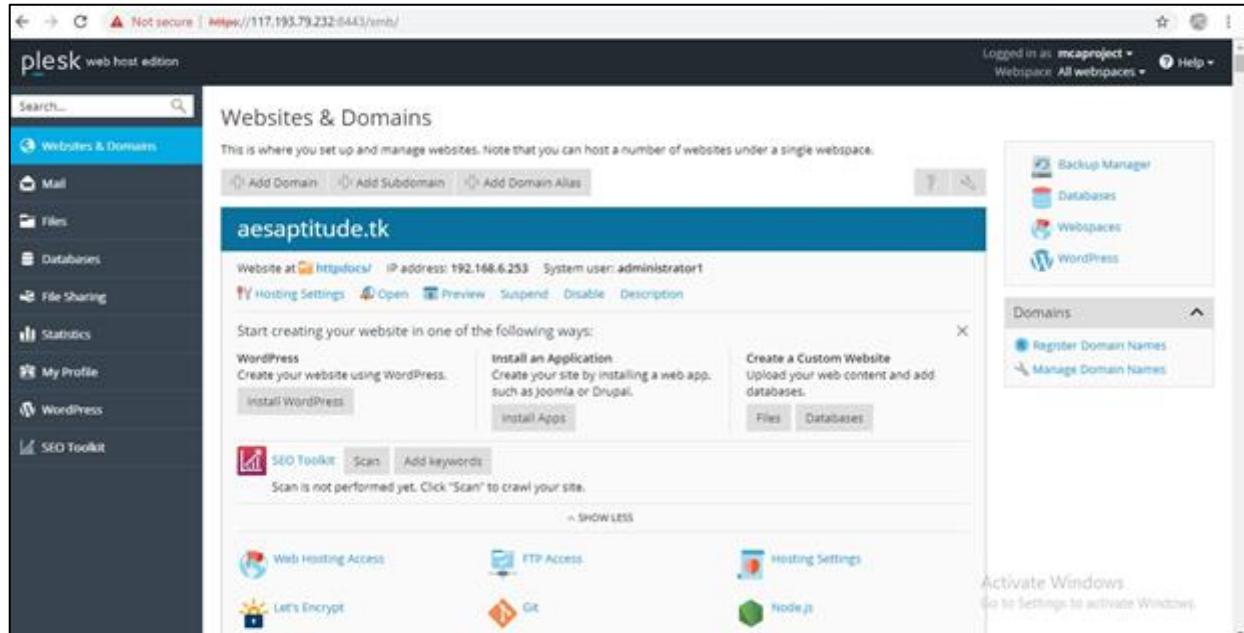
### 1.1.5.3.1 Implementation

Step 1: Deploy Plesk panel on your system.

Step 2: 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.



Step 3: Once you successfully logged in, you have to configure the web host, such as how you will use the product, user interface and etc. On the next step, you have to enter the hostname, if you already have a hostname use that one or add a new domain.



Step 4: Create a webspace and upload your project zip folder. Then extract the zip folder.

The screenshot shows the Plesk File Manager interface. On the left sidebar, under 'File Manager', the 'httpdocs' folder is selected. The main pane displays the contents of the 'httpdocs' folder, which includes subfolders like 'html', 'images', 'js', 'mails', 'user', and several PHP files such as 'about.php', 'conn.php', 'contact.php', 'gallery.php', 'index.php', 'logout.php', 'register.php', and 'signin.php'. The status bar at the bottom right indicates the date and time as 30/5/2019 10:29AM.

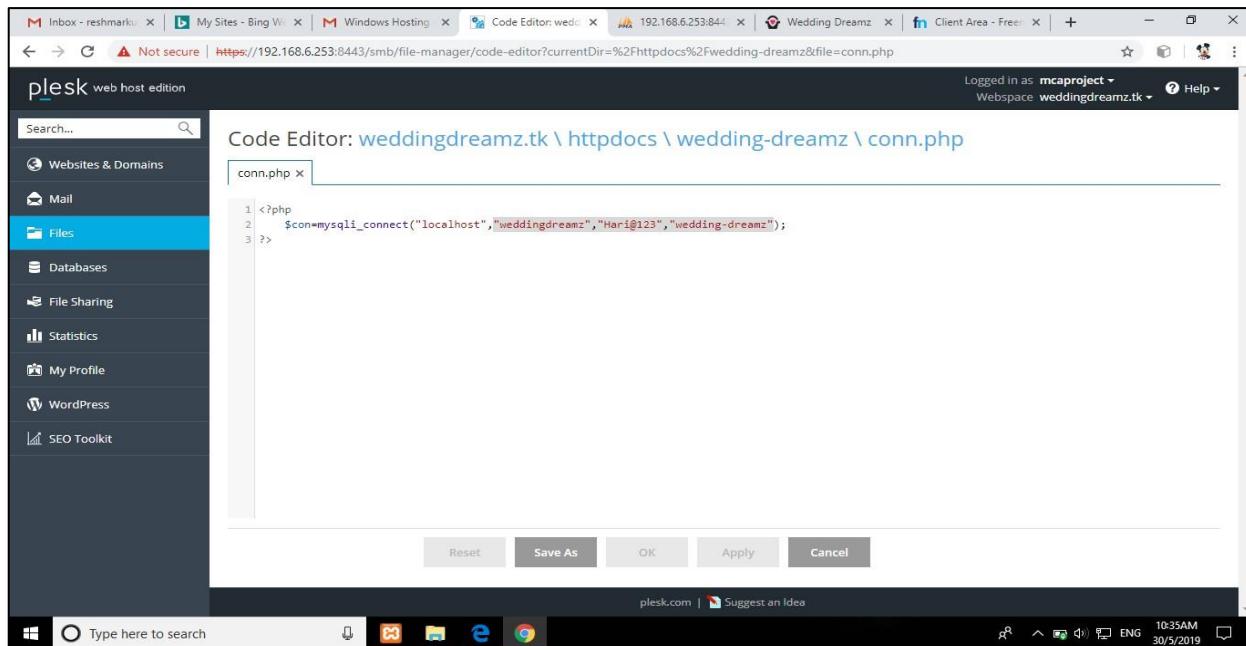
Step 5: Add database to the project

The screenshot shows the Plesk Databases page. A green success message at the top states 'Information: The database wedding-dreamz was created.' Below this, the 'wedding-dreamz' database is listed with the following details: Host: localhost:3306 (MySQL), Users: weddingdreamz, Tables: 0, Size: 0 B. To the right of the database list are links for User Management and Backup Manager. The status bar at the bottom right indicates the date and time as 30/5/2019 10:30AM.

Step 6: Import database

The screenshot shows the phpMyAdmin interface for the 'wedding-dreamz' database. The left sidebar lists tables such as 'tbl\_add\_cart', 'tbl\_catering', 'tbl\_dress', 'tbl\_half\_decor', 'tbl\_image', 'tbl\_login', 'tbl\_otp', 'tbl\_package', 'tbl\_paycard\_details', 'tbl\_payment', 'tbl\_pay\_emp', 'tbl\_register\_emp', 'tbl\_registration', 'tbl\_studio', 'tbl\_userdetails', and 'tbl\_work\_assign'. The main pane displays the table structure for 'tbl\_add\_cart', including columns like 'id', 'product\_id', 'category\_id', 'size\_id', 'color\_id', 'quantity', 'price', 'status', and 'date\_added'. The status bar at the bottom right indicates the date and time as 30/5/2019 10:33AM.

## Step7: Edit Database connection page inside the project

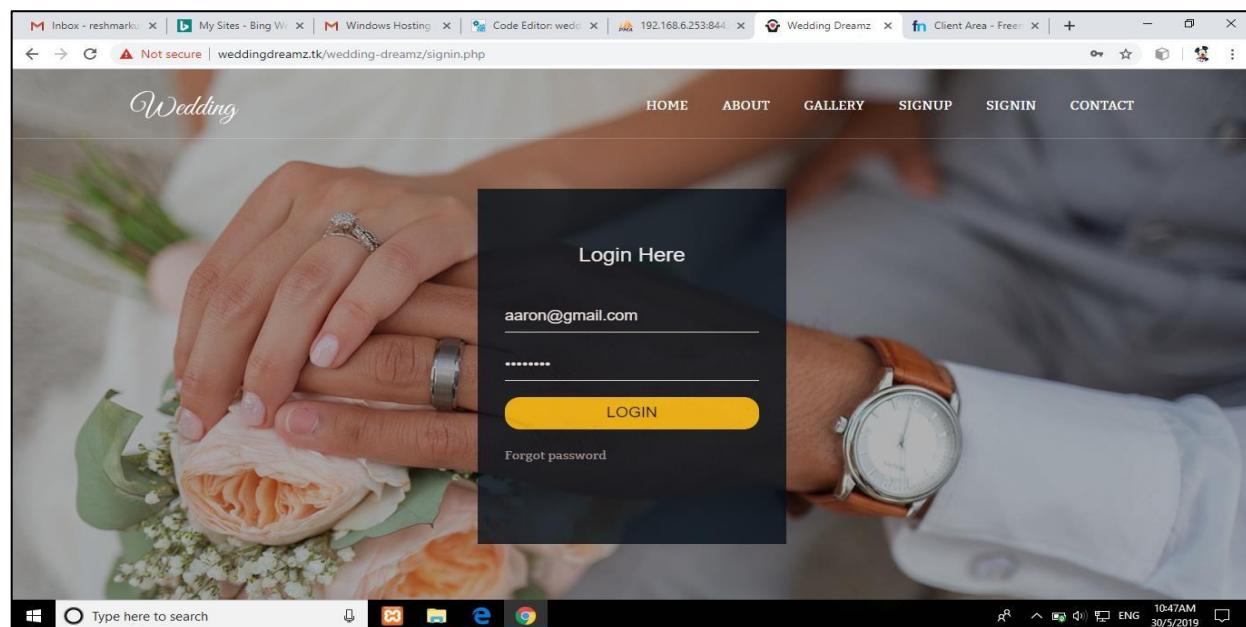


The screenshot shows the Plesk web host edition interface. On the left, there's a sidebar with various options like Websites & Domains, Mail, Files (which is selected), Databases, File Sharing, Statistics, My Profile, WordPress, and SEO Toolkit. The main area is titled "Code Editor: weddingdreamz.tk \ httpdocs \ wedding-dreamz \ conn.php". It contains the following PHP code:

```
1 <?php
2 $con=mysqli_connect("localhost","weddingdreamz","Hari@123","wedding-dreamz");
3 ?>
```

Below the code are buttons for Reset, Save As, OK, Apply, and Cancel.

Finally, site hosted



## 1.2 AMAZON WEB SERVICES CLOUD (AWS)

### 1.2.1 Introduction Amazon Web Services Cloud

Amazon Web Services (AWS) is a secure cloud service platform, offering compute power, database storage, content delivery and other functionality to help businesses scale and grow. Amazon Web Services (AWS) is a comprehensive, evolving cloud computing platform provided by Amazon. It provides a mix of infrastructure as a service (IaaS), Platform as a Service (PaaS) and packaged software as a service (SaaS) offerings. Amazon Web Services provides services from dozens of data centers spread across availability zones (AZs) in regions across the world.

Step 1: Create an Amazon web service account

The screenshot shows the official AWS website homepage. At the top, there's a navigation bar with links for 'Menu', 'aws' logo, 'Contact Sales', 'Products', 'Solutions', 'Pricing', 'Getting Started', 'More', 'English', 'My Account', and a prominent yellow 'Create an AWS Account' button. Below the navigation, there's a search bar labeled 'Explore AWS solutions and products'. A banner for 'AWS INNOVATE ONLINE CONFERENCE 2018' is displayed, featuring the date '22 February 2018' and a 'Sign up now' link. To the right of the banner is a call-to-action for 'Get Started with AWS for Free' with a 'Create a Free Account' button. Below the banner, there are four promotional cards: 'MACHINE LEARNING ON AWS' (with a hand pointing at a document icon), 'INTRODUCING AMAZON TRANSCRIBE' (with a speech bubble and checkmark icon), 'AMAZON AURORA' (with a database icon), and 'AWS TECHCHAT' (with a headphones and cube icon). Each card has a brief description and a 'View Details' link.

Step2: Creating an AWS account

The screenshot shows the 'Create an AWS account' page. At the top, there's a header with the 'aws' logo and a language selection dropdown set to 'English'. The main section is titled 'Create an AWS account'. It contains several input fields: 'Email address' (with a red asterisk indicating it's required), 'Password', 'Confirm password', and 'AWS account name'. Below these fields is a 'Continue' button. At the bottom of the form, there's a link to 'Sign in to an existing AWS account'. Small fine print at the very bottom includes copyright information for Amazon Web Services, Inc. and links to 'Privacy Policy' and 'Terms of Use'.

## Step 3: Selecting basic plan

**Select a Support Plan**

AWS offers a selection of support plans to meet your needs. Choose the support plan that best aligns with your AWS usage. [Learn more](#)

Basic Plan	Developer Plan	Business Plan
<b>Free</b>	From \$29/month	From \$100/month
<ul style="list-style-type: none"> <li>Included with all accounts</li> <li>24/7 self-service access to forums and resources</li> <li>Best practice checks to help improve security and performance</li> <li>Access to health status and notifications</li> </ul>	<ul style="list-style-type: none"> <li>For early adoption, testing and development</li> <li>Email access to AWS Support during business hours</li> <li>1 primary contact can open an unlimited number of support cases</li> <li>12-hour response time for nonproduction systems</li> </ul>	<ul style="list-style-type: none"> <li>For production workloads &amp; business-critical dependencies</li> <li>24/7 chat, phone, and email access to AWS Support</li> <li>Unlimited contacts can open an unlimited number of support cases</li> <li>1-hour response time for production systems</li> </ul>

## Step 4: Log on to the AWS account

My role is: **Student**

I am interested in: **Websites and Web Apps**

Submit

Try AWS with a 10-Minute Tutorial

Launch a Linux Virtual Machine

Store Your Files in the Cloud

Launch a WordPress Website

Launch a Web Application

[View all tutorials >>](#)

**AWS services**

Find a service by name or feature (for example, EC2, S3 or VM, storage)

Recently visited services

All services

**Build a solution**

Get started with simple wizards and automated workflows.

Launch a virtual machine With EC2 or Lightsail ~1-2 minutes	Build a web app With Elastic Beanstalk ~6 minutes	Host a static website With S3, CloudFront, Route 53 ~3 minutes
Connect an IoT device With AWS IoT ~5 minutes	Start a development project With CodeStar ~5 minutes	Register a domain With Route 53 ~3 minutes

See more

**Learn to build**

Learn to deploy your solutions through step-by-step guides, labs, and videos.

**Helpful tips**

**Manage your costs**  
Get real-time billing alerts based on your cost and usage budgets. [Start now](#)

**Create an organization**  
Use AWS Organizations for policy-based management of multiple AWS accounts. [Start now](#)

**Explore AWS**

**Amazon Relational Database Service (RDS)**  
RDS manages and scales your database for you. RDS supports Aurora, MySQL, PostgreSQL, MariaDB, Oracle, and SQL Server. [Learn more](#)

**Real-Time Analytics with Amazon Kinesis**  
Stream and analyze real-time data, so you can get timely insights and react quickly. [Learn more](#)

## Step 6: Upload a sample php file

The screenshot shows the AWS Elastic Beanstalk console for the 'SampleApp' environment. The main dashboard displays a green 'OK' status icon. Below it, there's a section for 'Recent Events' with three entries:

Time	Type	Details
2019-05-03 15:01:31 UTC+0530	INFO	Environment health has transitioned from Pending to Ok. Initialization completed 19 seconds ago and took 2 minutes.
2019-05-03 15:00:47 UTC+0530	INFO	Successfully launched environment: Sampleapp-env
2019-05-03 15:00:47 UTC+0530	INFO	Application available at Sampleapp-env.jpsvtb8rym.us-east-2.elasticbeanstalk.com Go to Settings to activate Windows.

### 1.2.2 AMAZON ELASTIC COMPUTE CLOUD (EC2)

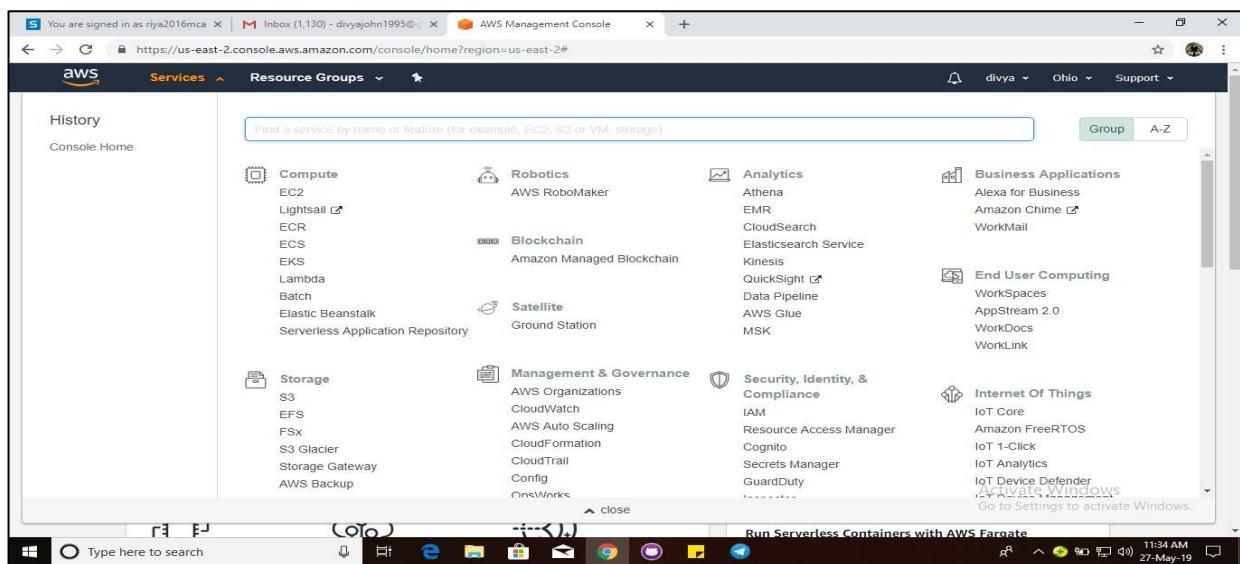
Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud. It is designed to make web-scale cloud computing easier for developers.

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.

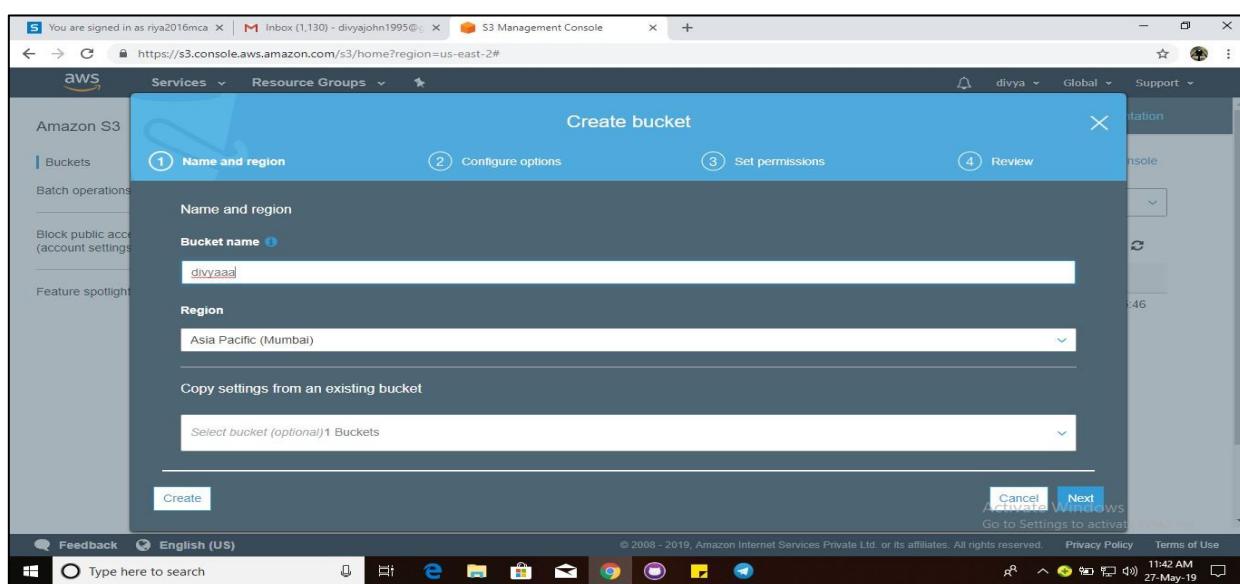
### 1.2.3 AMAZON SIMPLE STORAGE SERVICE (S3)

Amazon Simple Storage Service is a scalable, high-speed, low-cost, web-based cloud storage service designed for online backup and archiving of data and application programs. Amazon S3 (Simple Storage Service) is a web service offered by Amazon Web Services. S3 provides scalable object storage for data backup, archival and analytics. An IT professional stored data and files as S3 buckets to keep them organized. A bucket is a logical unit of storage in Amazon Web Services (AWS) object storage service, Simple Storage Solutions. Buckets are used to store objects, which consist of data and metadata that describes the data.

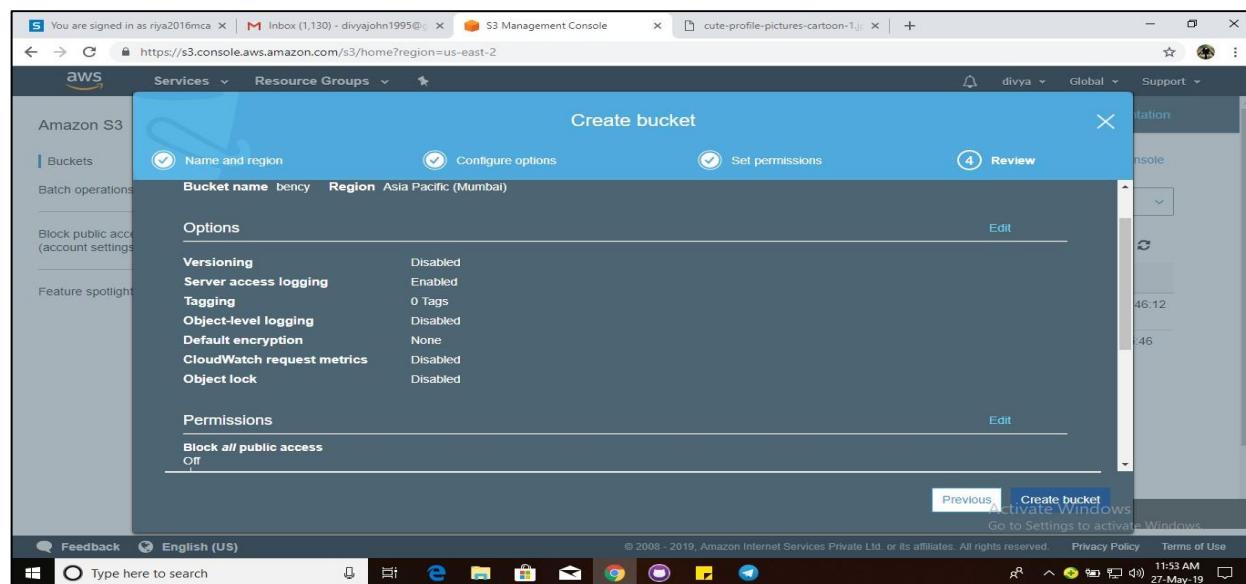
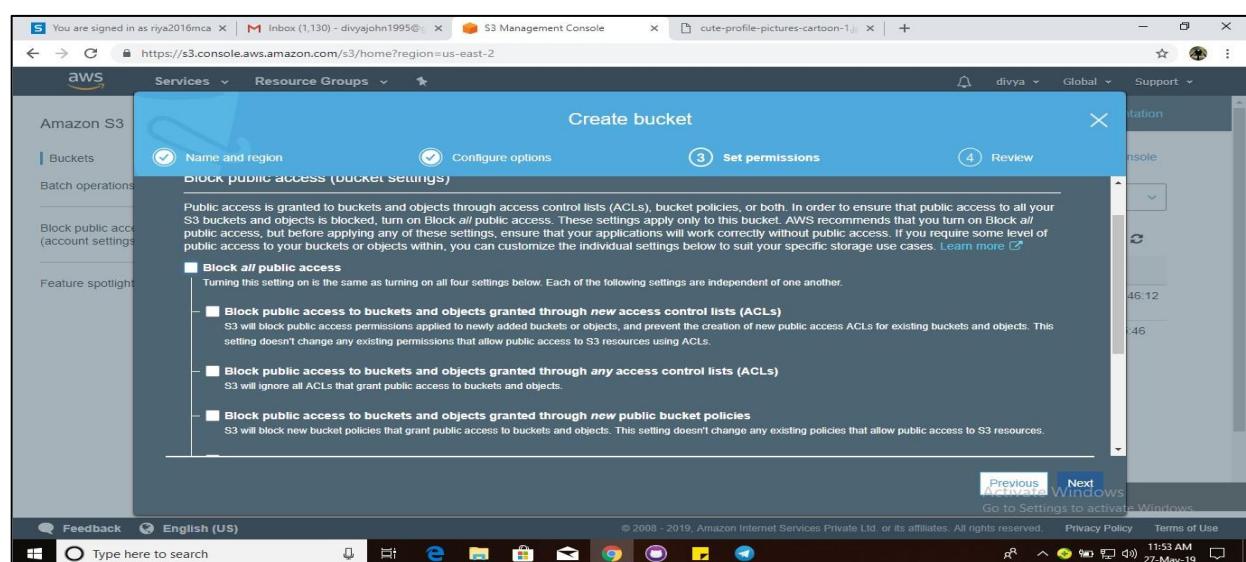
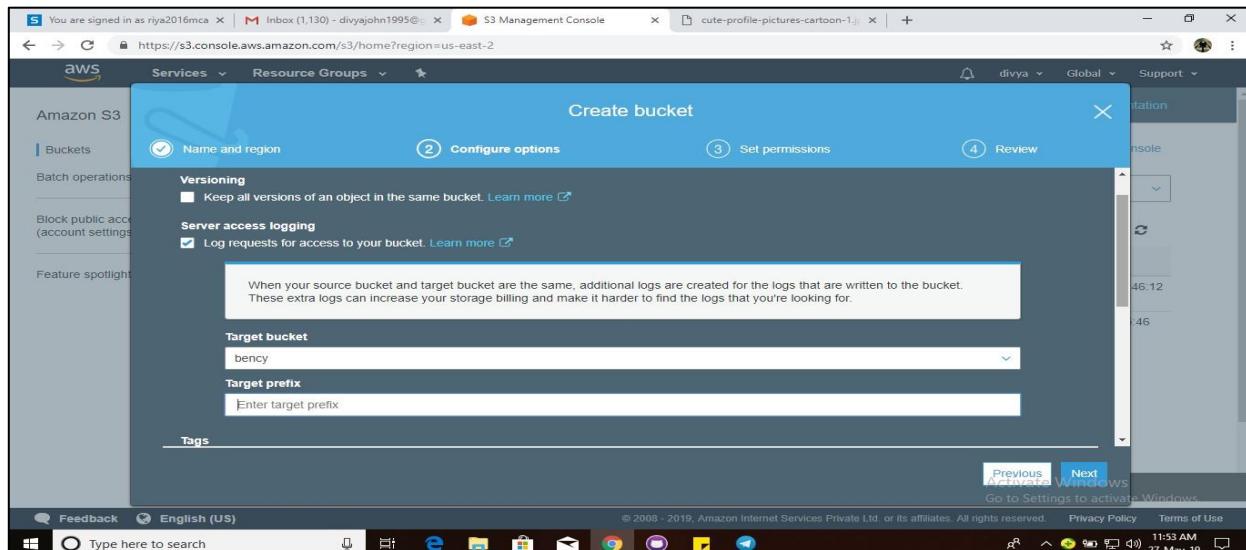
#### Step 1: Select S3 from storage



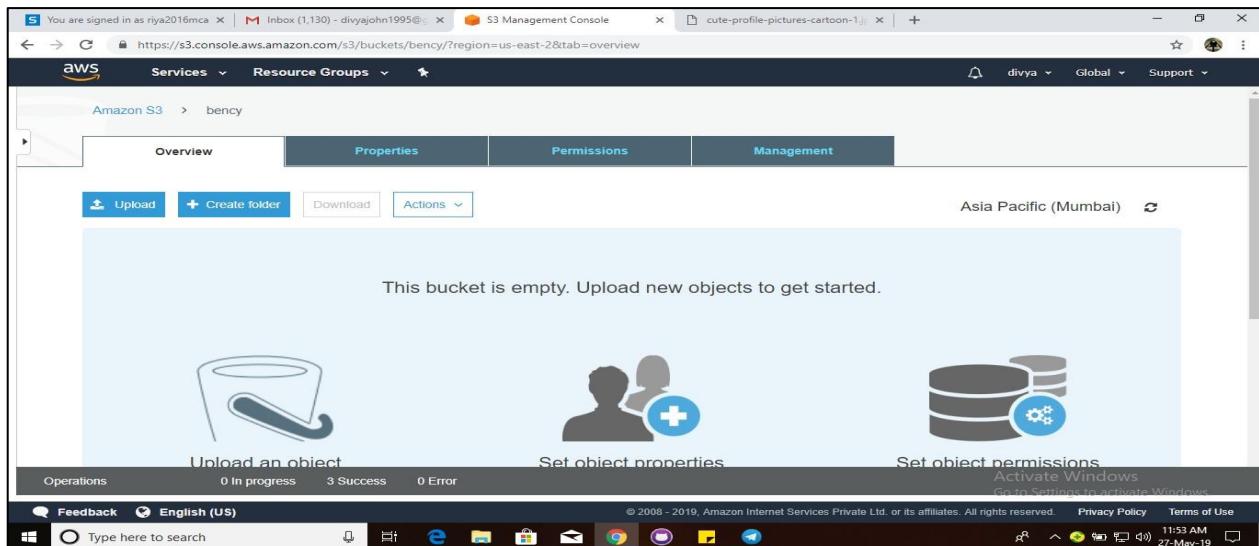
#### Step 2: Create a bucket and fill name and region



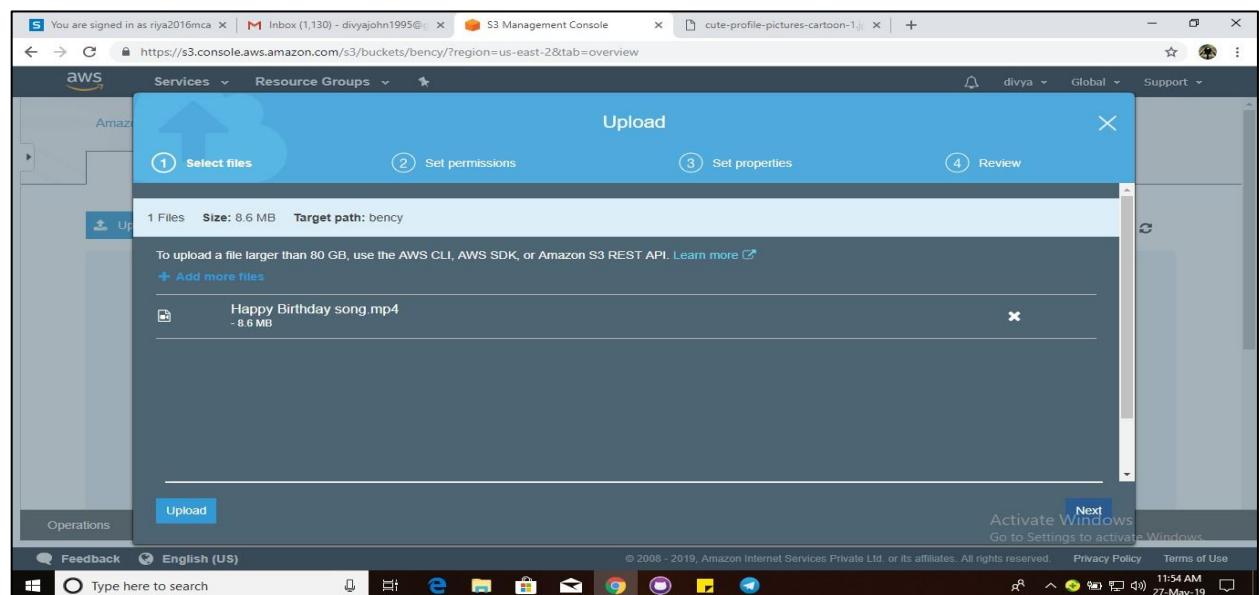
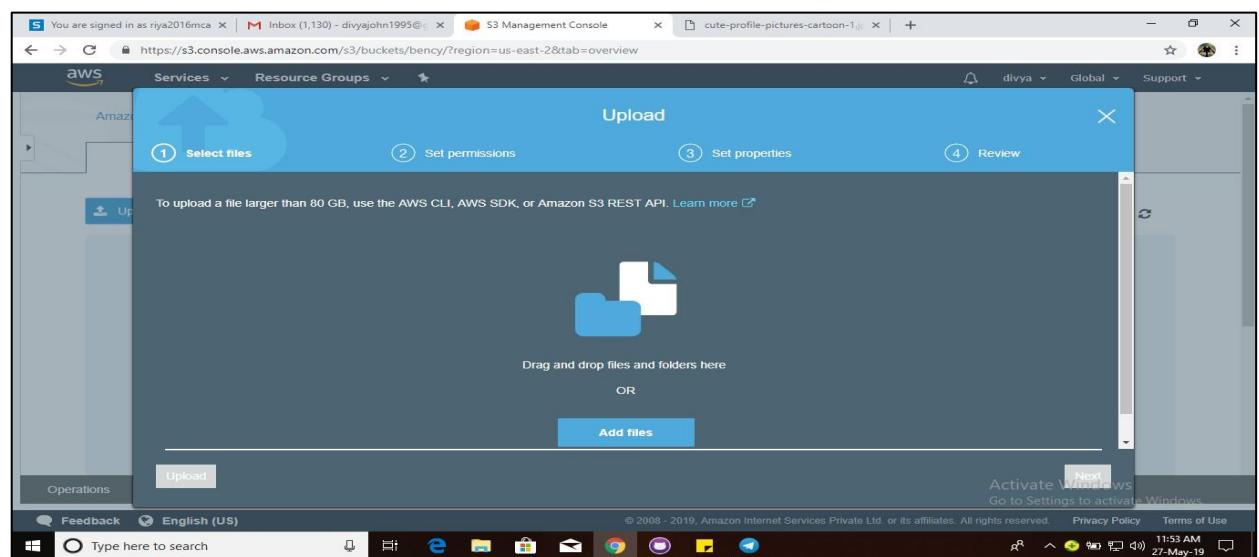
## Step 3: Set bucket properties one by one

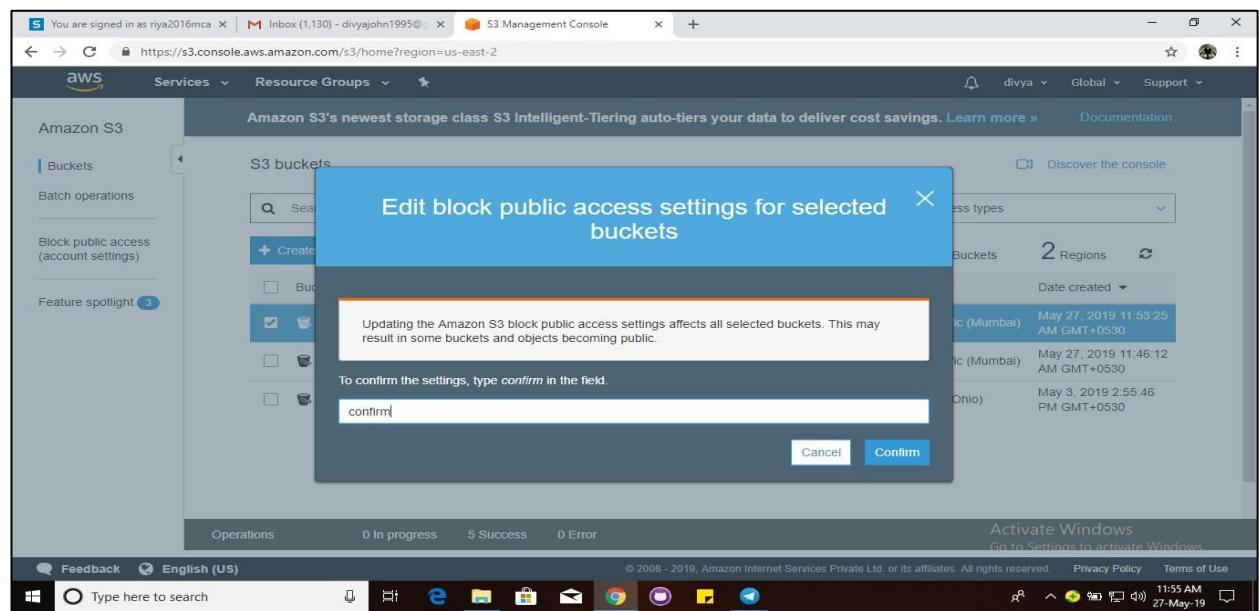
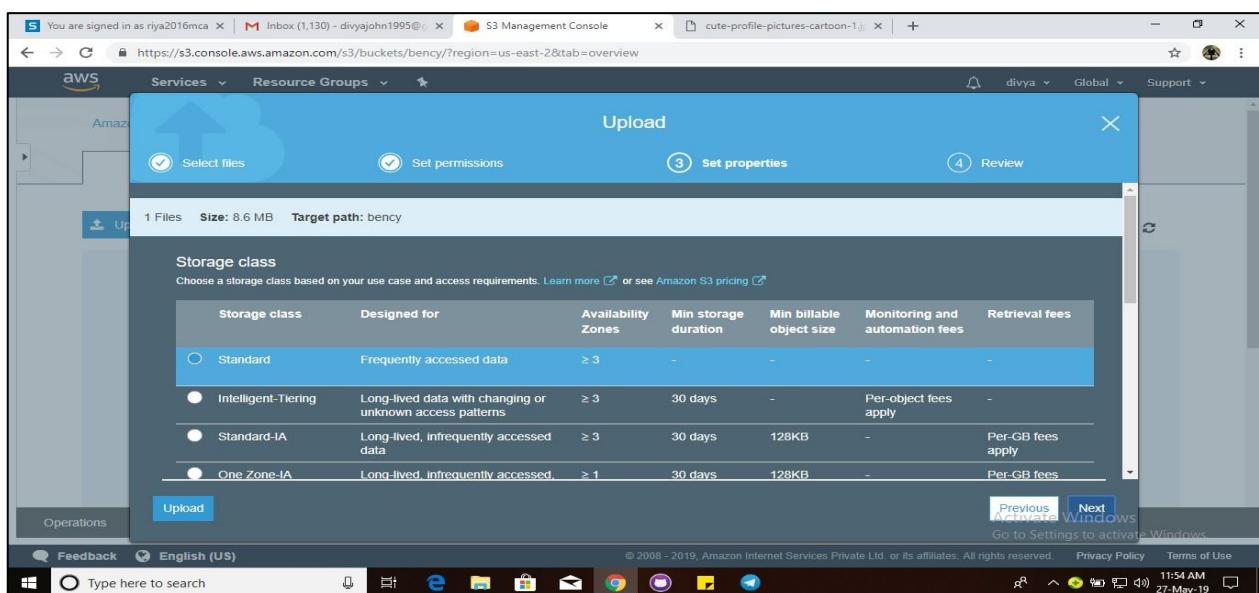
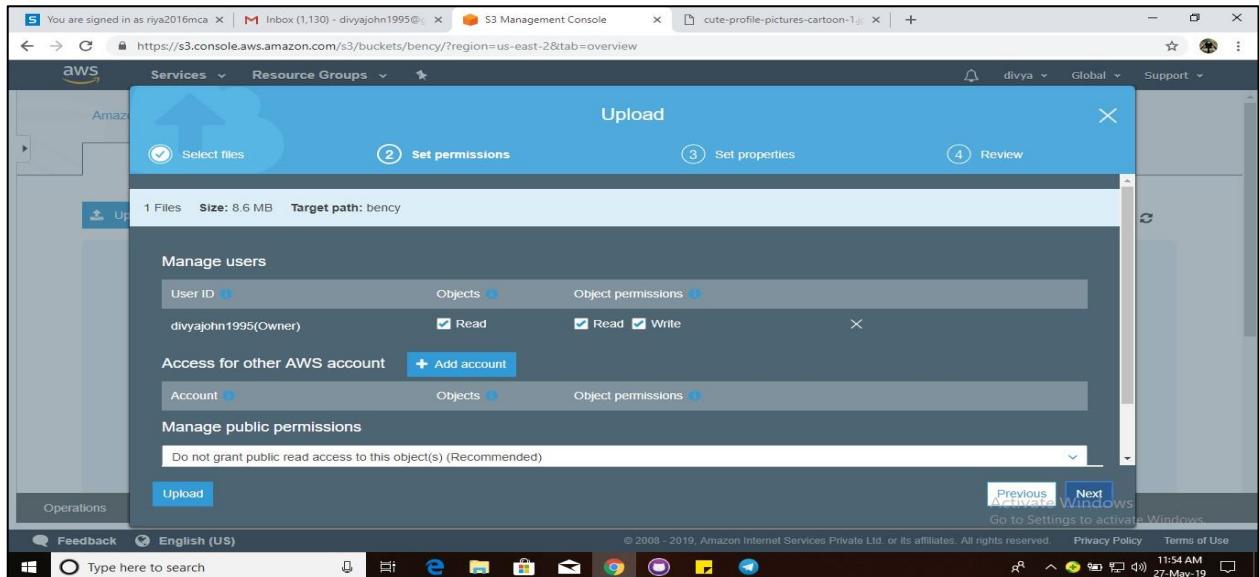


### Step 4: Bucket is created then set permissions



### Step5: Upload files in bucket





The screenshot shows the AWS S3 Management Console for the bucket 'divyaaa'. The 'Properties' tab is selected. Under the 'Server access logging' section, the status is set to 'Enabled'. Other features like 'Versioning', 'Static website hosting', and 'Object-level logging' are also listed with their respective settings.

The screenshot shows the 'Static website hosting' configuration for the 'divyaaa' bucket. The 'Endpoint' is set to <http://divyaaa.s3-website.ap-south-1.amazonaws.com>. Under 'Index document', 'index.html' is selected. Under 'Error document', 'error.html' is selected. The 'Object-level logging' section indicates it is 'Disabled'.

The screenshot shows the object details for 'divya.html' in the 'divyaaa' bucket. The 'Properties' tab is selected. Key details include:

- Owner:** 0aed2361ae636eeef7eba794397fd8dc38700fffee51b0deeee8d2728f9b0ccba
- Last modified:** May 27, 2019 12:12:59 PM GMT+0530
- Etag:** bca95e823f519b8f0f6c76e5407ea581
- Storage class:** Standard
- Server-side encryption:** None
- Size:** 63.0 B
- Key:** divya.html
- Object URL:** <https://s3.ap-south-1.amazonaws.com/divyaaa/divya.html>

### 1.2.4 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:**

- **Fast and Simple 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, autoscaling, and application health monitoring. Within minutes, your application will be ready to use without any infrastructure or resource configuration work on your part

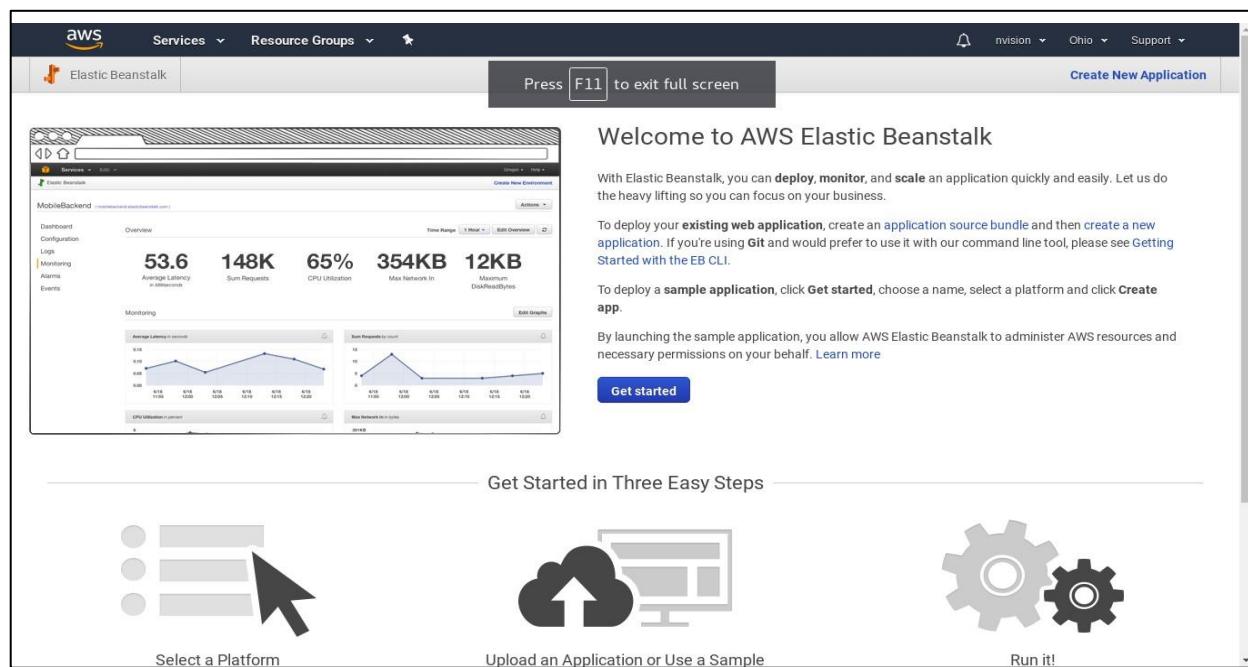
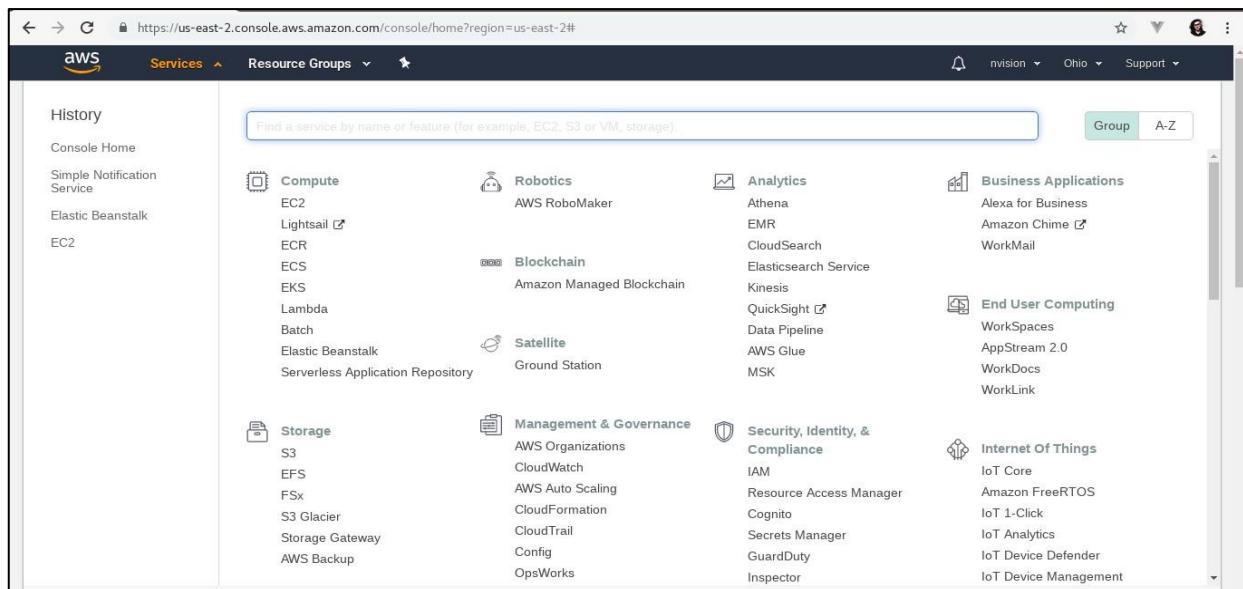
- **Impossible to outgrow**

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.

- **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.

### Step1: Log on to AWS and click Elastic Beanstalk



## Step 2: Create a Web App with Elastic Beanstalk

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

Create a web app

Create a new application and environment with a sample application or your own code. By creating an environment, you allow AWS Elastic Beanstalk to manage AWS resources and permissions on your behalf. [Learn more](#)

**Application information**

Application name

Up to 100 Unicode characters, not including forward slash (/).

► Application tags

**Base configuration**

Platform

Choose [Configure more options](#) for more platform configuration options.

Application code  Sample application  
Get started right away with sample code.

Upload your code  
Upload a source bundle from your computer or copy one from Amazon S3.

ZIP or WAR

All Applications > [nexus\\_one](#) > NexusOne-env (Environment ID: e-f2uej82563)

**Creating NexusOne-env**  
This will take a few minutes...

2:58pm Waiting for EC2 instances to launch. This may take a few minutes.  
2:57pm Created EIP: 3.14.187.73  
2:56pm Created security group named: awseb-e-f2uej82563-stack-AWSEBSecurityGroup-HOKSFS99GL93  
2:56pm Environment health has transitioned to Pending. Initialization in progress (running for 8 seconds). There are no instances.  
2:56pm Using elasticbeanstalk-us-east-2-242140190903 as Amazon S3 storage bucket for environment data.  
2:56pm createEnvironment is starting.

**Learn More**

- [Get started using Elastic Beanstalk](#)
- [Modify the code](#)
- [Create and connect to a database](#)
- [Add a custom domain](#)

**Featured**

- [Create your own custom platform](#)
- [Command Line Interface \(v3\)](#)

Installing the AWS EB CLI  
EB CLI Command Reference

Feedback English (US)

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BeanStalk Web App has successfully created

All Applications > [nexus\\_one](#) > NexusOne-env (Environment ID: e-f2uej82563, URL: [NexusOne-env.xb2pj33ppy.us-east-2.elasticbeanstalk.com](#))

**Overview**

Health **ok** Causes

Running Version Sample Application

Configuration PHP 7.2 running on 64bit Amazon Linux/2.8.9 Change

**Recent Events**

Time	Type	Details
2019-05-03 14:59:16 UTC+0530	INFO	Successfully launched environment: NexusOne-env
2019-05-03 14:59:16 UTC+0530	INFO	Application available at <a href="#">NexusOne-env.xb2pj33ppy.us-east-2.elasticbeanstalk.com</a> .
2019-05-03 14:58:48 UTC+0530	INFO	Added instance [i-0007b4b947484bf07] to your environment.
2019-05-03 14:58:08 UTC+0530	INFO	Waiting for EC2 Instances to launch. This may take a few minutes.
2019-05-03 14:57:05 UTC+0530	INFO	Created EIP: 3.14.187.73

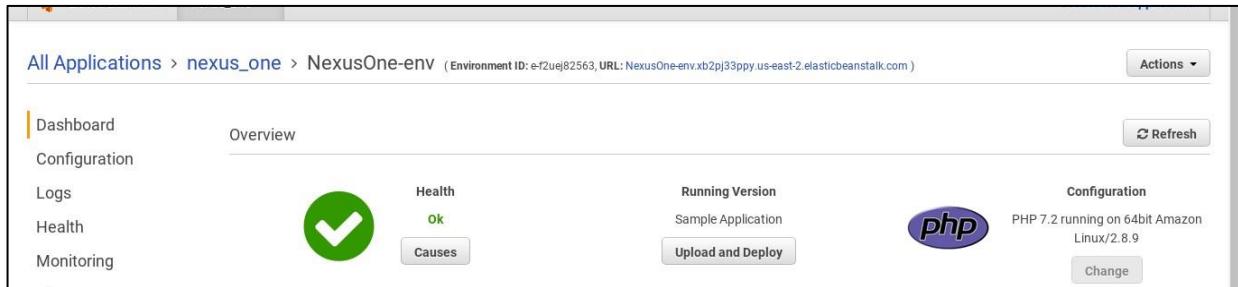
Dashboard Configuration Logs Health Monitoring Alarms Managed Updates Events Tags

Show All

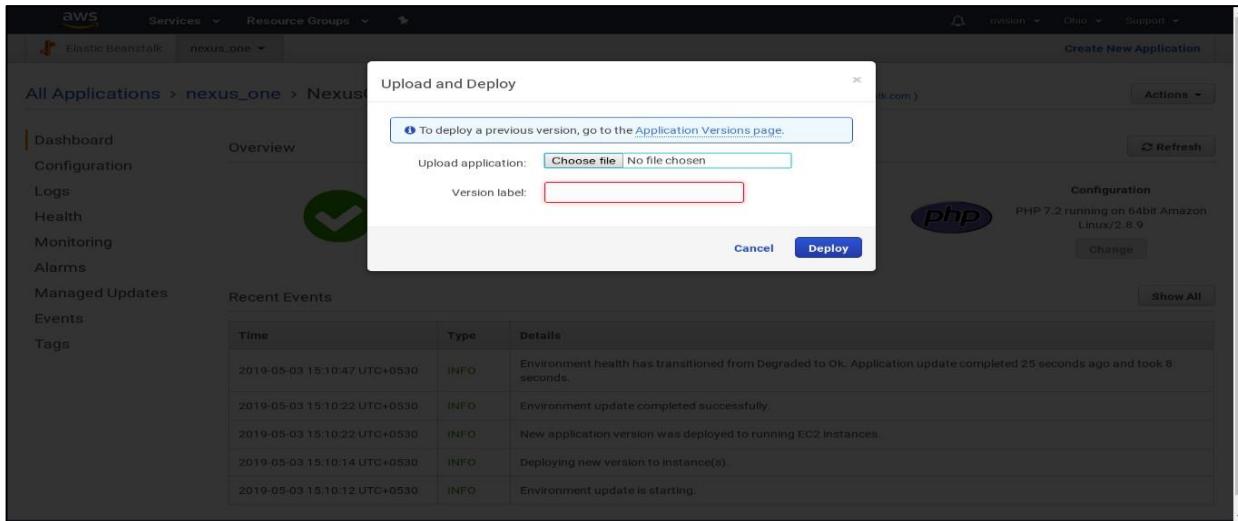
Feedback English (US)

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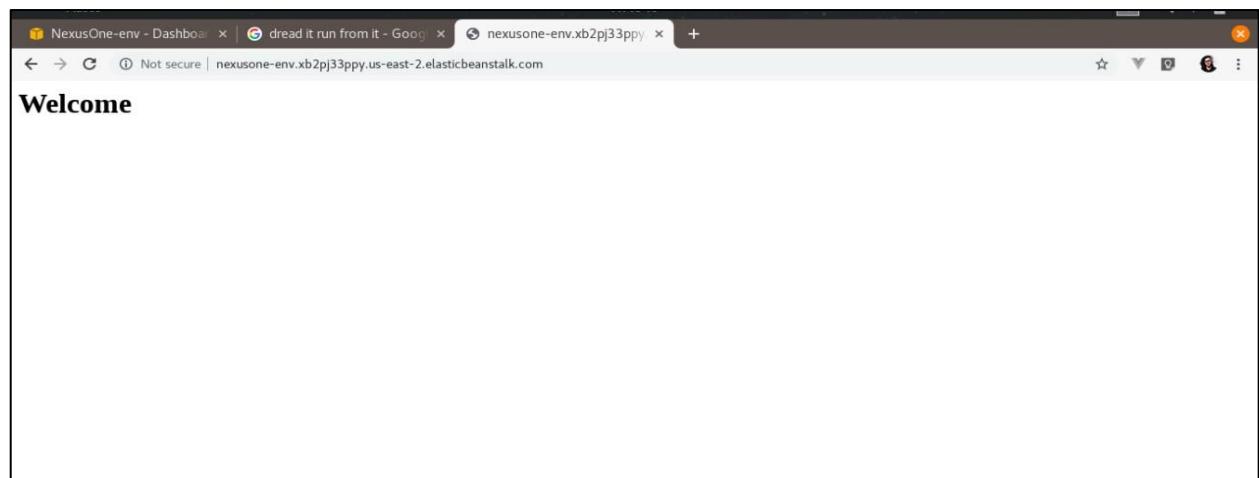
Step3: Create a Web App with Elastic Beanstalk, Click upload and deploy button on the dashboard



Step 4: Upload the source code for the web app



Step 5: Use the url deployed in the dashboard to access the BeanStalk web app



BeanStalk offers a number of options to configure the web app

The screenshot shows the AWS Elastic Beanstalk Configuration Overview page for the 'nexus\_one' environment. The left sidebar lists navigation options: Dashboard, Configuration (which is selected), Logs, Health, Monitoring, Alarms, Managed Updates, Events, and Tags. The main area is titled 'Configuration overview' and contains several sections:

- Software:** Rotates logs: disabled (default), Log streaming: disabled (default), Environment properties: 0. Buttons: Modify.
- Instances:** EC2 instance type: t2.micro, EC2 image ID: ami-068937fd903a23b47, Monitoring interval: 5 minute, Root volume type: container default, Root volume size (GB): container default, Root volume IOPS: container default, Security groups: sg-0267959ad5e07385b. Buttons: Modify.
- Capacity:** Environment type: single instance. Buttons: Modify.
- Load balancer:** This configuration does not contain a load balancer. Buttons: Modify.
- Rolling updates and deployments:** Deployment policy: All at once, Rolling updates: disabled. Buttons: Modify.
- Security:** Service role: aws-elasticbeanstalk-service-role, Virtual machine key pair: -, Virtual machine instance profile: aws-elasticbeanstalk-ec2-role. Buttons: Modify.
- Monitoring:** Health monitoring items: 0 balanced. Buttons: Modify.
- Managed updates:** Managed update status: disabled. Buttons: Modify.
- Notifications:** Email address: [redacted]. Buttons: Modify.

You may modify the instance capacity and more

The screenshot shows the AWS Elastic Beanstalk Modify capacity page for the 'nexus\_one' environment. The left sidebar lists navigation options: Dashboard, Configuration (selected), Logs, Health, Monitoring, Alarms, Managed Updates, Events, and Tags. The main area is titled 'Modify capacity' and contains the following configuration:

- Auto Scaling Group:** Configure the compute capacity of your environment and Auto Scaling settings to optimize the number of instances used.
- Environment type:** Single instance.
- Instances:** Min: 1, Max: 1.
- Availability Zones:** Any. Number of Availability Zones (AZs) to use.
- Placement:** us-east-2a, us-east-2b, us-east-2c.
- Scaling cooldown:** 360 seconds.
- Time-based Scaling:** Use the following settings to control time-based scaling actions. Learn more.

## 1.2.5 AWS DB PRODUCTS

### 1.2.5.1 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.

### 1.2.5.2 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.

### 1.2.5.3 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.

## 1.2.6 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.

## 1.3 MICROSOFT AZURE CLOUD

### 1.3.1 Introduction to Microsoft Azure Cloud

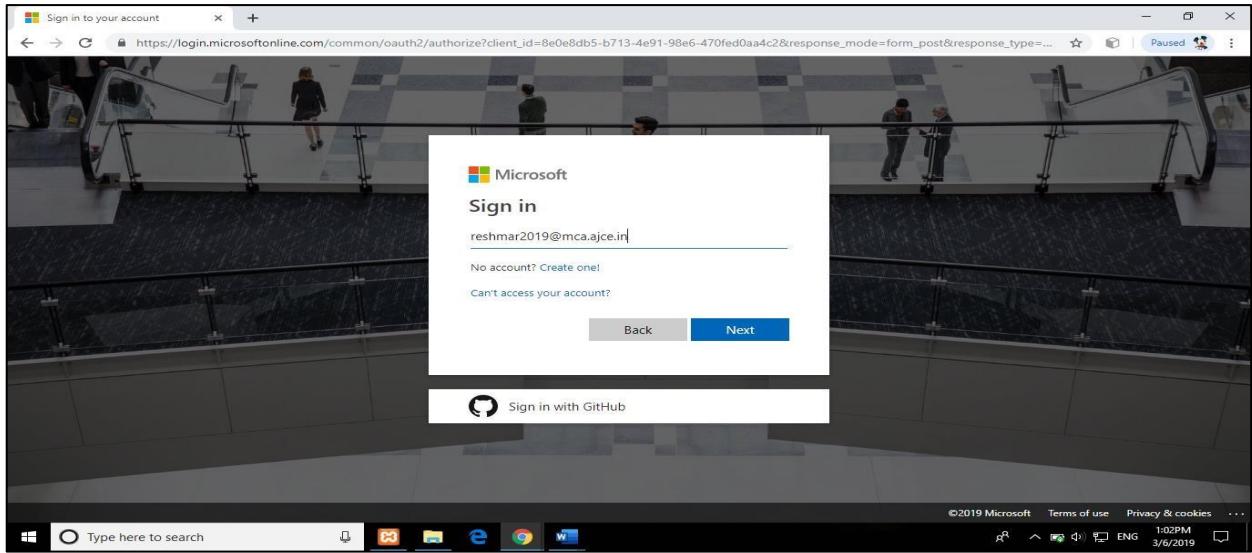
Microsoft Azure (formerly Windows Azure) is a cloud computing service created by Microsoft for building, testing, deploying, and managing applications and services through a global network of Microsoft-managed data centers. It provides software as a service (SaaS), platform as a service (PaaS) and infrastructure 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:

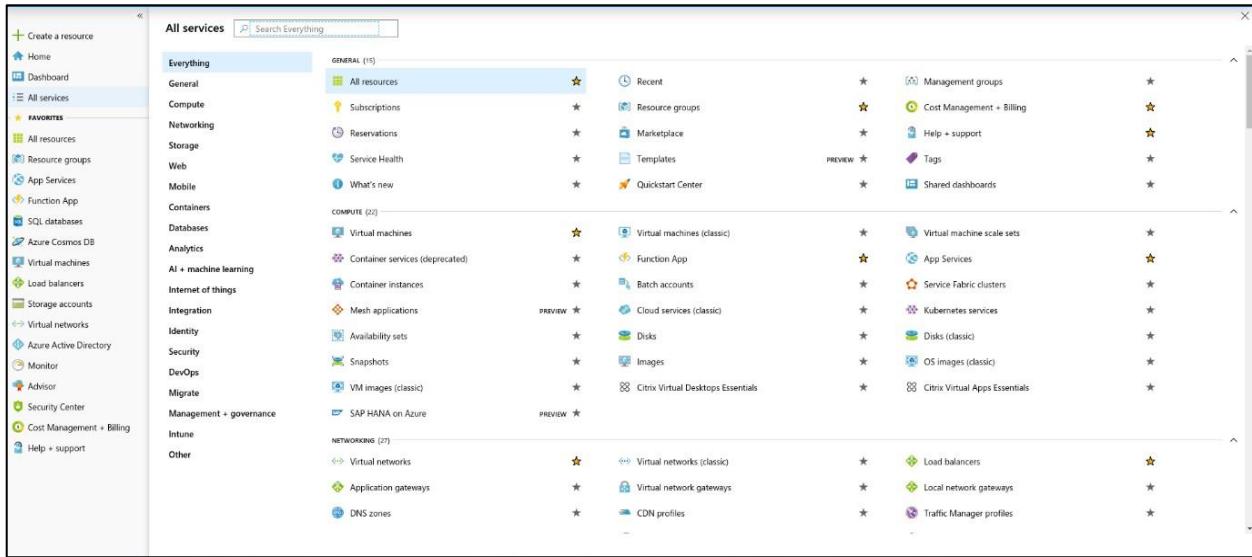
- Compute layer
- Storage layer
- Fabric layer

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.

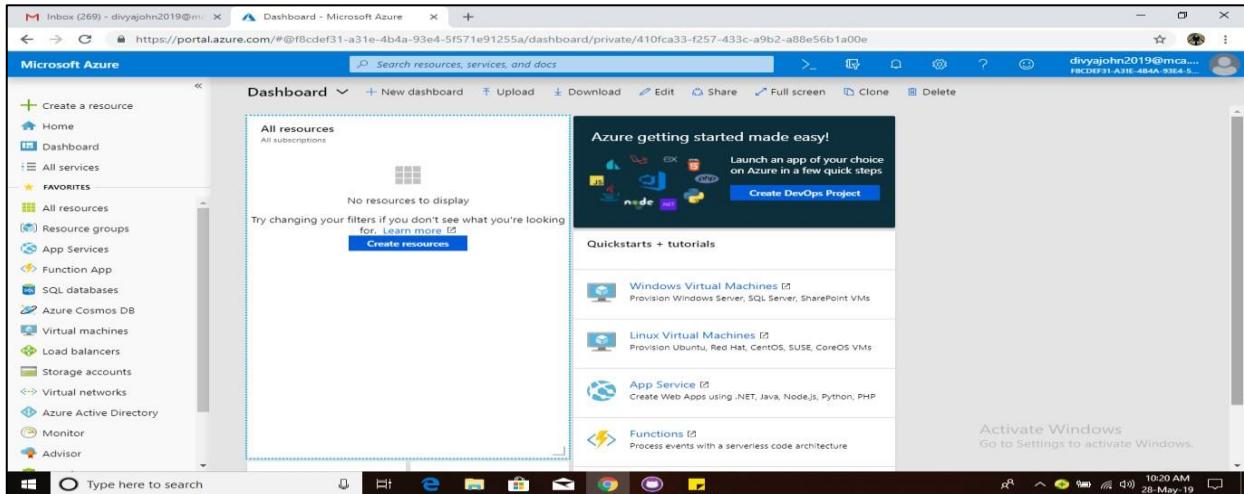
### Step 1: Create a new account for student account



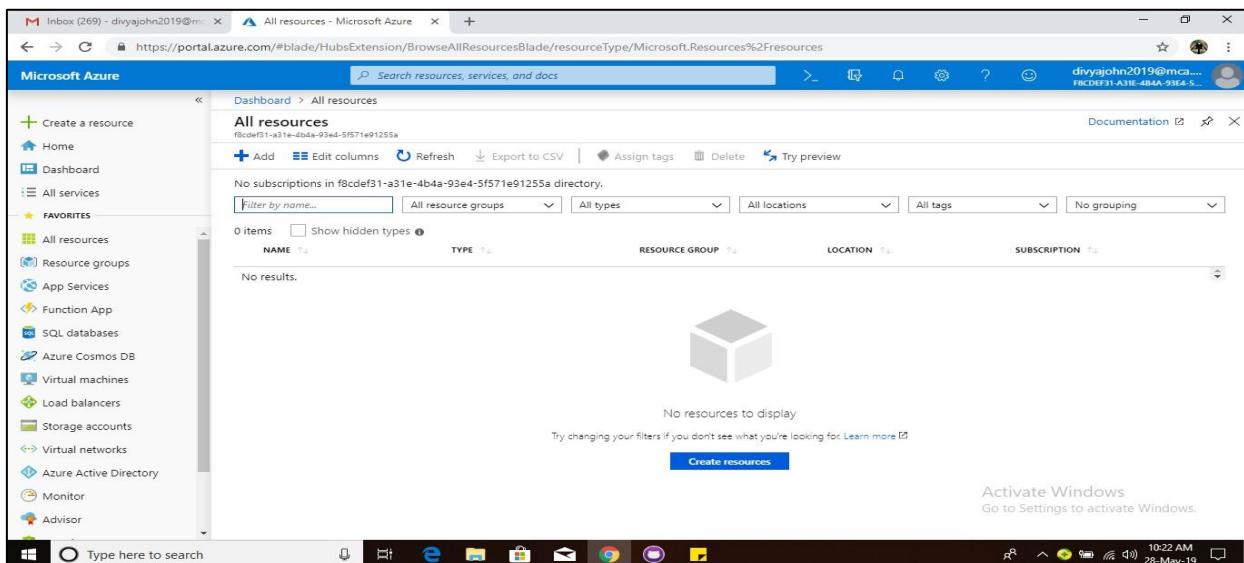
### Step 2: Now we successfully created the Microsoft Account



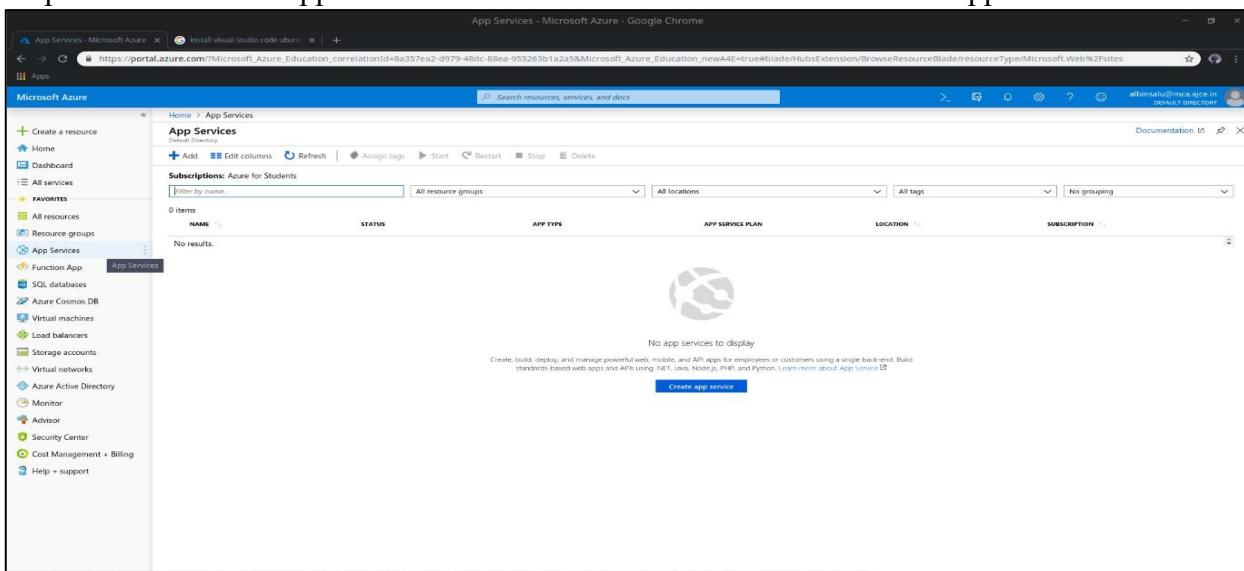
Step3: Click on ‘Get started with your Azure subscription’. You will reach the Azure Dashboard



Step 4: Go to the dashboard and create Resource Group. Allocate resource group name, subscription and resource group location



Step 5: Click on the ‘App Services’ button. Click on ‘Add’ to create new App service



## Step 6: Select the ‘Web App’ option

## Step 7: Create the App Service by providing the details

WebApp-c2fc2256-bcd4 - Microsoft Azure - Google Chrome

Installed theme "Core" Uninstall

Microsoft Azure

[Create a resource](#)

[Home](#)

[Dashboard](#)

All services

Favorites

All resources

Resource groups

App Services

Function App

SQL databases

Azure Cosmos DB

Virtual machines

Load balancers

Storage accounts

Virtual networks

Azure Active Directory

Monitor

Advisor

Security Center

Cost Management + Billing

Help + support

WebApp-c2fc2256-bcd4 - Overview

Deployment

Overview

Inputs

Outputs

Template

Your deployment is complete

Deployment name: WebApp-c2fc2256-bcd4

Subscription: Azure for Students

Resource group: perosnaker

Start time: 6/29/2016 10:41:04 AM

Duration: 1 minute 52 seconds

Correlation ID: b25b386d-dacd-45db-9885-6f8ad8e86516

RESOURCE	TYPE	STATUS	OPERATION DETAILS
zeroslasher	Microsoft.Web/sites	OK	Operation details
ASP-zeroslasher-9335	Microsoft.Web/serverfarms	OK	Operation details

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 [Tutorial](#)
- Azure architecture center [Tutorial](#)

Step 8: Our app service is started

WebApp-c2fc2256-bcd4 - Microsoft Azure - Google Chrome

WebApp-c2fc2256-bcd4 - Microsoft Azure - Microsoft Azure - Google Chrome

zeroslasher

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Security

Deployment

Quickstart

Deployment slots

Deployment Center

Settings

Configuration

Application settings (Classic)

Authentication / Authorization

Application Insights

Identity

Backup

Custom domains

SSL settings

Networking

Scale up (App Service plan)

Scale out (App Service plan)

Websites

Push

Resource group (change): zeroslasher

Status: Running

Location: South India

Subscription (change): Azure for Students

Subscription ID: 518070a-e9bc-4866-8d23-0f26e3a019c9

Tags (change): Click here to add tags

URL: https://zeroslasher.azurewebsites.net

App Service Plan: ASP-zeroslasher-9335 (F1v2: 1)

FTP/Deployment user set: No FTP/deployment user set

FTP hostname: ftp://www-prod-ma1-007.ftp.azurewebsites.windows.net

FTPS hostname: https://www-prod-ma1-007.ftp.azurewebsites.windows.net

**Diagnose and solve problems**  
Our self-service diagnostic and troubleshooting experience helps you identify and resolve issues with your web app.

**App Service Advisor**  
App Service Advisor provides insights for improving app performance and reliability. Recommendations are sorted by freshness, priority and impact to your app.

**Http Sxx**

**Data In**

**Data Out**

**Requests**

**Average Response Time**

Step 9: We have to set the deployment Credentials

Dashboard - Microsoft Azure - Google Chrome

WebApp-c2fc2256-bcd4 - Microsoft Azure - Microsoft Azure - Google Chrome

zero - Deployment Center

Deployment Center

App Service Deployment Center enables you to choose the location of your code as well as options for build and deployment to the cloud. Learn more

SOURCE CONTROL

BUILD PROVIDER

SUMMARY

**Azure Repos**  
Configure continuous integration with an Azure Repo, part of Azure DevOps Services (formerly known as VSTS).

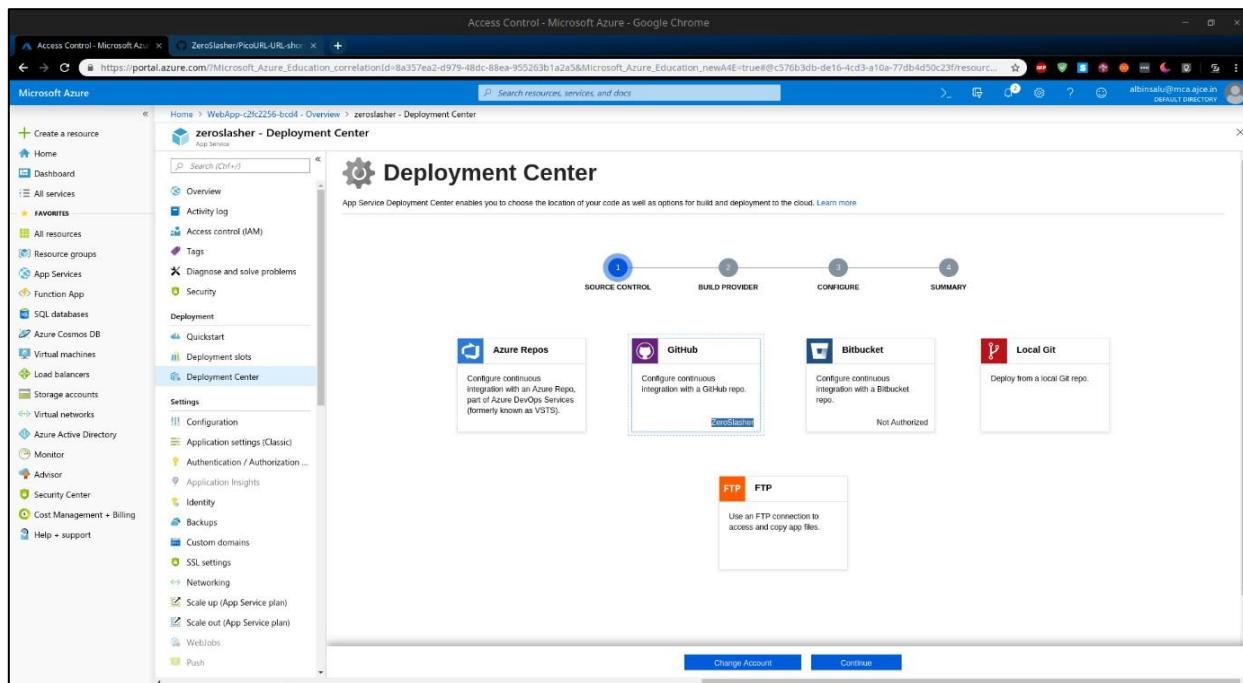
**GitHub**  
Configure continuous integration with a GitHub repo.

**Bitbucket**  
Configure continuous integration with a Bitbucket repo.

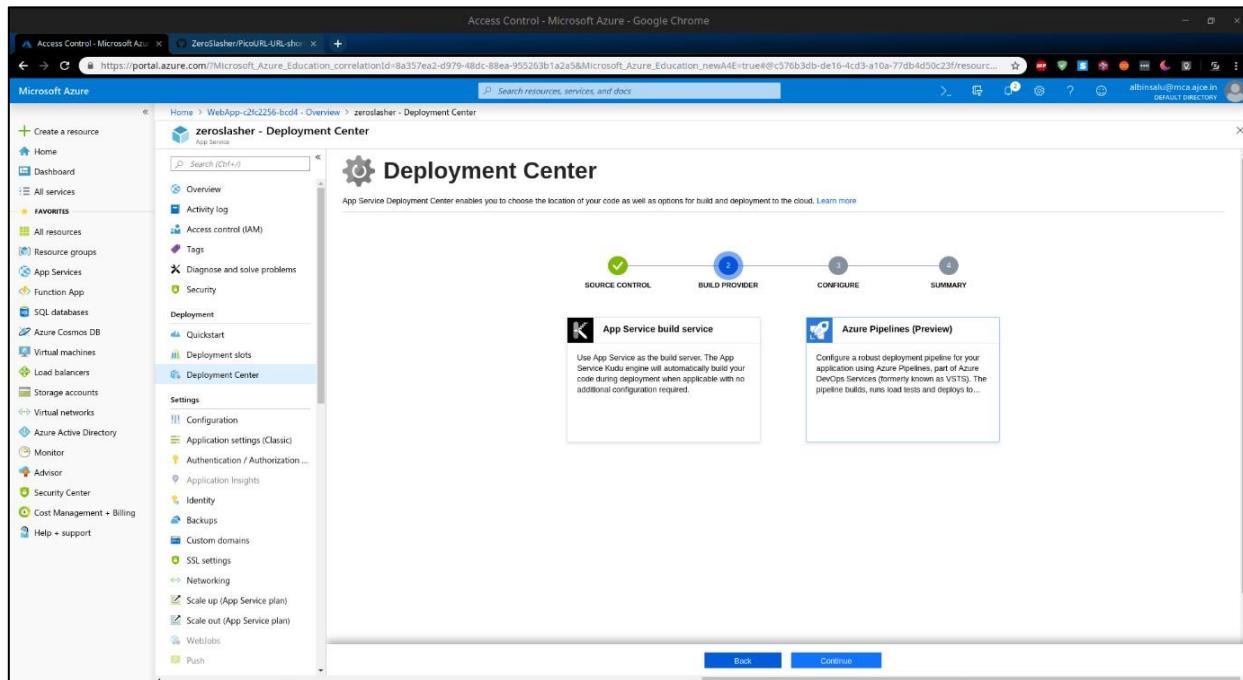
**Local Git**  
Deploy from a local Git repo.

**FTP**  
Use an FTP connection to access and copy app files.

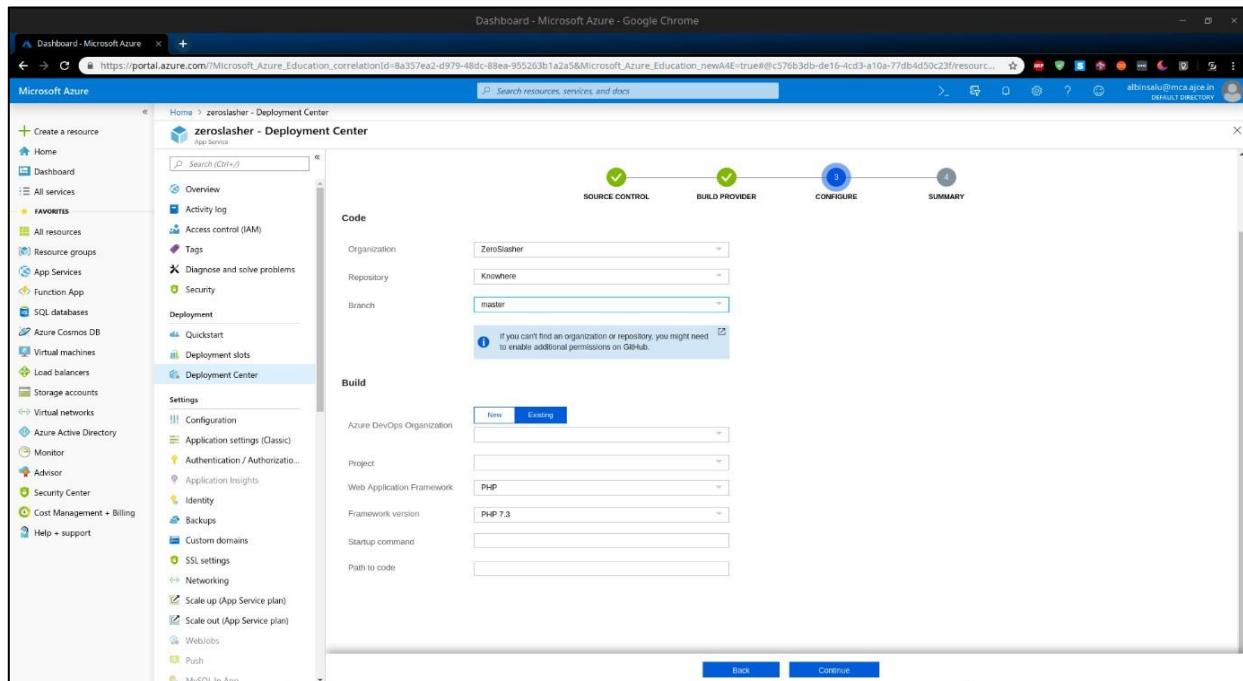
## Step10: Authorize github account



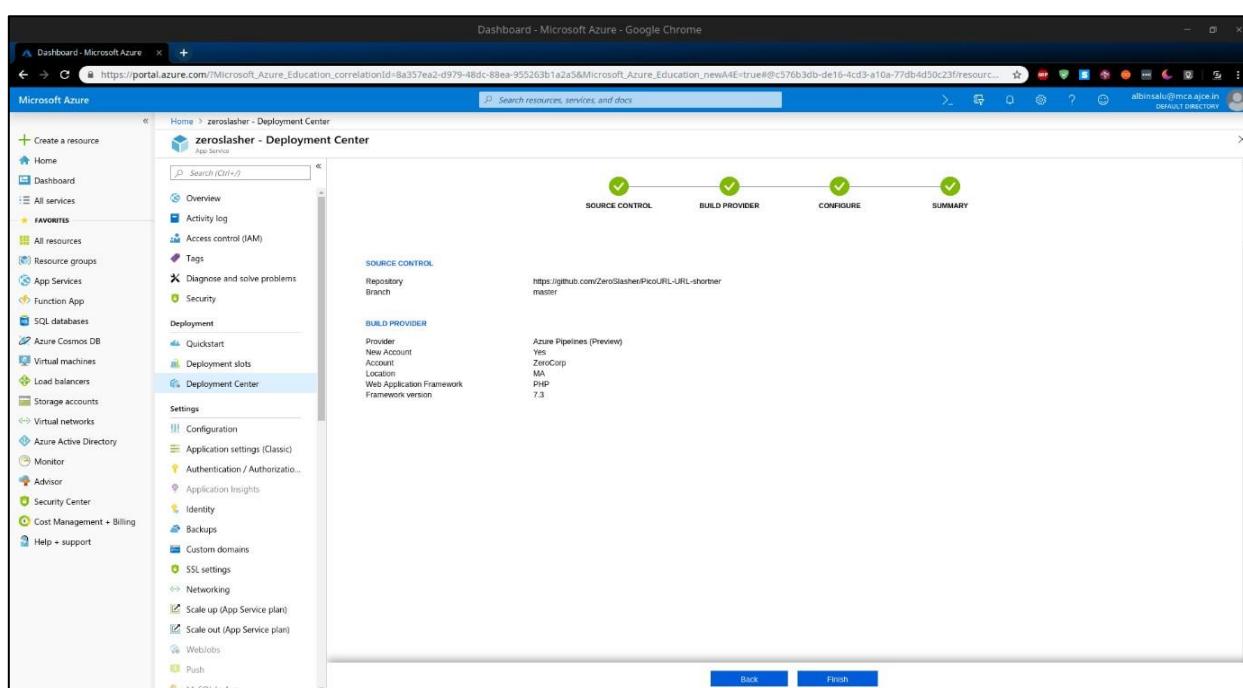
## Step11: Select azure pipeline



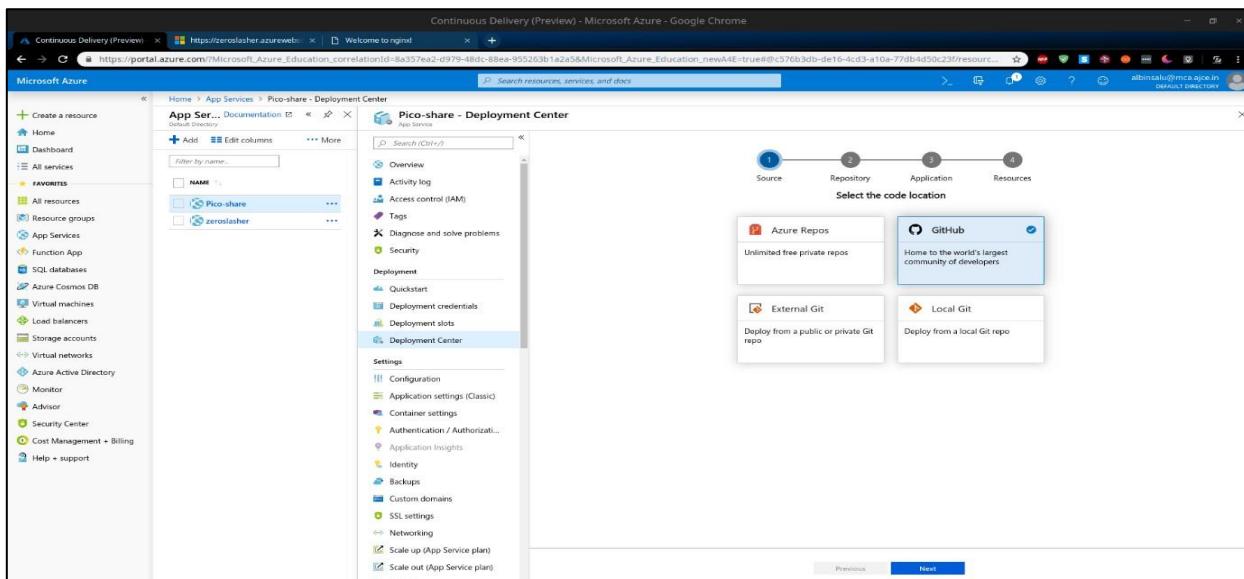
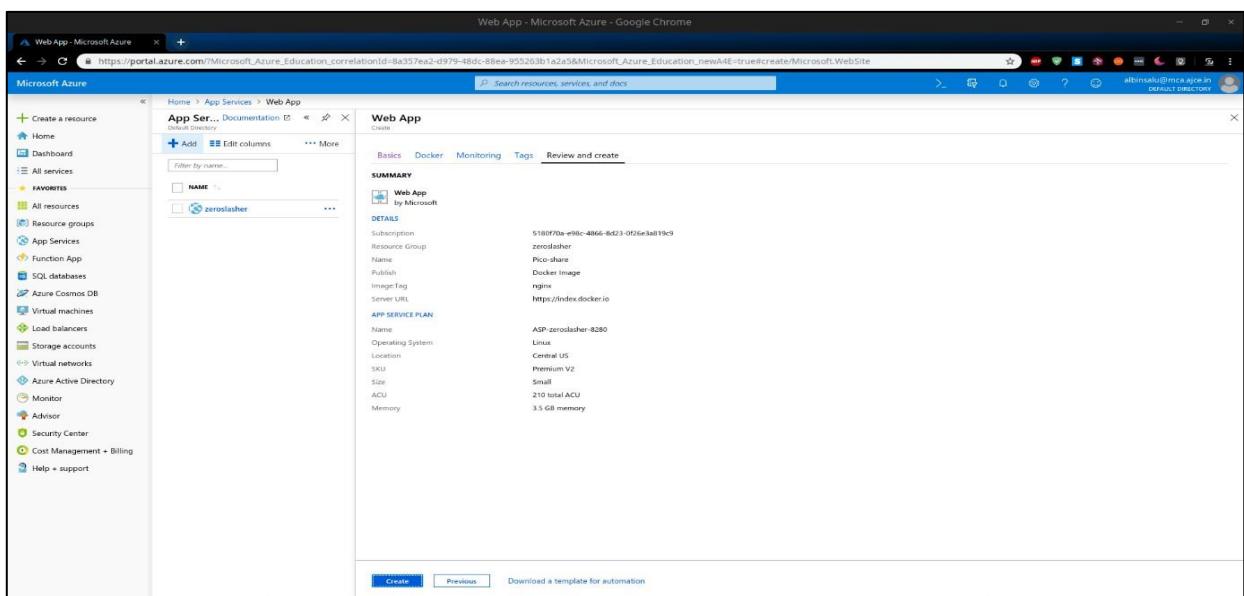
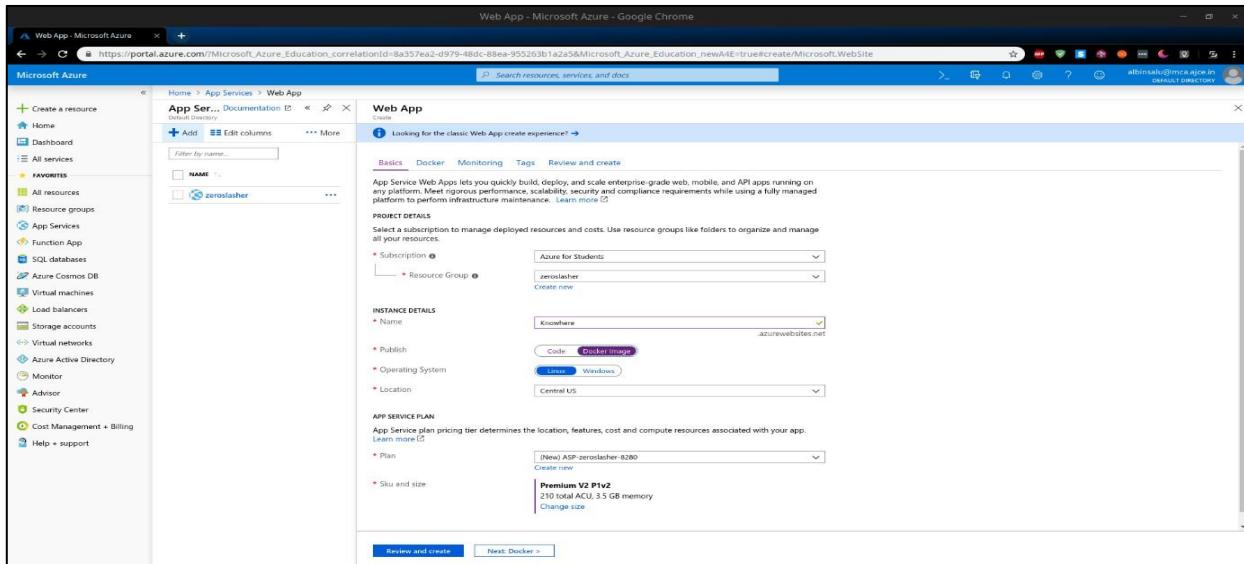
### Step12: Provide details about code and build

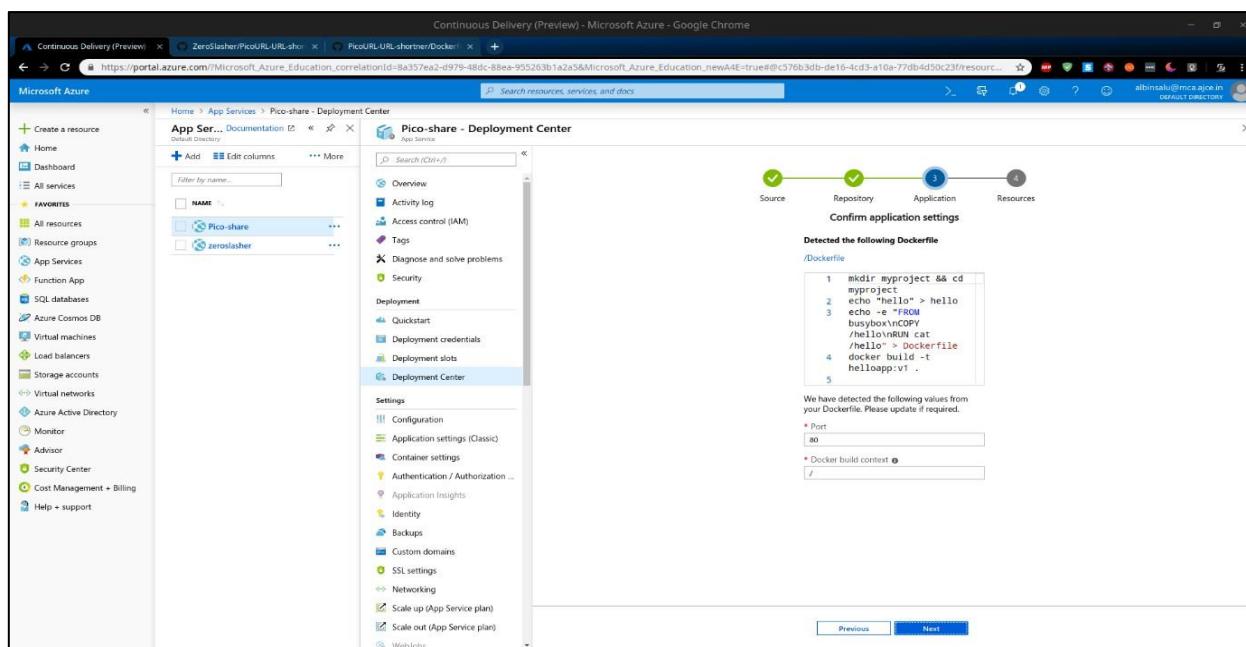
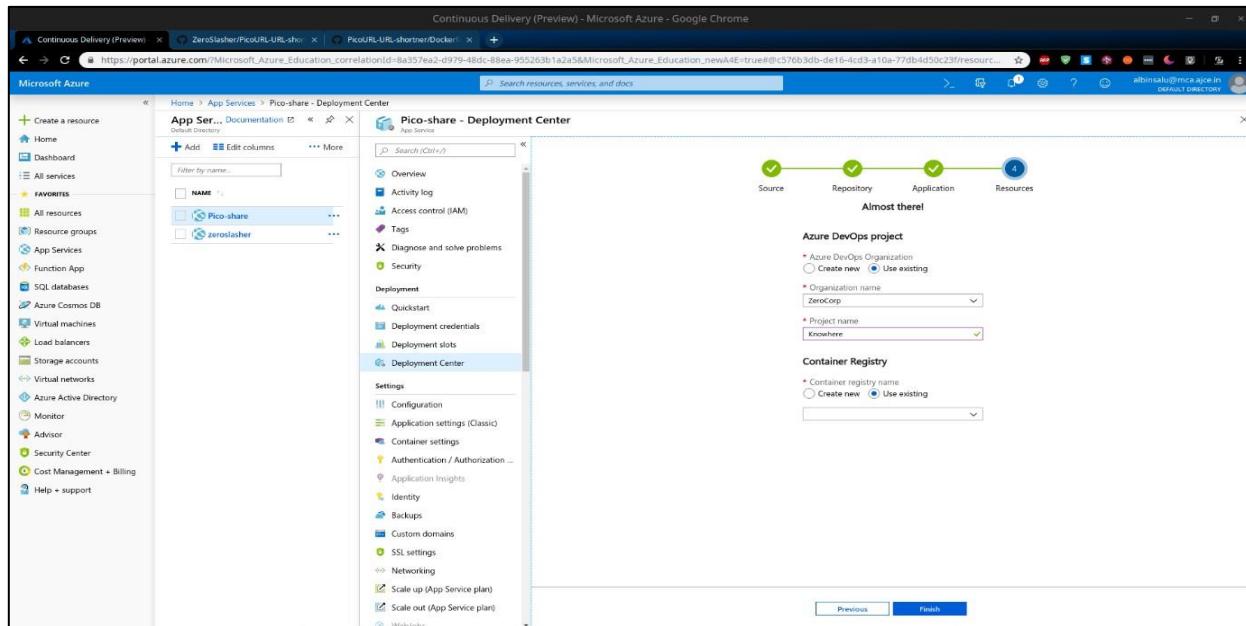


### Step13: Review changes and click finish



## Step14: Create web app with doc kerimage





### 1.3.2 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)
- Continuous Deployment of Azure App Services
- Azure DevOps Projects

### **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.

Configuring the Deployment Options feature in App Service

- In your App Service (like a Web App), go to the Deployment Options blade
- Here, it asks you to choose a source. So, choose where your source code lives
- 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
- 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
- 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**

## 2.1 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.

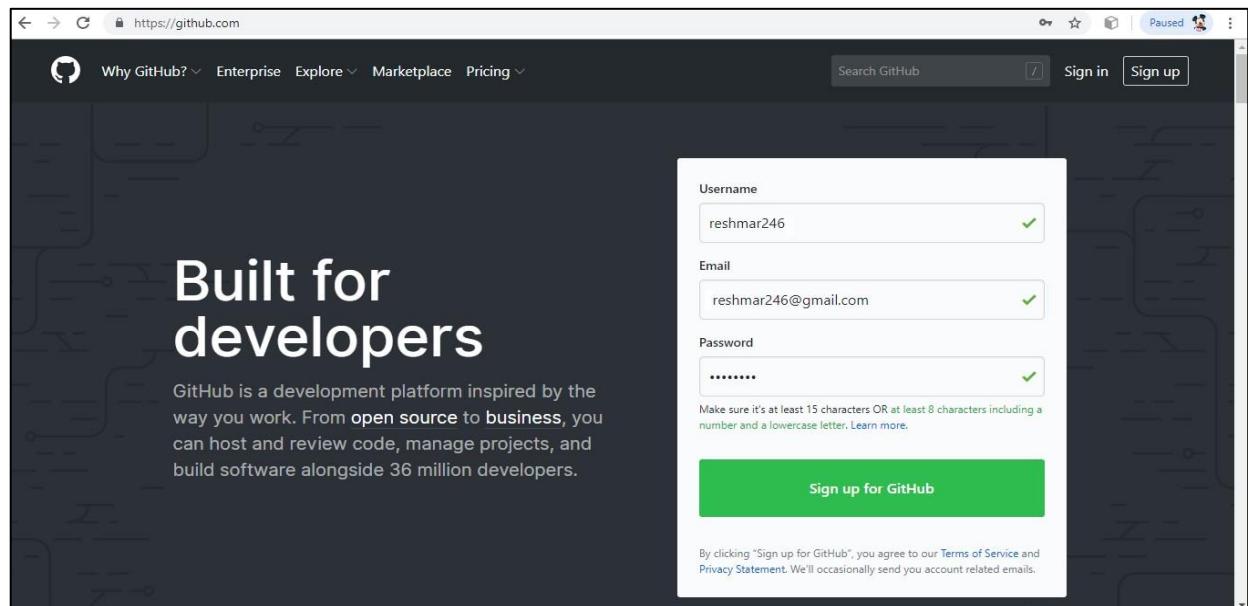
GitHub facilitates social coding by providing a web interface to the Git code repository and management tools for collaboration. GitHub can be thought of as a serious social networking site for software developers. Members can follow each other, rate each other's work, receive updates for specific projects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

GitHub products and features

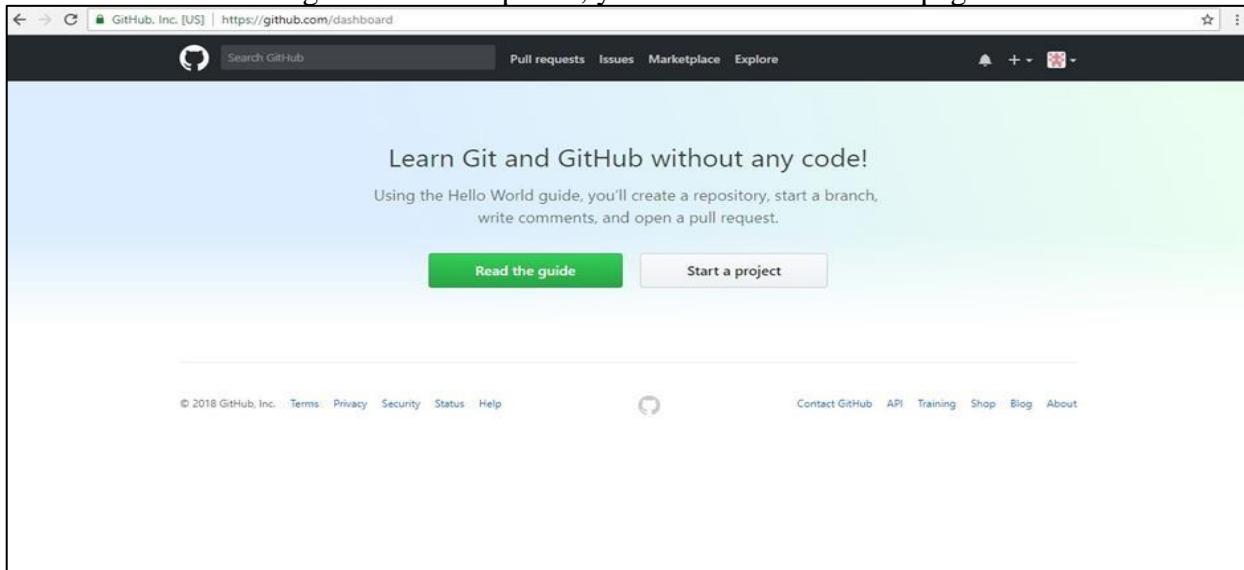
GitHub offers an on-premises version in addition to the well-known SaaS product. GitHub Enterprise supports integrated development environments and continuous integration tool integration, as well as a litany of third-party apps and services. It offers increased security and auditable than the SaaS version.

## 2.2 Working with Git

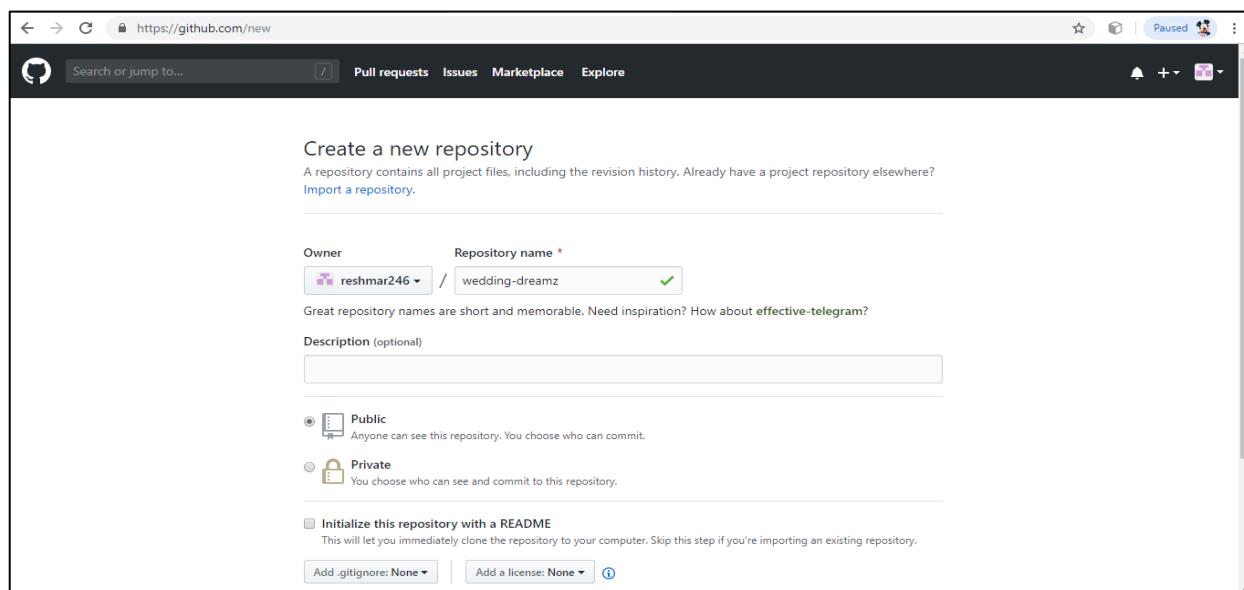
Step 1: Sign in to github



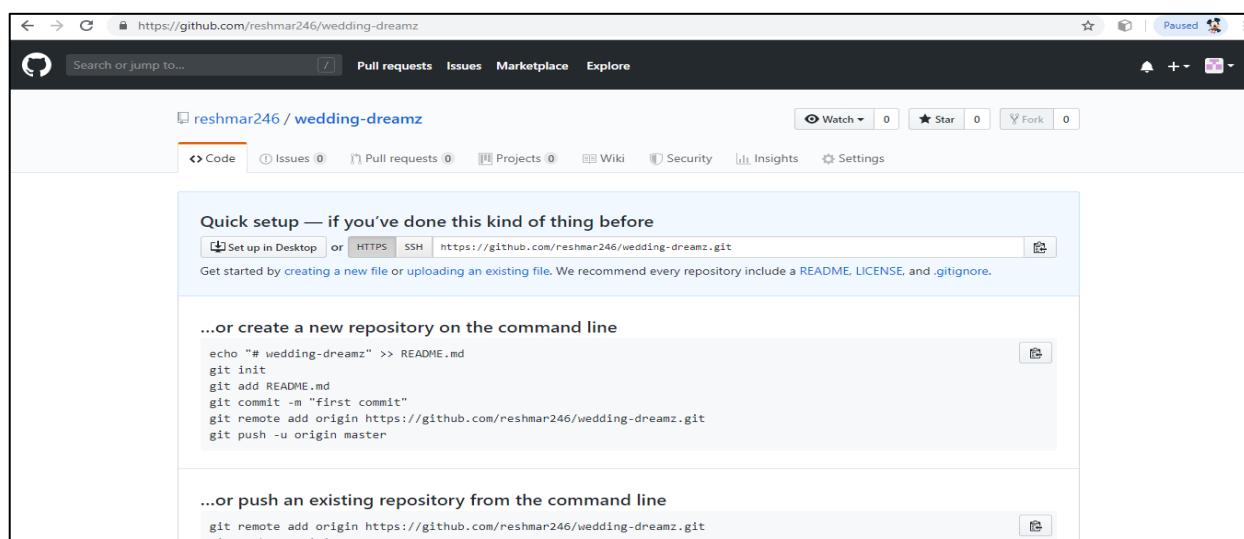
Once the account configuration is completed, you can access the home page



## Step 2: Create a repository in GitHub



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



#### Step 4: Refresh GitHub.com repository to fetch commits

The screenshot shows a GitHub repository page for 'reshmar246/wedding-dreamz'. The repository has 3 commits, 1 branch, 0 releases, and 1 contributor. The latest commit was made 12 hours ago. The repository contains files like Abstract.docx, Feasibility Study.docx, README.md, UML DIAGRAMS.docx, db\_wedding.sql, and README.md.

File	Commit Action	Time Ago
Abstract.docx	Add files via upload	13 hours ago
Feasibility Study.docx	Add files via upload	12 hours ago
README.md	README File	13 hours ago
UML DIAGRAMS.docx	Add files via upload	12 hours ago
db_wedding.sql	Add files via upload	13 hours ago
README.md	(New)	

## **PART 3**

### **DATA DESIGN IN NOVEL TECHNOLOGIES**

## 3.1 MONGODB

### 3.1.1 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.

### 3.1.2 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](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](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 ->

6. 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

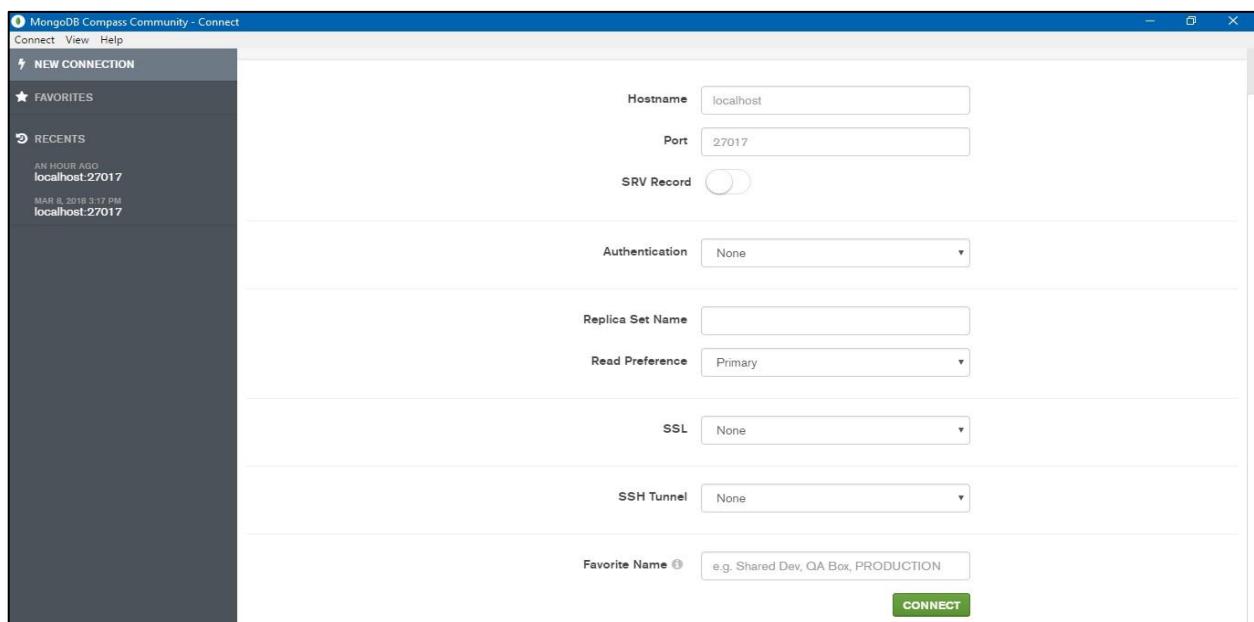
7. Create directory C:\data\db

8. Restart Apache server

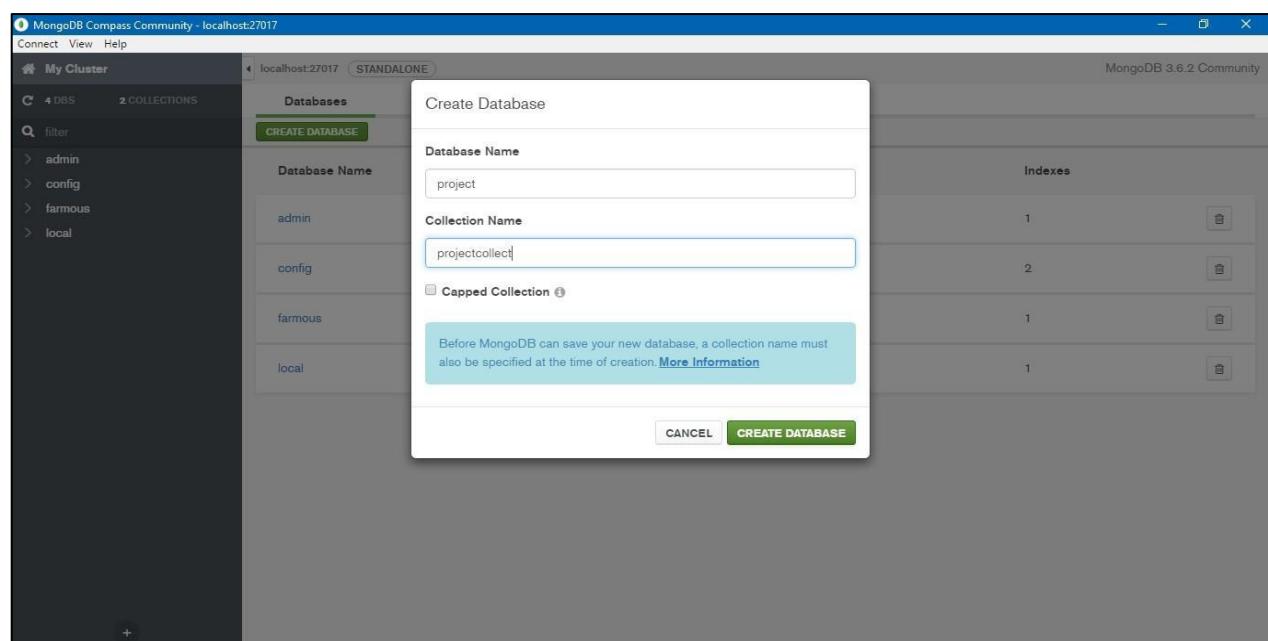
9. Open CMD and start MongoDB server by using command Mongod

## 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 are 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

- MongoDB Connection \$con = new MongoClient();
- Selection or Creation of Database (MySQL: Database) \$db = \$con->database\_name;
- Collection Creation (MySQL: Table) \$collection =  
\$db->createCollection("collection\_name");
- Document Insertion (MySQL: Insert - Row) \$document = array ("key-1" => "value-1", "key- n" =>  
"value-n"); \$collection->insert(\$document);

- View data (MySQL: Select) \$cursor = \$collection->find(); foreach (\$cursor as \$document) { echo \$document["key"];}
- Updating data (MySQL: Update) \$collection->update(array("key"=>"old-value"), array(\$set'=>array("key"=>"new-value")));
- Deletion of data (MySQL: Delete) \$collection->remove(array("condition-key"=>"condition- value"));

#### . php page to with basic queries access MongoDB

```

1 <?php
2 // connect to mongodb
3 $m = new MongoClient();
4
5 echo "Connection to database successfully<br>";
6 // $db = $m->mymongodb;
7 $db = $m->farmous; //Database
8 echo "Database mydb selected<br>";
9 //$collection = $db->mongo_collection;
10 $collection = $db->farmous_collection; //Collection
11 echo "collection ook<br>";
12
13 $cursor = $collection->find();
14 // iterate cursor to display title of documents
15
16 foreach ($cursor as $document) {
17     echo("Name: ".$document['name']." - Age: ".$document['age']."<br>");
18     //fields in the database
19 }
20 ?>
```

#### Output



Connection to database successfully  
 Database mydb selected  
 collection ook  
 Name: james - Age: 22  
 Name: subin - Age: 21

## 3.2 Bigtable in GCP

### 3.2.1 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 achieve 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 Hypertable, an open source technology that is marketed in a commercial version as an alternative to HBase.

### 3.2.2 Implementation of Bigtable

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

The screenshot shows the 'Create a new instance' wizard in the GCP Console. On the left, there's a sidebar with links for 'Cloud Bigtable' (Product Overview, Documentation), 'Quickstarts' (All Quickstarts, Quickstart Using HBase Shell, Quickstart Using cbt), and 'How-to Guides' (All How-to Guides, Creating a Cloud Bigtable Instance, Installing the Cloud SDK for Cloud Bigtable, Creating a Compute Engine Instance, Installing the HBase Shell for Cloud Bigtable, Creating a Hadoop Cluster for Cloud Bigtable, Using the Cloud Bigtable Emulator, Managing Your Data, Managing Your Instance, Programmatically Scaling Cloud Bigtable, Using OpenTSDB to Monitor Time-Series Data on Cloud Platform).

The main form area has the following fields:

- Instance properties:**
  - Instance name:** A text input field for display purposes.
  - Instance ID:** A text input field for a permanent ID, using lowercase letters, numbers, or hyphens.
- Instance type:**
  - Production (recommended)**: Minimum of 3 nodes. High availability. Cannot downgrade later.
  - Development**: Low-cost instance for development and testing. Does not provide high availability. Can upgrade to Production later.
- Cluster properties:**
  - Cluster ID:** A text input field for a permanent cluster ID.
  - Zone:** A dropdown menu labeled 'Select a zone'.
  - Nodes (3 – 30):** A text input field with a value of '3'.
  - Storage type:** A dropdown menu.

#### 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

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.

### 4.1 GOOGLE ADWORDS

#### 4.1.1 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.

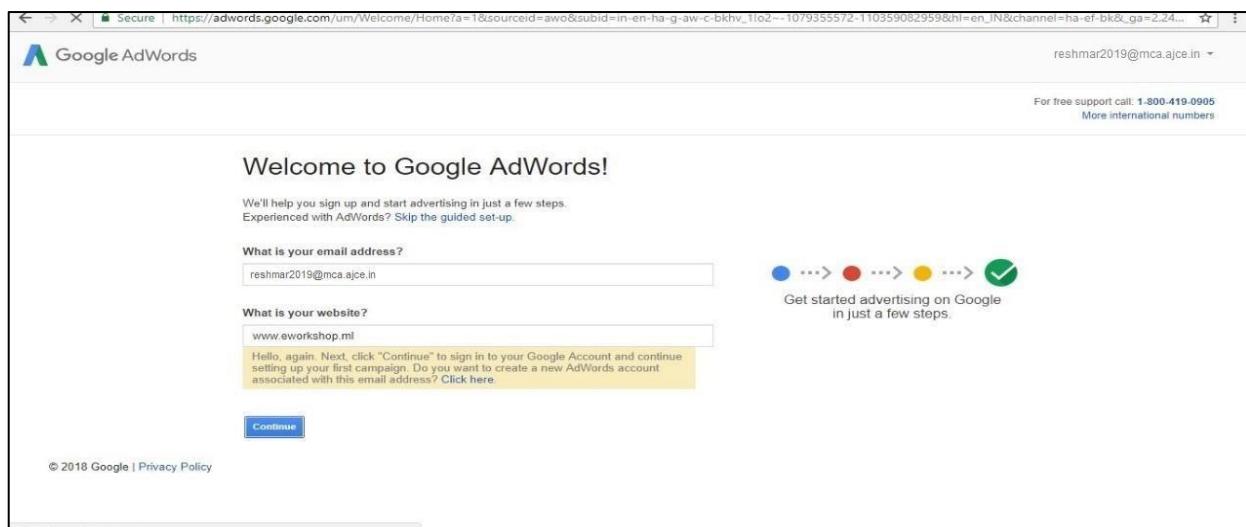
When choosing keywords for your AdWords campaigns different matching options are available. The two main keyword match options include the following:

- **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.

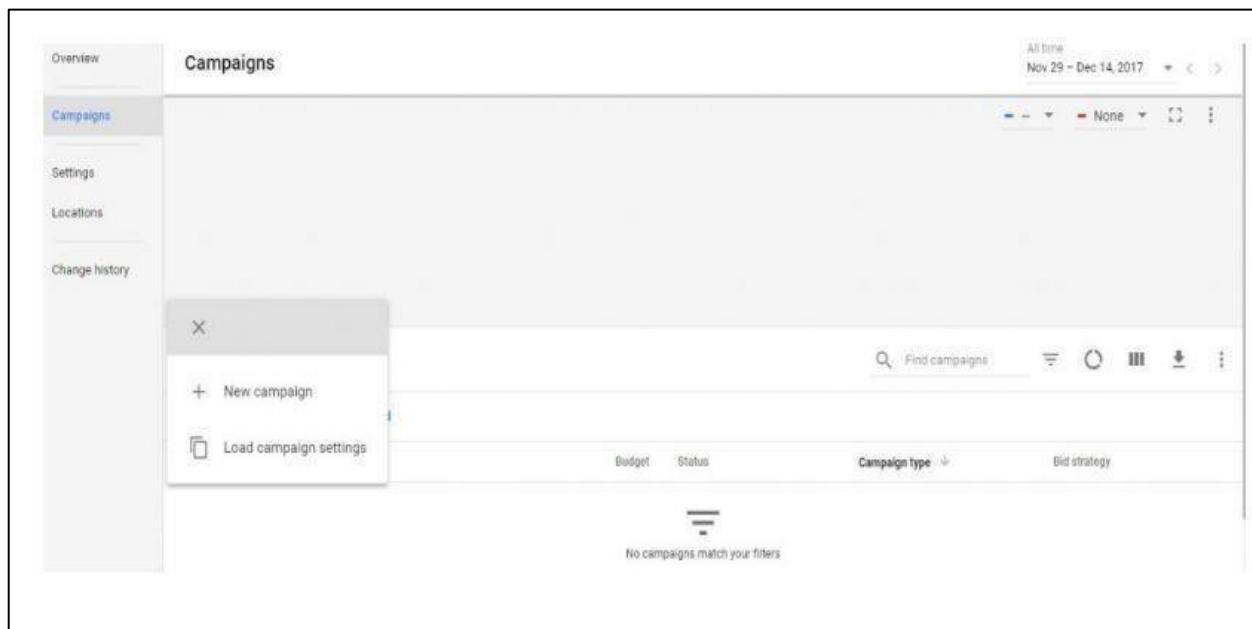
When using AdWords keywords are also used to determine your cost of advertising. Each keyword you choose will have a cost per click (CPC) bid amount. The bids specify the maximum amount you're willing to pay each time someone clicks your ad (the maximum cost-per-click). A higher CPC bid can allow your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

#### 4.1.2 Implementation of Google AdWords

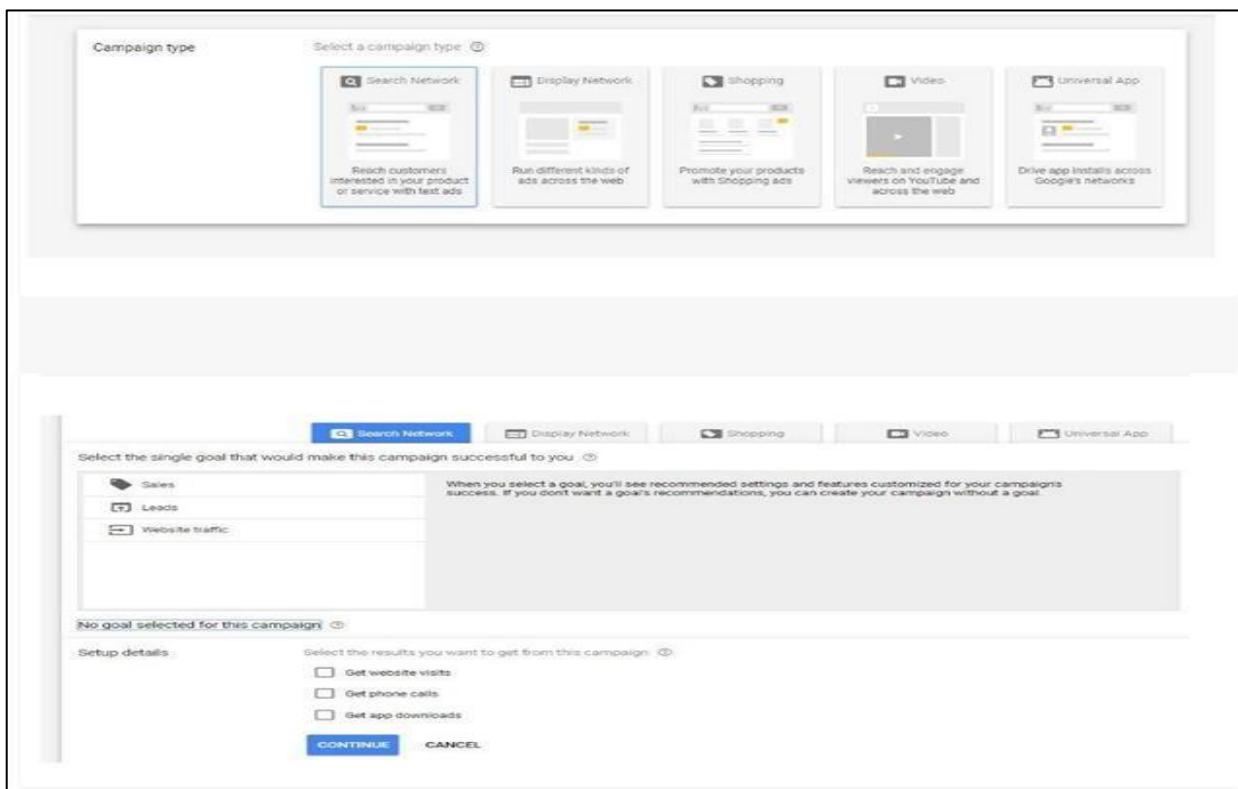
1. Go to Google AdWords and sign into your Google account



2. Add a new campaign



### 3. Select a campaign Type, Set your goal, set the results



### 4. Fill in the campaign details (name, network, location, etc.)



### 5. Set your bid



## 6. Provide your payment information

**Your ad**

vehicle workshop - services  
www.eworkshop.ml

shopping

Your ad could be formatted differently to fit a user's device, but your ad text will stay the same.

**Daily potential reach**  
3+ Clicks

**Budget and bidding**  
Rs 1.00 daily budget  
AdWords automatically sets your bids to help you get as many clicks as possible within your budget.

**Payment information**

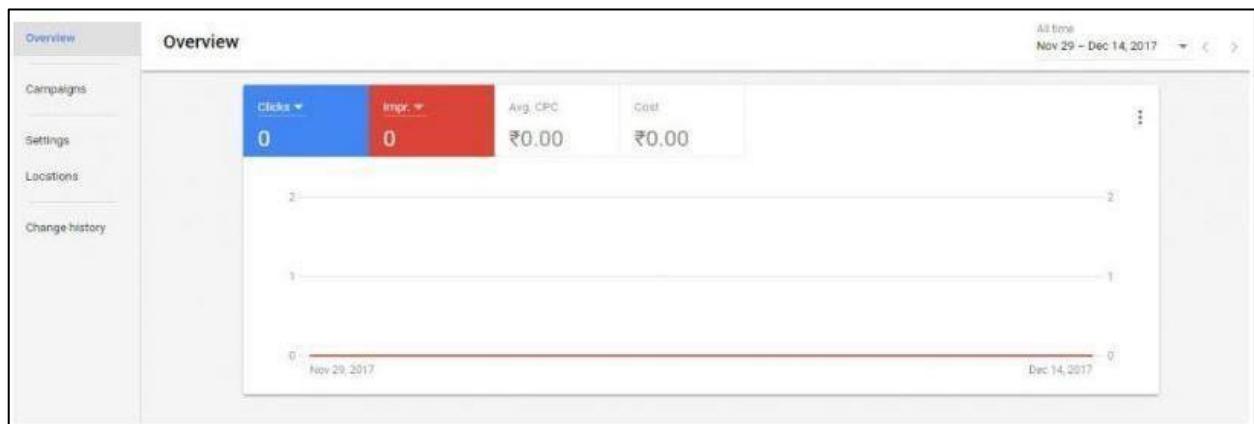
Billing country: India

Time zone: (GMT+05:30) India Standard Ti...

Timezone applies to your entire account and cannot be changed later.

Introductory offer: [ ] Apply

## 7. You can view the overall status of your ad here



## 4.2 GOOGLE ADSENSE

### 4.2.1 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.

#### 4.2.2 Implementation of AdSense

Step1: Go to AdSense Custom Search Ads Generator

The screenshot shows the 'Page Options' configuration page of the AdSense Custom Search Ads Generator. It includes fields for 'Required' settings like Pub ID (pub-961638900), Query (hotels), Number of ad units (1), and Page Number (1). It also includes 'Ad Extensions' options (Location extension, Seller Ratings, Site Links) with a note: 'Note: Some Ad Extensions may not appear in the preview.' Under 'Configuration Settings', it shows Ad Language (ENGLISH), Adsafe Level (HIGH), Channel ID, and Testing Mode (OFF).

Step2: Configure page options and page settings, such as Ad query string, no.of ad units, number of pages, font, and color etc.

The screenshot shows the 'Ad Unit 1 Options' configuration page. It includes fields for 'Required' settings like Container ID (afscontainer1) and Width (px) (700). Under 'Configuration Settings', it shows Type of ad (BTF) and Number of ads (2). Under 'Fonts', it shows Font family (ARIAL), Title font size (12 PX), and Description font size (12 PX).

Step3: Preview your Ad unit.

Detailed Attribution

**Ad Unit 1 Preview**

Ads by Google related to: hotels

**A** hotels.com ★★★★☆ (4.4) Hotels.com: Cheap Hotels - Free Nights With Our Rewards Exclusive Deals, Central Locations! Search & Book Cheap Hotels online. Guest Reviews. Budget Hotels. Earn Free Hotel Nights. No Cancellation Fees. Mumbai Hotels Bengaluru Hotels New Delhi Hotels Sydney Hotels Honolulu Hotels New York Hotels

**B** booking.com ★★★★☆ (4.6) Hotels: Booking.com Lowest Price Guarantee Book at over 1,744,000 hotels online. Best Price Guarantee. Get Instant Confirmation. 24/7 Customer Service. Read Real Guest Reviews. Book Now Book for Tonight Book for Tomorrow No Booking Fees Secure Booking

**Get the Code**

Step4: Place the javascript code in your <head> tag and HTML content in your <body> tag.

Place this code in the <head> tag on your page.

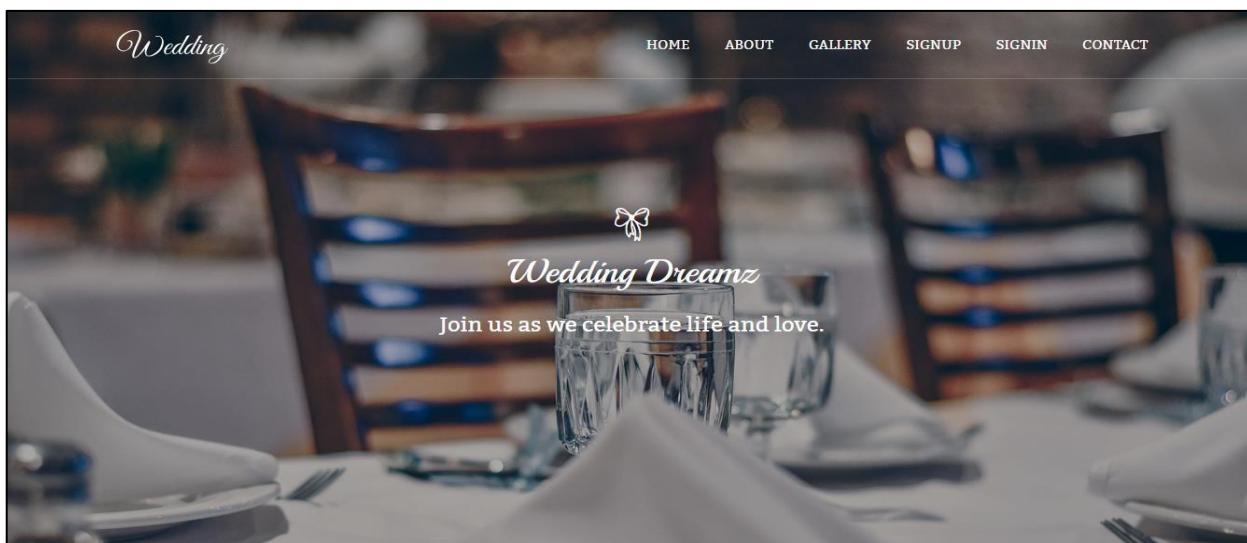
```
<script async="async" src="https://www.google.com/adsense/search/ads.js"></script>
<!-- other head elements from your page -->

<script type="text/javascript" charset="utf-8">
(function(g,o){g[o]=g[o]||function(){(g[o]['q']=g[o]['q']||[]).push(
arguments),g[o]['t']=i+new Date()})(window, _googCsa');
</script>
```

Place this code in the <body> tag on your page.

```
<div id='afscontainer1'></div>
<script type="text/javascript" charset="utf-8">
var pageOptions = {
  'pubId': 'pub-9616389000213823', // Make sure this the correct client ID!
  'query': 'hotels',
  'adPage': 1
};
```

Step5: Refresh your page to check whether the Ads is working or not.



## 4.3 Google Webmasters

### 4.3.1 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

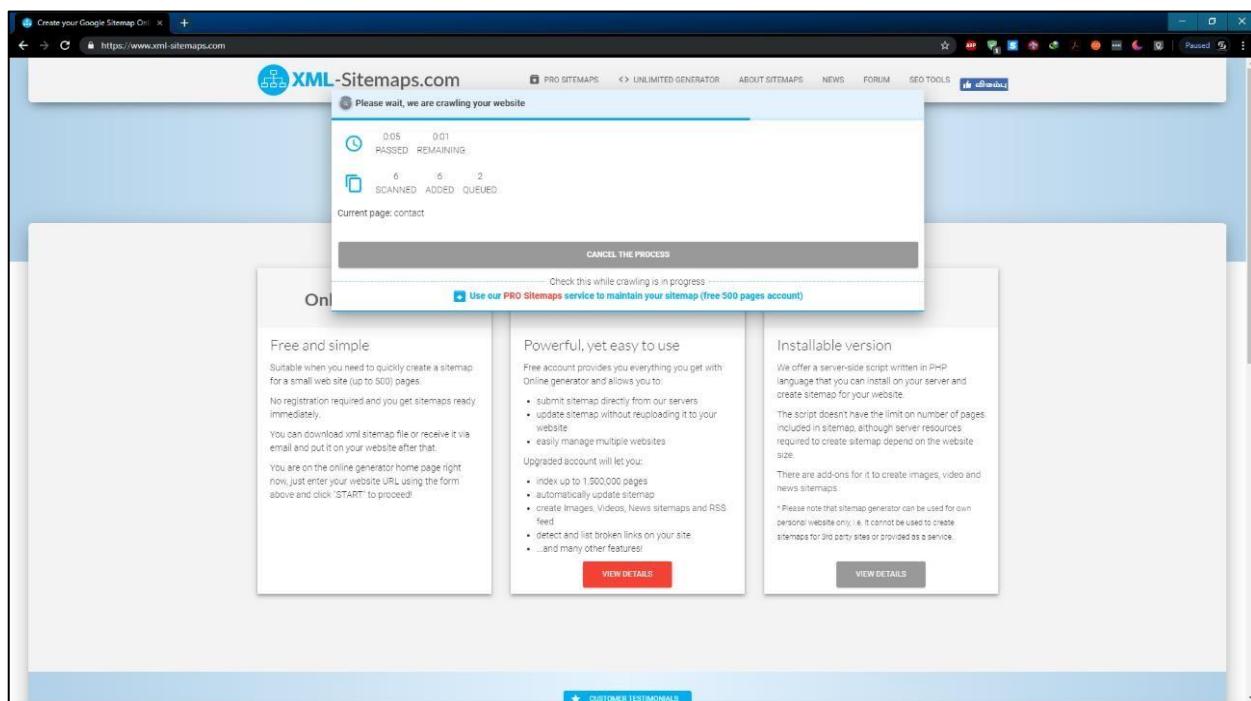
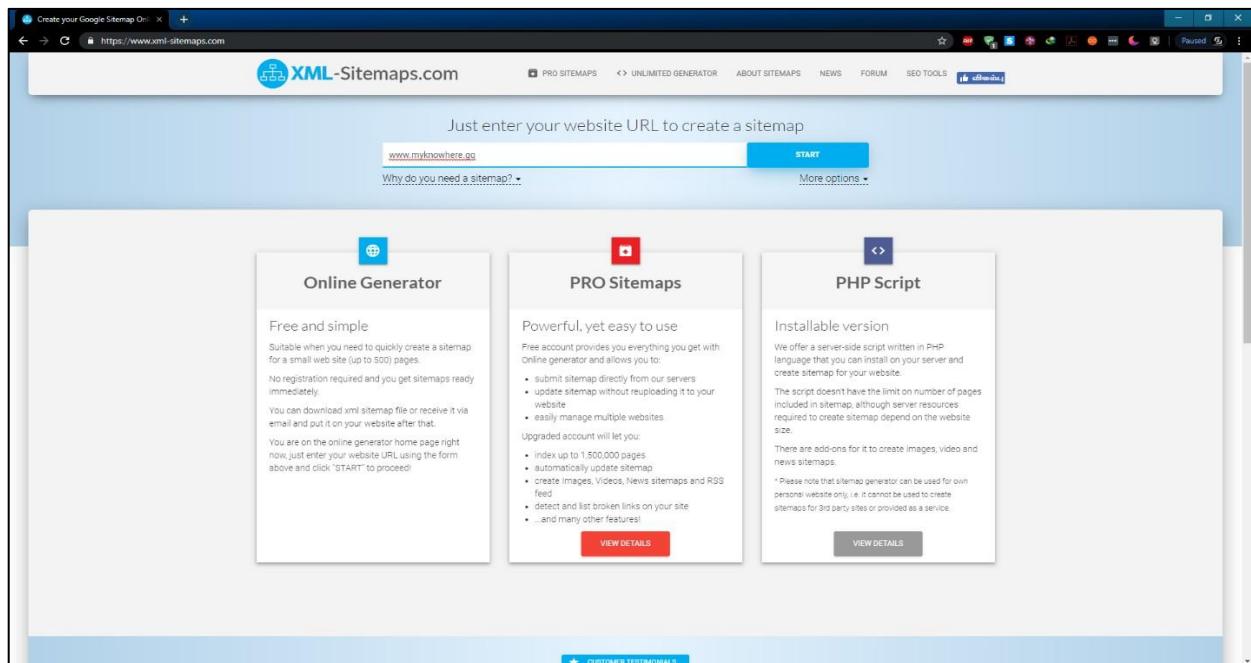
- It verifies that Google can access the content on your website.
- GWT makes it possible to submit new pages and posts for Google to crawl and remove content you don't want search engine users to discover.
- It helps you deliver and evaluate content that offers users a more visual experience.
- You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

### 4.3.2 Implementation of Sitemap

A site map is a model of a website's content designed to help both users and search engines navigate the site. A sitemap can be a hierarchical list of pages (with links) organized by topic, an organization chart, or an XML document that provides instructions to search engine crawl bots. The Sitemaps protocol allows a webmaster to inform search engines about URLs on a website that are available for crawling.

Step1: Generate your website sitemap using an online sitemap generator. Enter your website URL and

Start the process



Step2: Once the process is completed, it will generate a sitemap.xml file

The screenshot shows the XML-Sitemaps.com interface. At the top, there's a navigation bar with links for PRO SITEMAPS, UNLIMITED GENERATOR, ABOUT SITEMAPS, NEWS, FORUM, and SEO TOOLS. Below the navigation is a search bar with the URL <http://www.myknowhere.gq/>. The main content area is titled "Sitemap Details". It includes a "What's next?" section with a "DOWNLOAD YOUR XML SITEMAP FILE" button and instructions to upload it to the domain root folder. Below this is a "Sitemap Preview" table showing URLs, Last Mod, and Priority. To the right is a "Sitemap Details" panel with statistics: Created on 30 May 2019, 08:15; Processed 11 pages; Pages indexed: 40 (crawled: 40); Pages size: 0.19Mb; Broken links: None. There's also a preview image of the website's homepage with the title "Discover The City Gems". A "Feedback" section at the bottom encourages users to leave testimonials.

Step3: Upload the sitemap.xml file to your root directory and enter the path to submit the sitemap

```

<?xml version="1.0" encoding="UTF-8"?>
<urlset xmlns="http://www.sitemaps.org/schemas/sitemap/0.9" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.sitemaps.org/schemas/sitemap/0.9/sitemap.xsd">
    <!-- created with Free Online Sitemap Generator www.xml-sitemaps.com -->
    <url>
        <loc>http://www.myknowhere.gq/</loc>
        <lastmod>2019-05-30T07:15:57+00:00</lastmod>
        <priority>1.00</priority>
    </url>
    <url>
        <loc>http://www.myknowhere.gq/about</loc>
        <lastmod>2019-05-30T07:15:57+00:00</lastmod>
        <priority>0.80</priority>
    </url>
    <url>
        <loc>http://www.myknowhere.gq/services</loc>
        <lastmod>2019-05-30T07:15:57+00:00</lastmod>
        <priority>0.80</priority>
    </url>
    <url>
        <loc>http://www.myknowhere.gq/faq</loc>
        <lastmod>2019-05-30T07:15:57+00:00</lastmod>
        <priority>0.80</priority>
    </url>
    <url>
        <loc>http://www.myknowhere.gq/howworks</loc>
        <lastmod>2019-05-30T07:15:57+00:00</lastmod>
        <priority>0.80</priority>
    </url>
    <url>
        <loc>http://www.myknowhere.gq/contact</loc>
        <lastmod>2019-05-30T07:15:57+00:00</lastmod>
        <priority>0.80</priority>
    </url>
    <url>
        <loc>http://www.myknowhere.gq/password/reset</loc>
        <lastmod>2019-05-30T07:15:57+00:00</lastmod>
        <priority>0.80</priority>
    </url>
    <url>
        <loc>http://www.myknowhere.gq/addlisting</loc>
        <lastmod>2019-05-30T07:15:57+00:00</lastmod>
        <priority>0.80</priority>
    </url>
    <url>
        <loc>http://www.myknowhere.gq/category</loc>
        <lastmod>2019-05-30T07:15:57+00:00</lastmod>
        <priority>0.64</priority>
    </url>

```

### 4.3.3 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 the 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/
```

## 4.4 BING WEBMASTER TOOL

### Introduction to Bing Webmaster Tool

Bing Webmaster Tools (previously the Bing Webmaster Centre) 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. Bing has generally been great to SEOs and webmasters, and nowhere is this more apparent than with Bing Webmaster Tools. In many ways, Bing Webmaster Tools is actually more advanced — and caters

more to SEO professionals than its Google counterpart, Google Search Console. For this, I give them a round of applause. I mean, would we have a Google Disavow Links Tool if Bing hadn't released one first? Maybe but I still applaud Bing for catering to SEOs.

### Step1- Sign in to Bing webmaster

### Add site to bing webmaster

Step 2: Add a website and provide the details about the site.

The screenshot shows the 'Add a Site' page on the Bing Webmaster interface. The URL field contains 'http://weddingdreamz.tk/'. The 'About My Website' section includes fields for First Name ('RESHMA'), Last Name ('R'), Email ('reshmar24@gmail.com'), Job role ('student'), Company or organization Name ('Amal Jyothi'), and Company or organization size ('Amal Jyothi'). The 'About Me' section includes fields for Industry ('Select industry type') and Contact phone. Navigation links at the bottom include Privacy and Cookies, Legal, Advertise, Help, Support, and Feedback.

Step 3: Verify ownership of your site.

Download and Upload BingSiteAuth.xml the file to your root directory.

Confirm successful upload by visiting your URL/BingSiteAuth.xml in your browser

Copy and paste a <meta> tag in your default webpage

## **PART 5**

### **SITE SECURITY**

## 5.1 SITELOCK SECURITY

SiteLock provides comprehensive, cloud-based website security solution service that performs daily scans of a website to identify vulnerabilities and protect against threats like viruses, cross-site scripting, SQL injection and even email backlisting's SiteLock Trust Seal provides customer confidence and increases your sales and conversions. And they are the Global Leader in business website security solutions, is the only web security solution to offer complete, cloud-based website protection. Its 360 -degree monitoring finds and fixes threats, prevents future attacks, accelerates website performance and meets PCI compliance standards for businesses of all sizes. Founded in 2008, SiteLock protects over 12 million websites worldwide.

### Key Features

- Website Acceleration

Improve SEO and reduce bandwidth and server use with SiteLock's Global Content Delivery Network (CDN); ensure a consistent and speedy consumer experience.

- DDoS Protection

Protect websites from all types of DDoS attacks with auto -detection and triggering, and fewer than 0.01% false positives.

- Web Application Firewall

Secure websites from automated and human targeted attacks, prevent scrapers, block backdoor access and sort out bot traffic.

- Automatic Detection and Remediation

Get 360-degree protection from malware and identify vulnerabilities with daily malware detection scans, automatic malware removal, and expert support.

- Expert Support 24/7/365

Connect with SiteLock's specialized security engineers any time of day via email, chat, and phone, and use SiteLock911 for emergency malware removal.

## 5.2 PCI COMPLIANCE

The Payment Card Industry Data Security Standard (PCI DSS) is an information security standard for organizations that handle branded credit cards from the major card schemes. The PCI Standard is mandated by the card brands and administered by the Payment Card Industry Security Standards Council. The standard was created to increase controls around cardholder data to reduce credit card fraud. Validation of compliance is performed annually, either by an external Qualified Security Assessor (QSA) or by a firm-specific Draft:Internal Security Assessor (ISA) that creates a Report on Compliance for organizations handling large volumes of transactions, or by Self-

Assessment Questionnaire (SAQ) for companies handling smaller volumes.

The PCI Data Security Standard specifies twelve requirements for compliance, organized into six logically related groups called "control objectives." These 6 groups are:

1. Build and Maintain a Secure Network and Systems
2. Protect Cardholder Data
3. Maintain a Vulnerability Management Program
4. Implement Strong Access Control Measures
5. Regularly Monitor and Test Networks
6. Maintain an Information Security Policy

### **Goals of PCI Compliance**

1. Building and maintaining a secure network.
2. Protect Cardholder Data.
3. Maintain a Vulnerability Management Program.
4. Implement Strong Access Control Measures.
5. Implement Strong Access Control Measures.
6. Maintain an Information Security Policy.

## **PART 6**

### **SERVER SECURITY AND PENETRATION TESTING**

## 6.1 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

- Limit Data Access
- Identify Sensitive Data
- Pre-planned Data Security Policy

## 6.2 HTTPS USING .HTACCESS FILE

.htaccess is a configuration file for use on web servers running the Apache Web Server software. When a .htaccess file is placed in a directory which is in turn 'loaded via the Apache Web Server', then the .htaccess file is detected and executed by the Apache Web Server software. These .htaccess files can be used to alter the configuration of the Apache Web Server software to enable/disable additional functionality and features that the Apache Web Server software has to offer. These facilities include basic redirect functionality, for instance, if a 404 file not found error occurs, or for more advanced functions such as content password protection or image hotlink prevention.

### How to force HTTPS using a .htaccess file in cPanel

Once an SSL certificate is installed and a site can be reached via https:// appropriately, visitors should be able to access the whole site or key pages via https:// automatically. In other words, by typing domain.com in a web-browser, a user should be redirected to https://domain.com to access the site securely. To accomplish this, a special set of directives called rewrite rules needs to be added to the website's **.htaccess file**, which can be found in the root folder of a specific site in cPanel (e.g. "public\_html"). If the file is not shown, please make sure to click on 'Settings' and tick the option 'Show hidden files'. Also, this file can be created if it cannot be located in any way.

Redirect Only Specified Domain

To force a specific domain to use HTTPS, use the following lines of code in the .htaccess file in your website's root folder:

```
RewriteEngine on  
RewriteOptions inherit  
RewriteCond %{HTTPS} off  
  
RewriteCond %{REQUEST_URI} !^/[0-9]+\..+\cpaneldcv$  
  
RewriteCond %{REQUEST_URI} !^/[A-F0-9]{32}\.txt(?:\ Comodo\ DCV)?$  
  
RewriteCond %{REQUEST_URI} !^/.well-known/pki-validation/[A-F0-9]{32}\.txt(?:\ Comodo\ DCV)?$  
  
RewriteRule ^(.*)$ https://%{HTTP_HOST}%{REQUEST_URI} [L,R=301]  
  
RewriteCond %{REQUEST_FILENAME} !-f  
RewriteRule ^([^\.]+)$ $1.php [NC,L]
```

## 6.3 MODSECURITY TOOLS

The ModSecurity Tools interface allows you to install and manage ModSecurity rules. This interface can be accessed from cPanel & WHM (Home > Security Center > ModSecurity Tools)

### **What is ModSecurity and why you need it?**

Mod Security is an open source, embedded web application firewall which protects your website and its applications against various attacks by blocking malicious scripts, programs and injections with the help of regular expressions and set of rules. And It is a module for Apache web servers and checks all HTTP requests that reach Apache and Nginx- supplementary web server of Apache.

### **What can Mod Security do to protect your website?**

The Mod Security engine scans all the requests which come to the web server and relative responses which are sent from the server as per its set of rules. If the check succeeds, the HTTP request is passed to the website content but if it fails, then it blocks the request and performs following action

- Security monitoring and access control
- Virtual Patching
- Full HTTP traffic logging
- Security assessment
- Web application hardening
- Passive security assessment
- Simple request or Regular expression-based Filtering
- URL Encoding Validation
- Auditing
- IP Reputation

## 6.4 OWASP

The **Open Web Application Security Project (OWASP)**, an online community, produces freely-available articles, methodologies, documentation, tools, and technologies in the field of web application security. The Open Web Application Security Project (OWASP) is a worldwide not-for-profit charitable organization focused on improving the security of software. **OWASP** Operating as a community of like-minded professionals, OWASP issues software tools and knowledge-based documentation on application security. All of its articles, methodologies, and technologies are made available free of charge to the public.

OWASP seeks to educate developers, designers, architects and business owners about the risks associated with the most common Web application security vulnerabilities. OWASP, which supports both open source and commercial security products, has become known as a forum in which information technology professionals can network and build expertise. The organization publishes a popular Top Ten list that explains the most dangerous Web application security flaws and provides recommendations for dealing with those flaws.

OWASP tools, document and code library projects are organized into three categories, tools and documents that can be used to find security-related design and implementation flaws, tools and documents that can be used to guard against security-related design and implementation flaws and tools and documents that can be used to add security-related activities into the application lifecycle management (ALM).

The Open Web Application Security Protocol team released the top 10 vulnerabilities that are more prevalent on the web in the recent years. The OWASP Top Ten is a list of the 10 most dangerous current Web application security flaws along with effective methods of dealing with those flaws, which tracks the top software security vulnerabilities

- Unvalidated input.
- Broken authentication and session management.
- Injection flaws.
- Denial of service (DoS).
- Broken access control.
- Buffer overflows.

## 6.5 KALI LINUX TOOLS

### 6.5.1 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 hardworking 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.

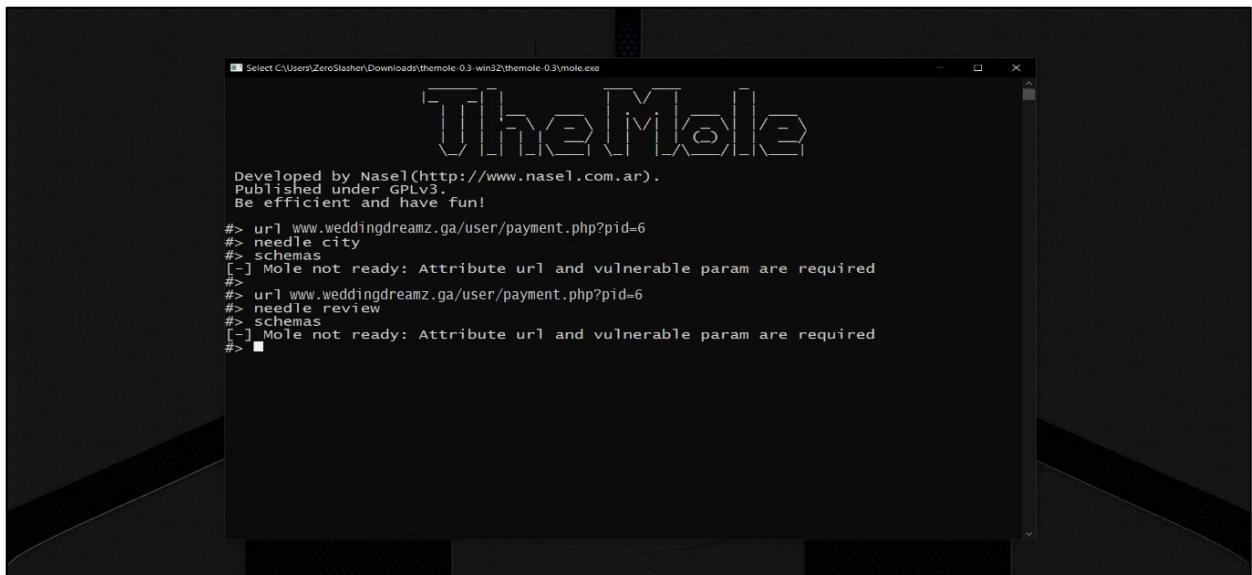
#### Testing with the Mole

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

Then, use command schemas to fetch tables



The screenshot shows a terminal window titled "Select C:\Users\ZeroSlasher\Downloads\themole-0.3-win32\themole-0.3\mole.exe". The window contains the following text:

```
THE MOLE
Developed by Nasel(http://www.nasel.com.ar).
Published under GPLv3.
Be efficient and have fun!
#> url www.weddingdreamz.ga/user/payment.php?pid=6
#> needle city
#> schemas
[-] Mole not ready: Attribute url and vulnerable param are required
#>
#> url www.weddingdreamz.ga/user/payment.php?pid=6
#> needle review
#> schemas
[-] Mole not ready: Attribute url and vulnerable param are required
#>
```

Output: Could not Exploit SQL Injection

## **PART 7**

### **TECHNOLOGY FRAMEWORKS**

## 7.1 ASP.NET MVC

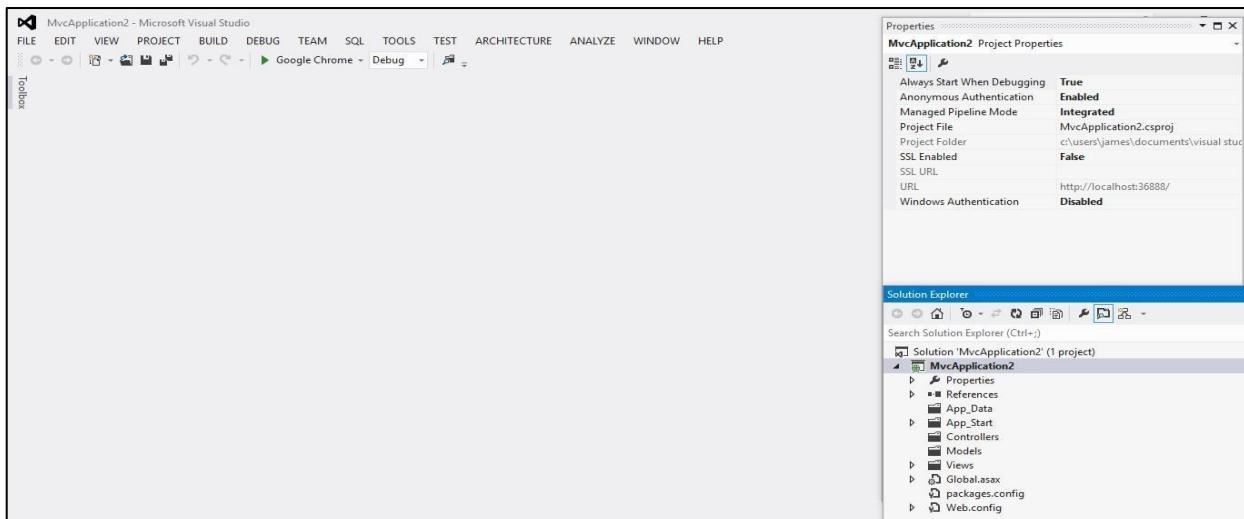
### Introduction

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. This tutorial provides a complete picture of the MVC framework and teaches you how to build an application using this tool. 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.

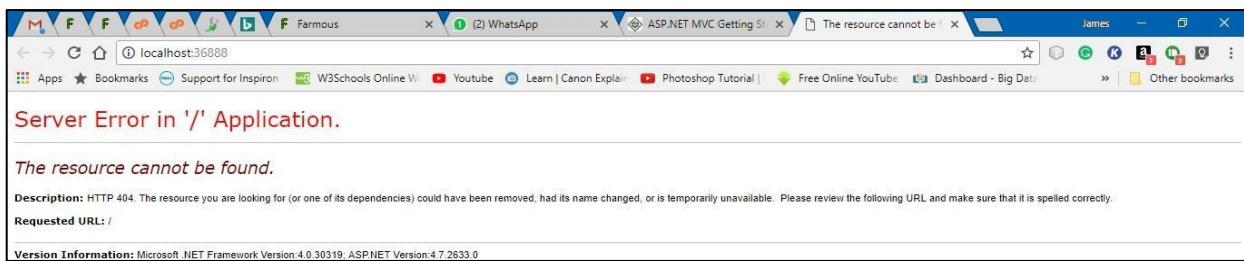
ASP.NET MVC is not something, which is built from ground zero. It is a complete alternative to traditional ASP.NET Web Forms. It is built on the top of ASP.NET, so developers enjoy almost all the ASP.NET features while building the MVC application.

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, MVCAplication2, 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.

The screenshot shows the Microsoft Visual Studio interface. In the center-left pane, the code editor displays the `Default1Controller.cs` file:

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Mvc;

namespace MvcApplication2.Controllers
{
    public class Default1Controller : Controller
    {
        // GET: Home
        public string Index()
        {
            return "Hello World, this is ASP.Net MVC Tutorials";
        }
    }
}

```

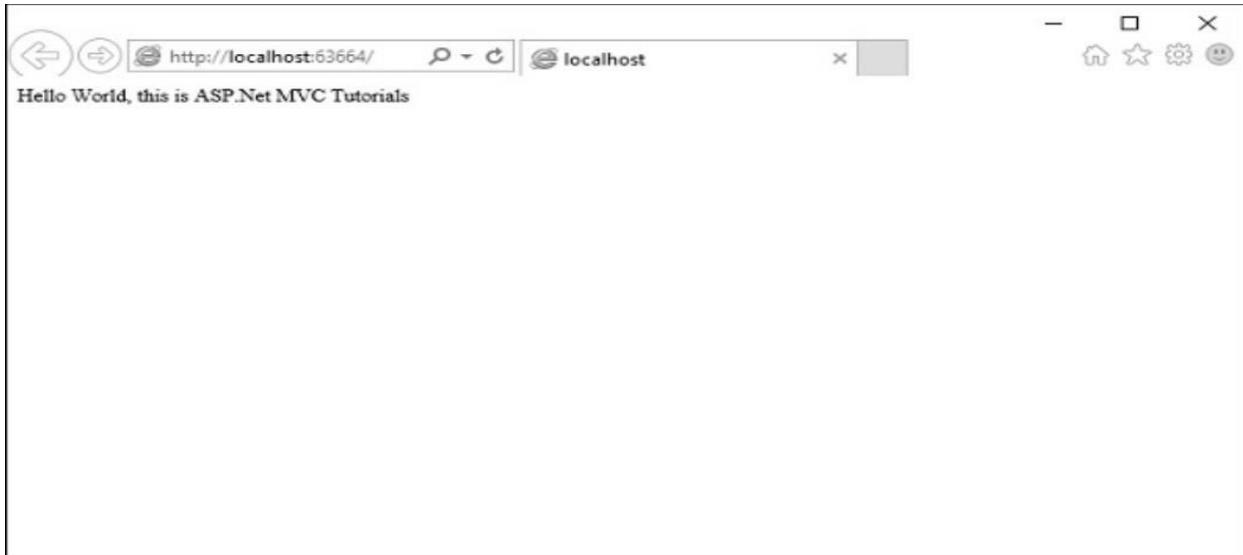
In the top right, the **Solution Explorer** shows the project structure for `MvcApplication2`:

- `MvcApplication2` (1 project)
  - `Controllers` (selected)
  - `Default1Controller.cs`
  - `Models`
  - `Views`
  - `Global.asax`
  - `packages.config`
  - `Web.config`

On the right, the **Properties** window is open for the `MvcApplication2` project, showing settings like:

Always Start When Debugging	True
Anonymous Authentication	Enabled
Managed Pipeline Mode	Integrated
Project File	<code>MvcApplication2.csproj</code>
Project Folder	<code>C:\Users\JAMES\Documents\Visual Studio 2012\Projects\ MvcApplication2</code>
SSL Enabled	False
SSL URL	<code>http://localhost:36888/</code>

- Run this application from Debug



## 7.2 LARAVEL FOR PHP

**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 **Amal Jyothi College of Engineering**

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>
```

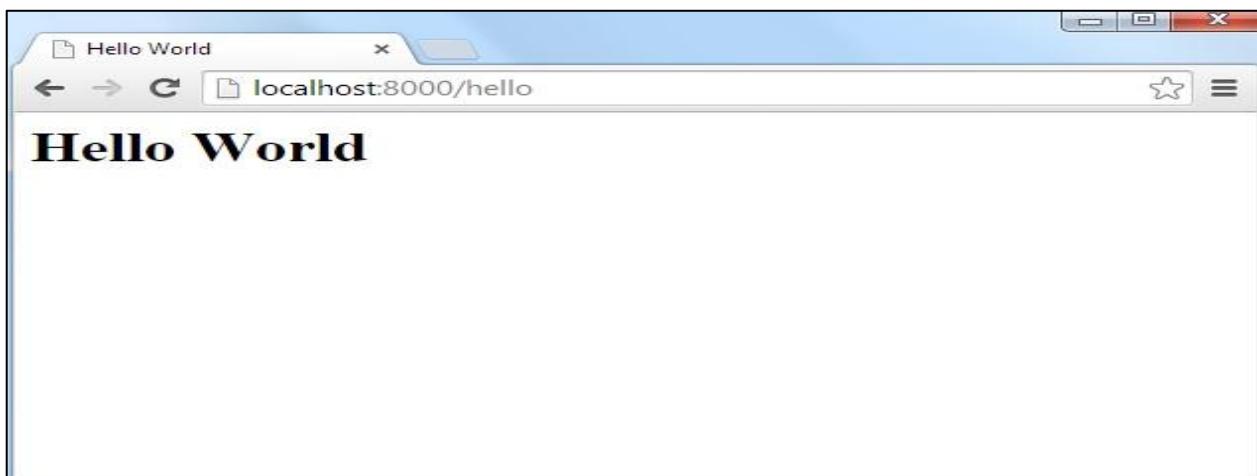
6. Now we tell index method to display the **hello.blade.php** template:

**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;**



## 7.3 ANGULAR JS

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.

### Step 3: 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 me



#### 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%;
}
```

Output of Getting Started app:



## 7.4 ANDROID

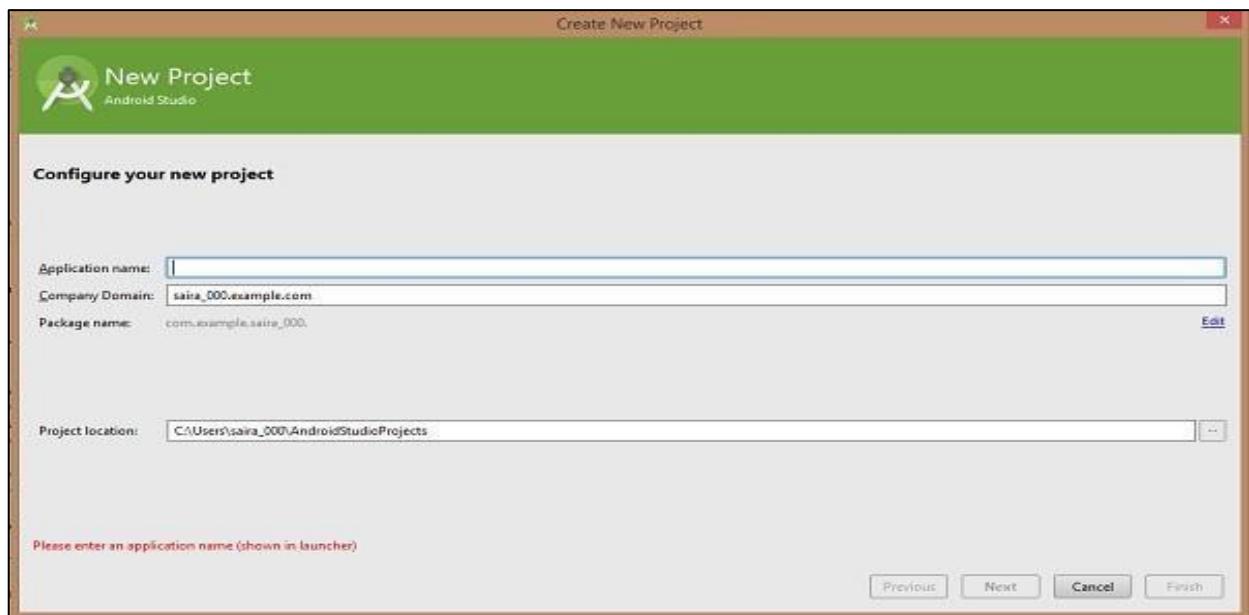
Android is a software package and linux based operating system for mobile devices such as tablet computers and smartphones. It is developed by Google and later the OHA (Open Handset Alliance). Java language is mainly used to write the android code even though other languages can be used. The goal of 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, Eclair, Donut etc .

### Creating Android Application

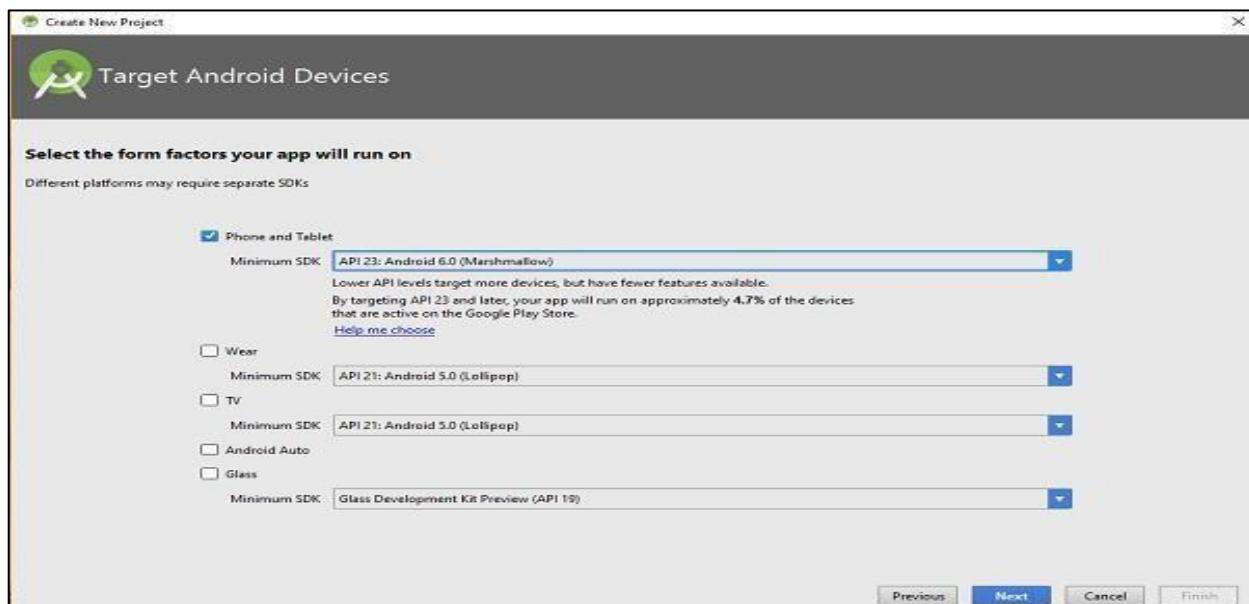
The first step is to create a simple Android Application using Android studio. When you click on Android studio icon, it will show screen as shown below:



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.



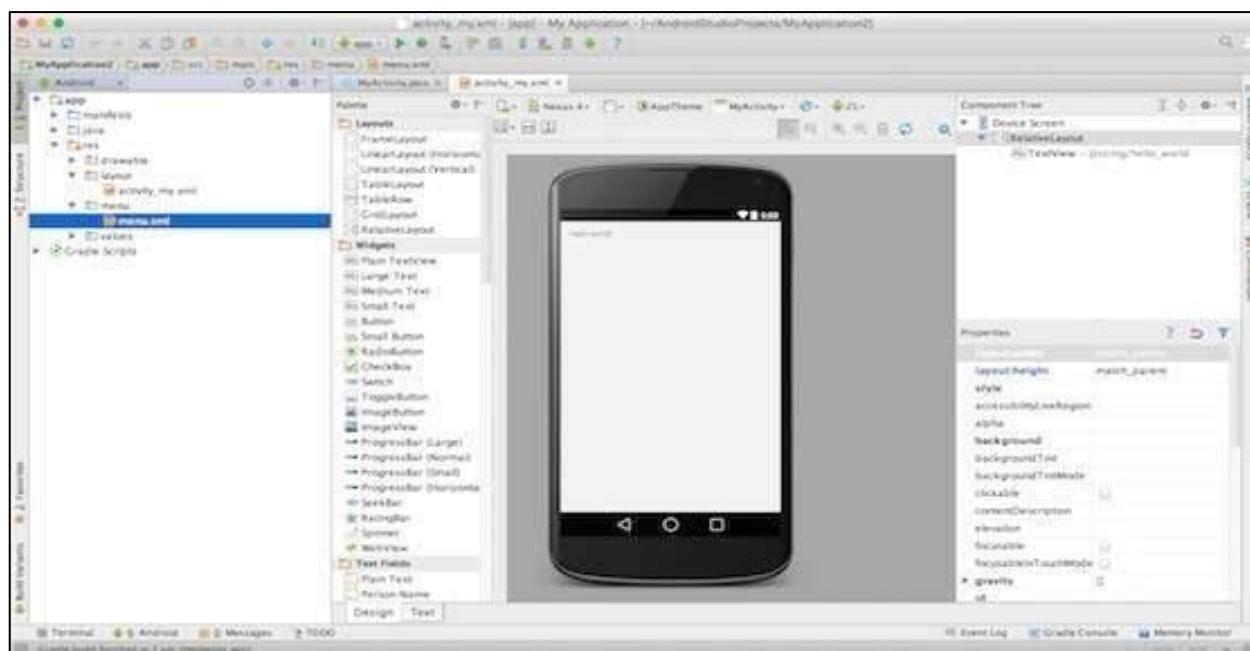
After entered application name, it going to be called select the form factors your application runs on, here need to specify Minimum SDK, in our tutorial, I have declared as API23: Android 6.0(Mashmallow) –



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

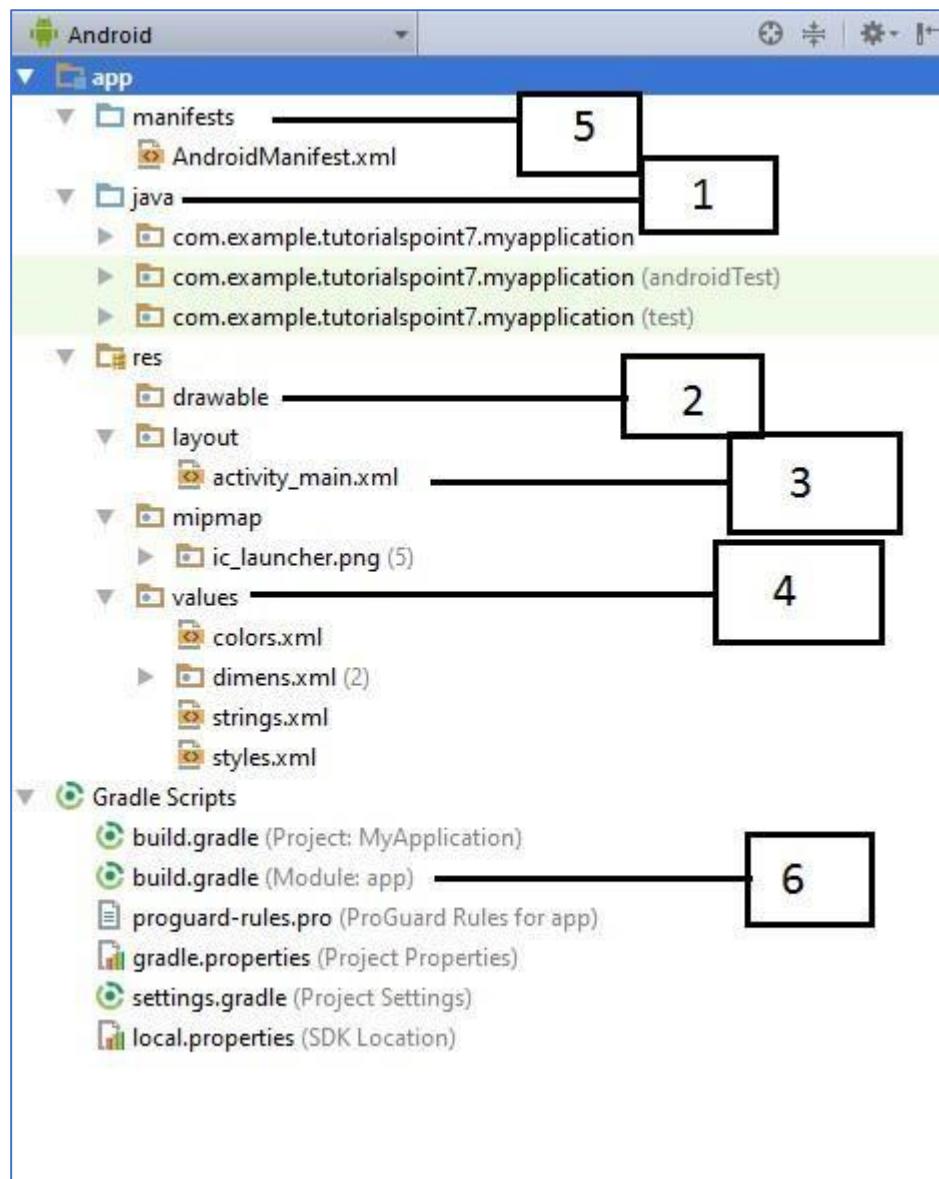


At the final stage it going to be open development tool to write the application code.



## Anatomy of Android Application

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



Sl.No.	Folder, File & Description
1	<b>Java</b> This contains the <b>.java</b> source files for your project. By default, it includes an <b>MainActivity.java</b> source file having an activity class that runs when your app is launched using the app icon.
2	<b>res/drawable-hdpi</b> This is a directory for drawable objects that are designed for high-density screens.
3	<b>res/layout</b> This is a directory for files that define your app's user interface.
4	<b>res/values</b> This is a directory for other various XML files that contain a collection of resources, such as strings and colours definitions.
5	<b>AndroidManifest.xml</b> This is the manifest file which describes the fundamental characteristics of the app and defines each of its components.
6	<b>Build.gradle</b> This is an auto generated file which contains <b>compileSdkVersion</b> , <b>buildToolsVersion</b> , <b>applicationId</b> , <b>minSdkVersion</b> .

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.tutorialspoint7.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="menu_settings">Settings</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 –



## 7.5 SERVER HARDDENING

**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 defense 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 are 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. -

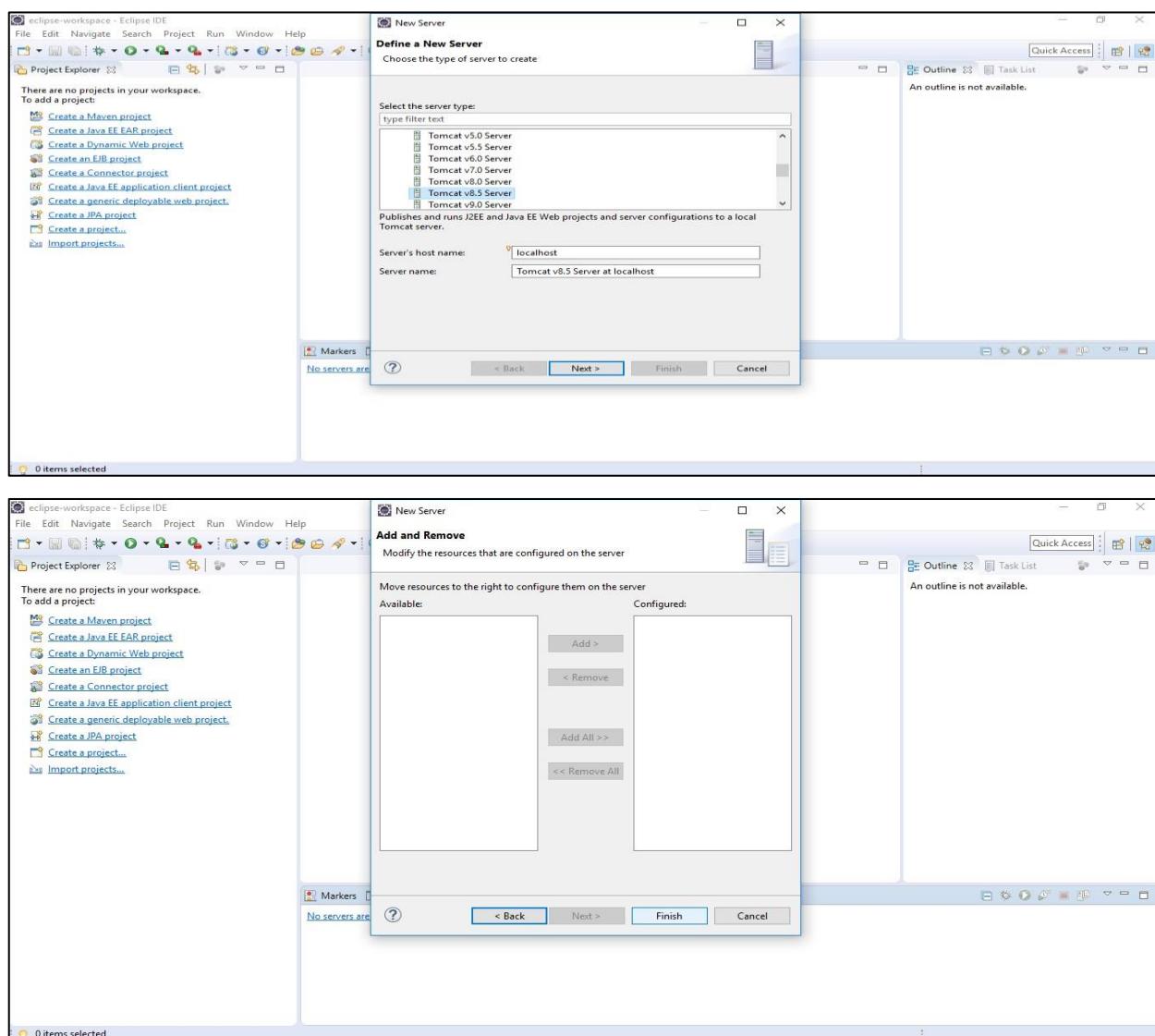
Disable Unwanted SUID and SGID Binaries - Keep your operating system up to date, especially security patches. - Using security extensions is a plus. - When using Linux, SELinux should be considered. Linux server hardening is a primary focus for the web hosting industry, however in web hosting SELinux 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, guardservices, ircd, psyBNC, ptlink. - Securing /tmp /var/tmp /dev/shm

## 7.6 JAVA SPRING

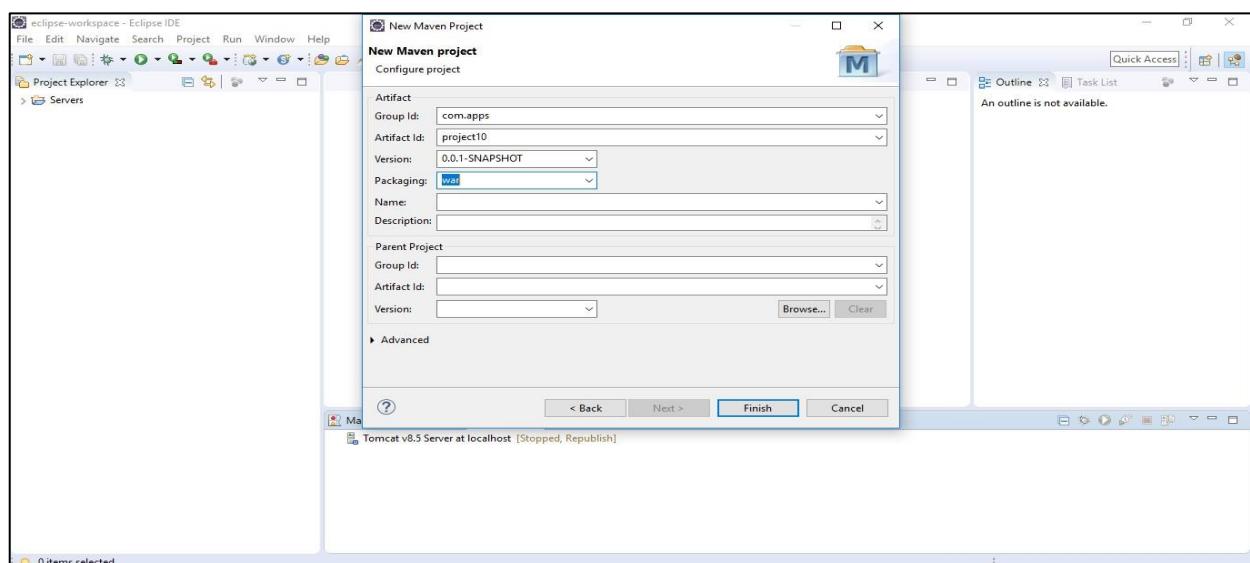
The **Spring Framework** is an application framework and inversion of control container for the Java platform. The framework's core features can be used by any Java application, but there are extensions for building web applications on top of the Java EE (Enterprise Edition) platform. Although the framework 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.

## Program Implementation

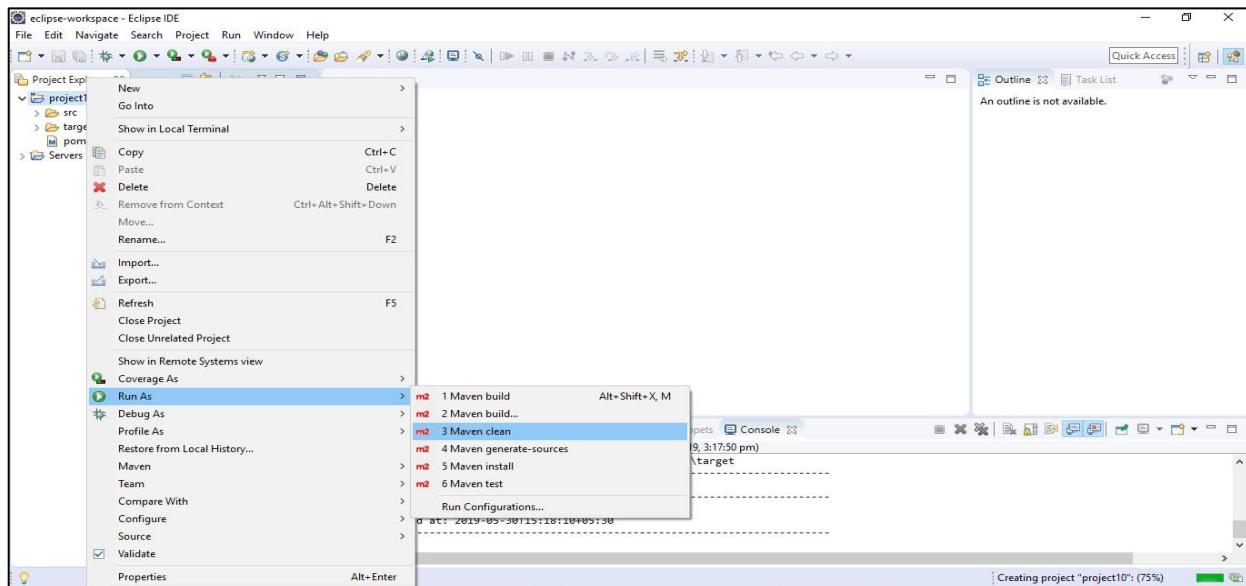
### Step1: Install JDK 1.8 and set Tomcat server



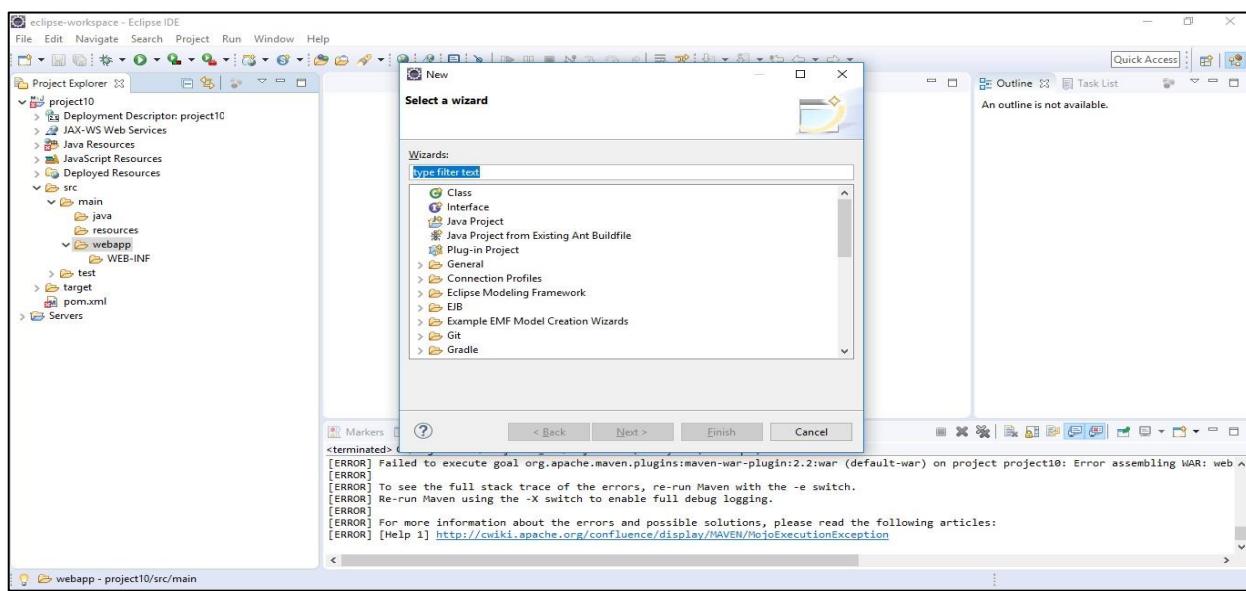
### Step2: Start Maven project – file-> new -> maven



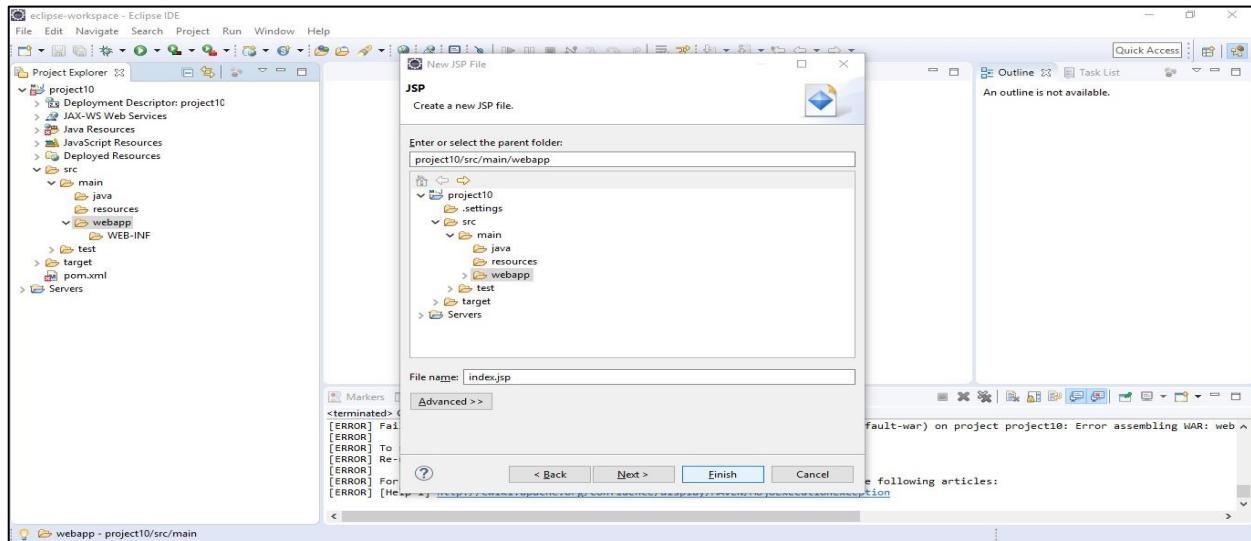
### Step3: Build your maven project



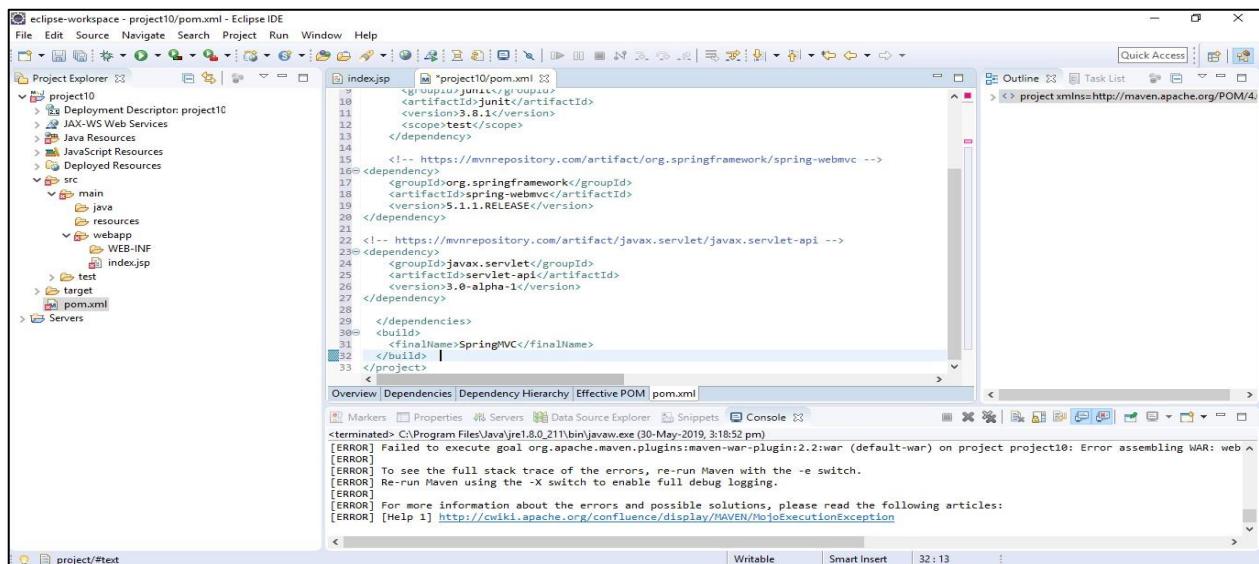
### Step 4: Add a folder in webapp and the folder name is WEB-INF



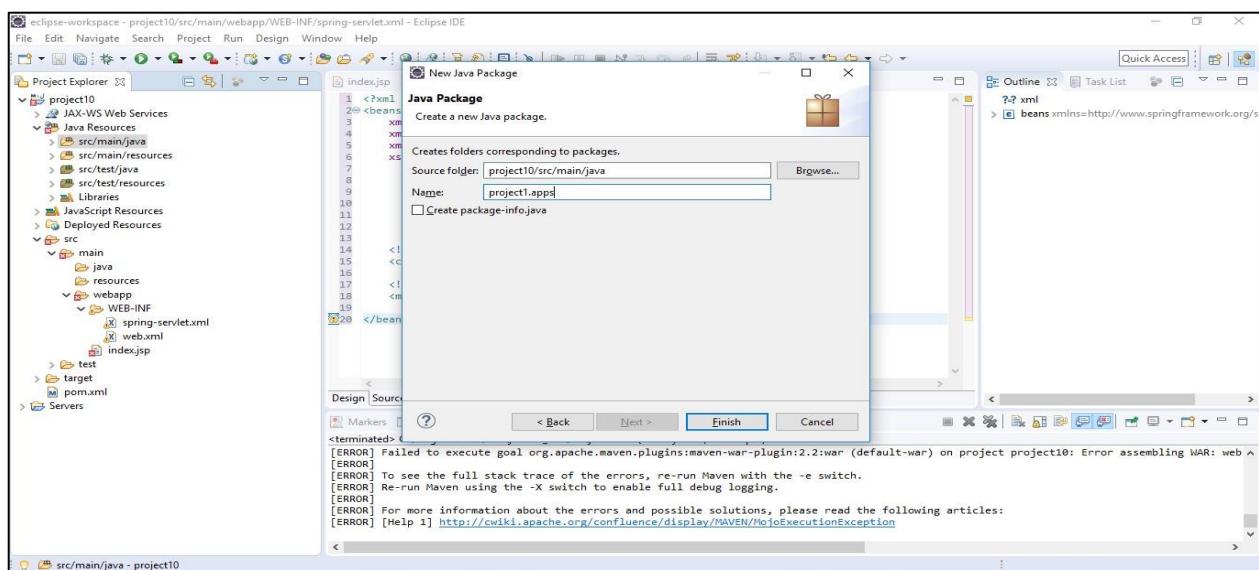
Step 5: Click WEB-INF -> Ctrl+N -> select jsp file -> name the file with index.jsp



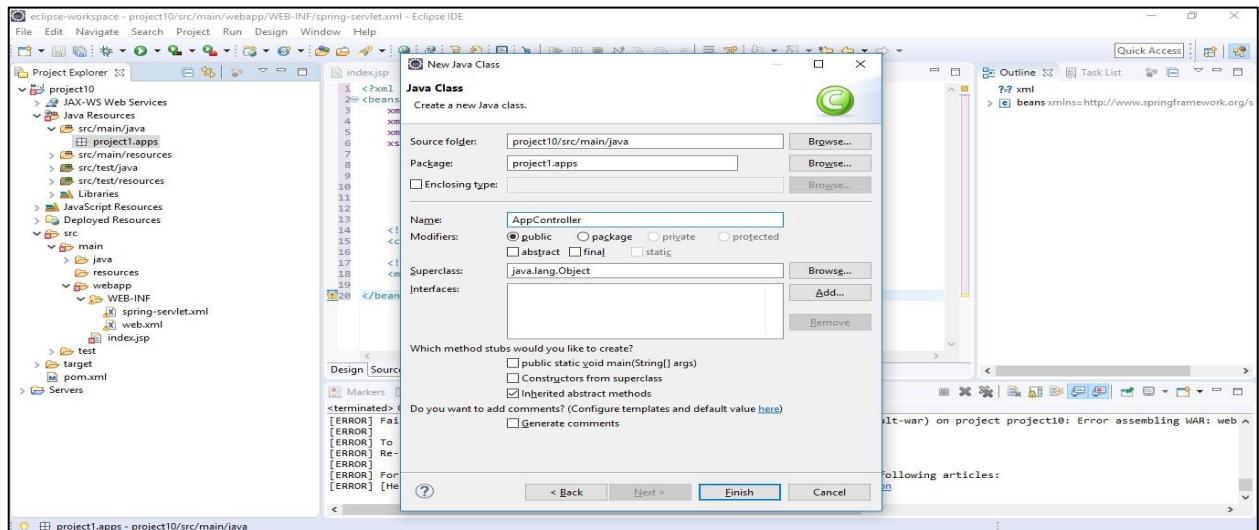
Step 6: Set Pom file



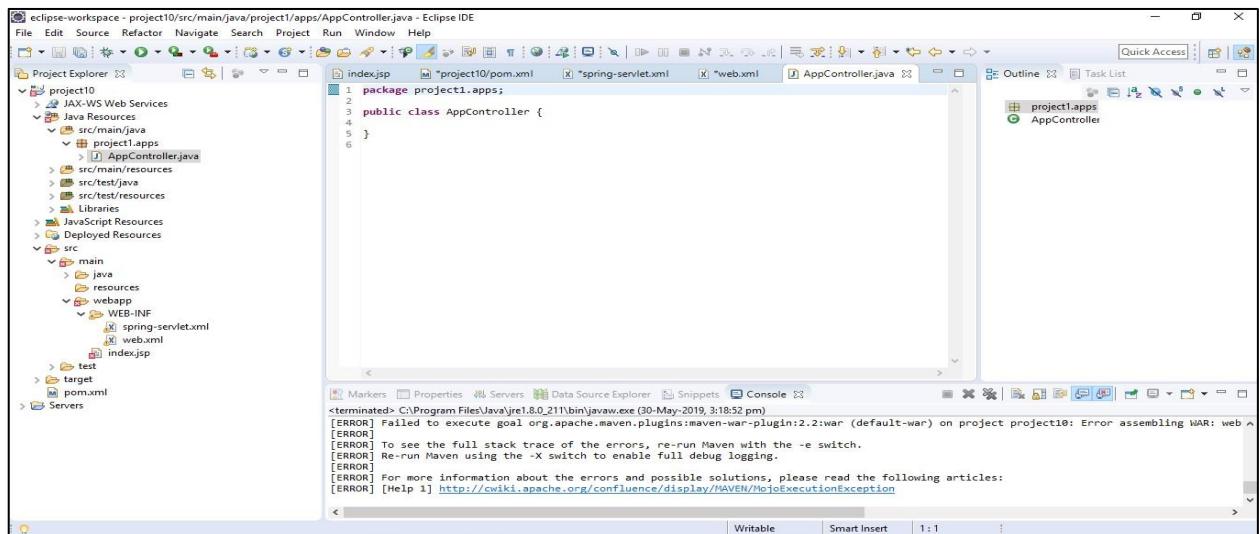
Step 7: Create java packages



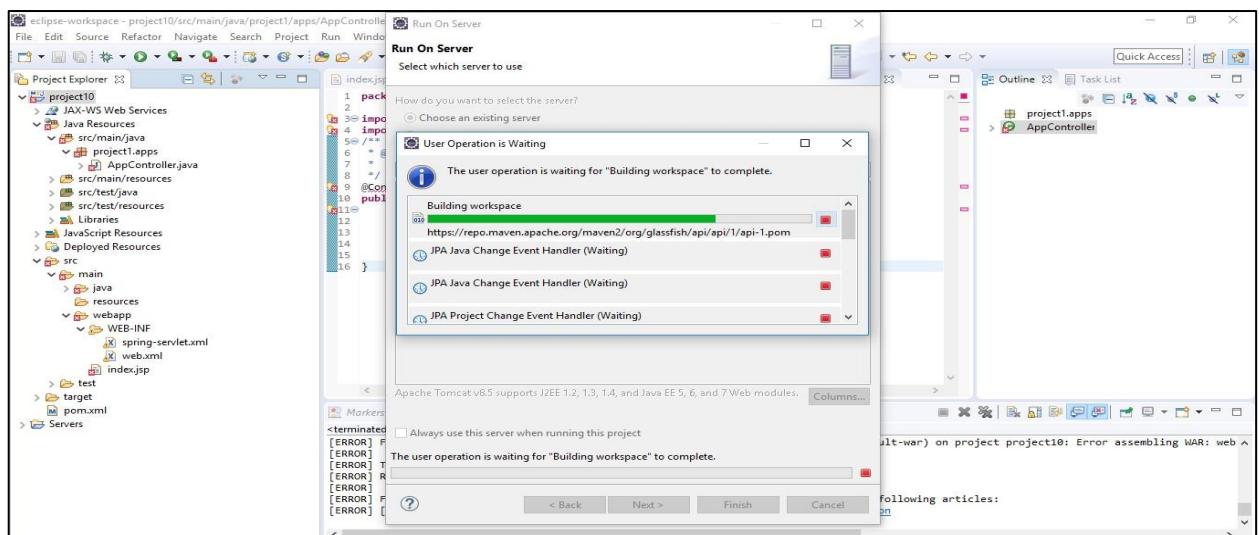
### Step 8: Create java class



### Step 9: Set AppController



### Step 10: Run your project



## **Part 8**

### **Project Documentation**

## 8.1 INTRODUCTION

### 8.1.1 Project Overview

The “Wedding Dreamz” is designed to provide more effective way of planning the wedding and effective interaction with the user and employees by the wedding planner. The users can search different packages and book the packages for the wedding. The packages provided includes catering, hall decoration, photography and dress. The employees can view the wedding details their assigned and completed works. The admin can view all the details of users and employees, allocate work to employees and make payment to employees for completed works.

### 8.1.2 Project Specification

The “Wedding Dreamz” allows the wedding planner to manage both the users and employees. It allows the wedding planner to manage the details of packages. Admin can receive the payment from user for selected packages and can allocate work to the employees. Then the employees get paid for their completed works. There are three users in this project:

#### a. Admin

- View the user details who are registered
- Update the packages or add packages
- Admin can receive payment for packages from users
- Admin can view wedding details.
- Register new employees
- Assign the different packages to different employees.
- Make payment to employee

#### b. Users

- Users can register
- Users can view the packages
- Users can add the wedding details
- Make payment to the package which he/she selects.

#### c. Employee

- Employees can update their information
- View the packages that are being allotted by the admin
- Receive payment from admin

## 8.2 SYSTEM STUDY

### 8.2.1 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.

### 8.2.2 PROPOSED SYSTEM

To overcome limitations of existing system, we can introduce the wedding planner site. In the proposed system, the users can search different packages and book the packages for the wedding, the admin can view all the details of users and employees, allocate work to employees and make payment to employees for completed works, the employees can receive the payment from admin. The existing system has several limitations and more difficulties to work well. The proposed system provides 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:

- Manage the information of package.
- It deals with monitoring the information and transactions of employees and users
- Editing, adding and updating of records is improved which results in proper resource management of wedding data.
- Payment by users for selected items
- Work allocation by admin to employees for packages
- Payment to employees by admin for their completed works

### **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.

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

### 8.3 REQUIREMENT ANALYSIS

#### 1. Project Overview?

The “Wedding Dreamz” is designed for managing operations in a smooth and effective manner by a wedding planner. The main objective of this system is to provide more effective way of planning the wedding and effective interaction with the user and employees by the wedding planner. It can manage the packages and the packages provided includes catering, hall decoration, photography, dress, etc. It also allows to view the latest events, packages for the users and allows payment by the users.

#### 2. To what extend the system is proposed for?

Functionalities provided are as follows:

- Manage the information of package.
- It deals with monitoring the information and transactions of employees and users
- Editing, adding and updating of records is improved which results in proper resource management of wedding data.
- Payment by users for selected items
- Work allocation by admin to employees for packages
- Payment to employees by admin for their completed works

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

People who are interested to approach to a wedding planner to make their wedding dreams a reality.

#### 4. List the Modules included in your System?

Login, Register, payment

#### 5. Identify the users in your project?

Admin, Employee, User

#### 6. Who owns the system?

Wedding Planner

#### 7. System is related to which firm/industry/organization?

Event management (Private)

#### 8. Details of person that you have contacted for data collection?

None

9. Questionnaire to collect details about the project?

a. Different packages available?

The packages available are catering, hall decoration, photography, dress.

b. Whether the packages are assigned to different employees?

The packages are assigned to different employees who are expertise in respective areas. For example, the employees who are responsible for decoration are assigned for hall decoration.

c. What are the payment methods available?

Debit card is preferred as the payment is online payment

d. Whether to accept all the quotation made by the users?

Yes. The quotations made by the users have to accepted by the wedding planner.

e. Can we manage several wedding ceremonies on a same day?

Yes, we can manage several wedding ceremonies on same day because the employees assigned do the duties are assigned separately for the separate events.

f. What are the type of food provided under catering package?

The package includes different type of foods as vegetarian, non-vegetarian, snacks and desserts.

g. Who is the person acting as wedding planner?

The admin is the wedding planner. He decides the packages and maintains the records of events. Also he is responsible for managing the details of employees and giving payment to them for packages assigned to them.

h. When the payment to employees are made?

The employees are paid when their assigned event has successfully completed.

i. Is the wedding planning through the website efficient?

Yes, because the system allows to view all the available packages to users and allow them to select them through the search. It also gives the user a comfortable way of usage as it resembles the online shopping sites. And also they are done by the employees assigned by the wedding planner.

j. What are services provided through hall decoration package?

The package provides the Stage Decoration, Lightings and Flower Decoration. It provides the service of decorating the wedding hall.

### **8.3.1 Feasibility Study**

The feasibility study is concerned with the consideration made to verify whether the system fit to be developed in all terms. A feasibility study is conducted to select the best system that meets the system performance requirements. It also helps in identifying the risk factors involved in developing and deploying the system. This is because based on the report the organization decides about cost estimation, funding and other important decisions which is very essential for an organization to run profitably and for the system to run stable.

The project “Wedding Dreamz” has been developed in such a way that it is fit to be developed in all terms and help users to efficiently utilize the resources through the services provided by it. There are different types in feasibility study. They are:

#### **8.3.1.1 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 system “Wedding Dreamz” is developed as part of project work, there is no manual cost to spend for the system. All the resources are already available, it give an indication of the system is economically possible for development. There are latest versions of xampp available and it is free of cost. Using the “Wedding Dreamz” large number people can solve their problems as it provides services that does not cause any manual cost.

#### **8.3.1.2 Technical Feasibility**

Technical feasibility study is the complete study of the project in terms of input, processes, output, fields, programs and procedures. It is a very effective tool for long term planning and trouble shooting.

The system “Wedding Dreamz” has been developed using PHP in front end and MySql in server in back end, the project is technically feasible for development. Many works like booking and payment are done. These languages are supported even in the latest operating systems. The system will be supported by all the windows-based operating system. There will not be any technical issues during implementation.

#### **8.3.1.3 Operational Feasibility**

Operational feasibility refers to the measure of solving problems with the help of a new proposed system. It helps in taking advantage of the opportunities and fulfils the requirements as identified during the development of the project.

The system “Wedding Dreamz” is operationally feasible as this system provides the necessary information to the user like available packages with wide varieties and to search according to their

desires. The system allows user to search and make payment on selected packages.

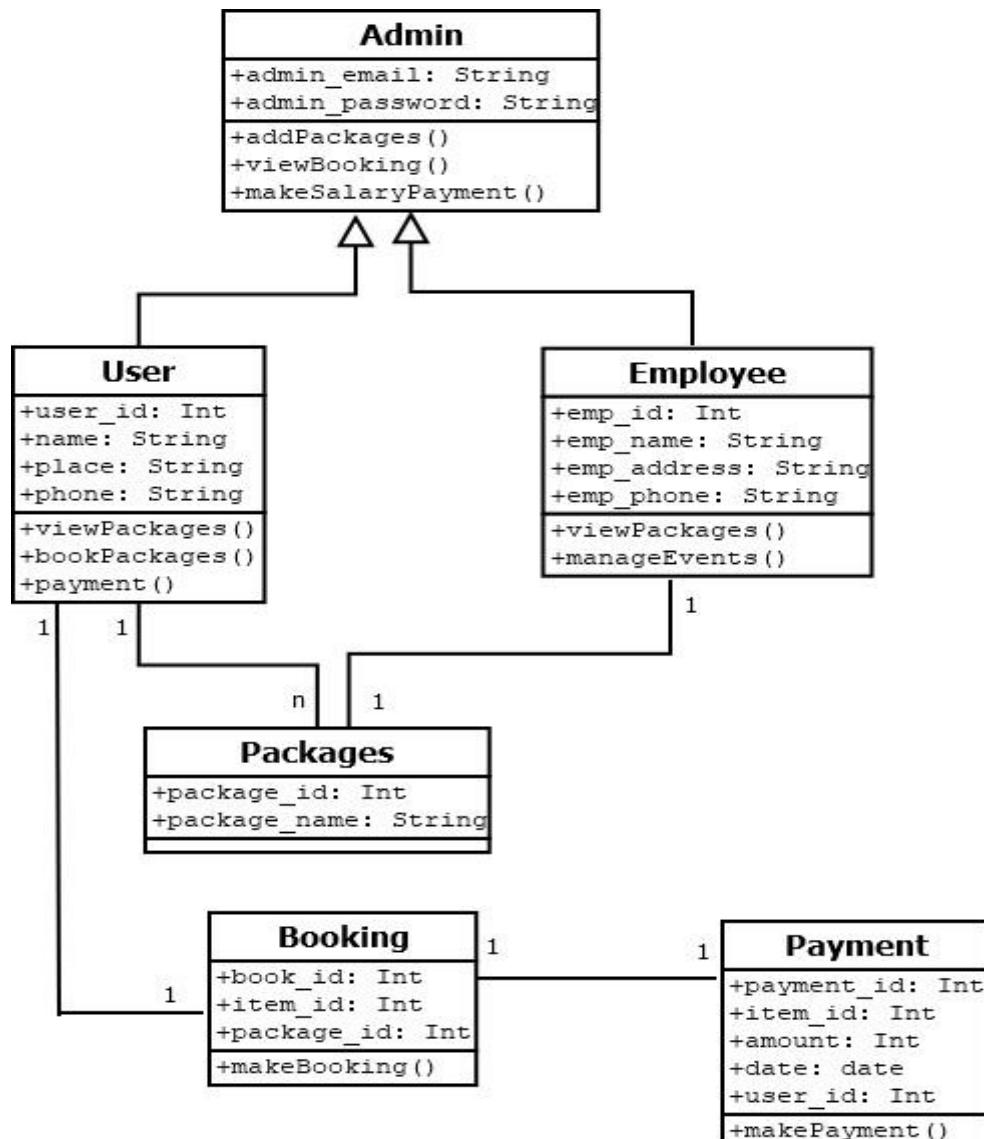
## 8.4 Requirement Modeling

### 8.4.1 CLASS DIAGRAM

Class diagram is a static diagram. It represents the static view of an application. Class diagram is not only used for visualizing, describing, and documenting different aspects of a system but also for constructing executable code of the software application.

Class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The class diagrams are widely used in the modeling of object-oriented systems because they are the only UML diagrams, which can be mapped directly with object-oriented languages.

Class diagram shows a collection of classes, interfaces, associations, collaborations, and constraints. It is also known as a structural diagram.

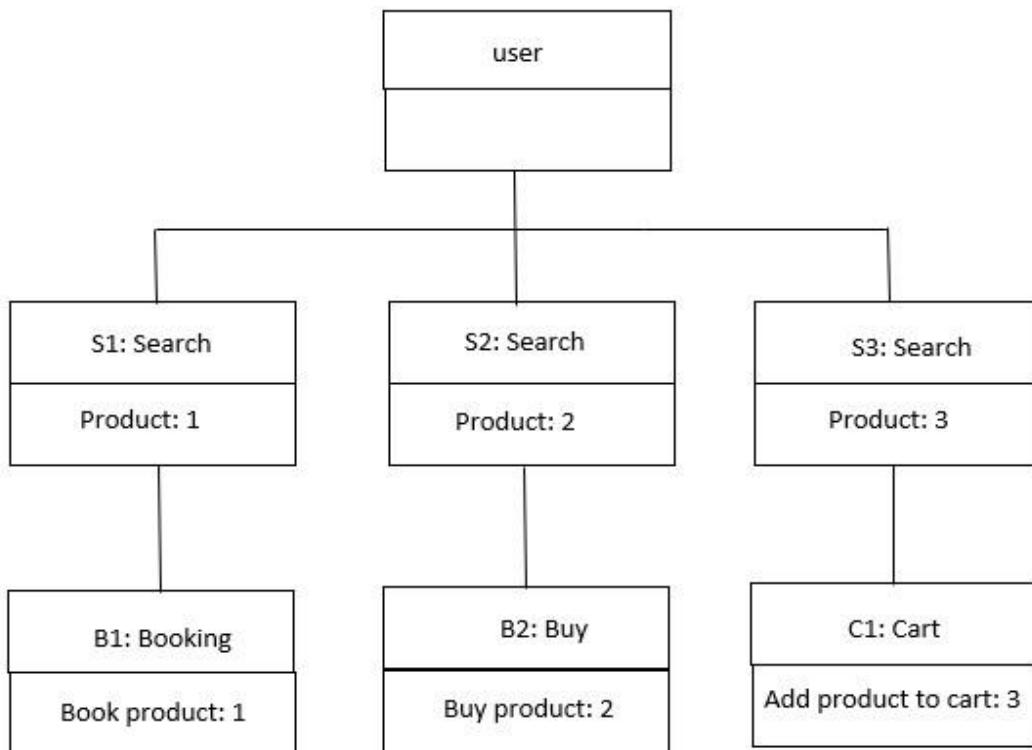


### 8.4.2 OBJECT DIAGRAM

Object diagrams are derived from class diagrams so object diagrams are dependent upon class diagrams.

Object diagrams represent an instance of a class diagram. The basic concepts are similar for class diagrams and object diagrams. Object diagrams also represent the static view of a system but this static view is a snapshot of the system at a particular moment.

Object diagrams are used to render a set of objects and their relationships as an instance.



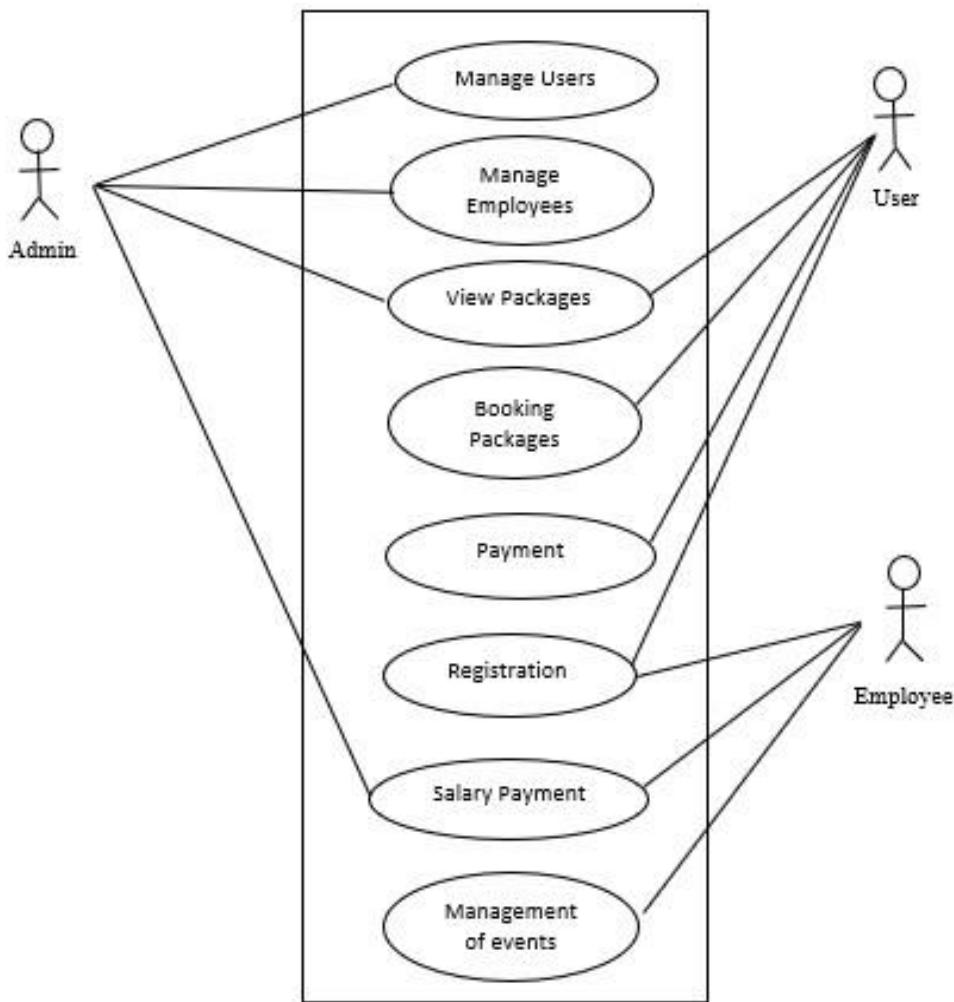
### 8.4.3 Use Case Diagram

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.



#### 8.4.4 Sequence Diagram

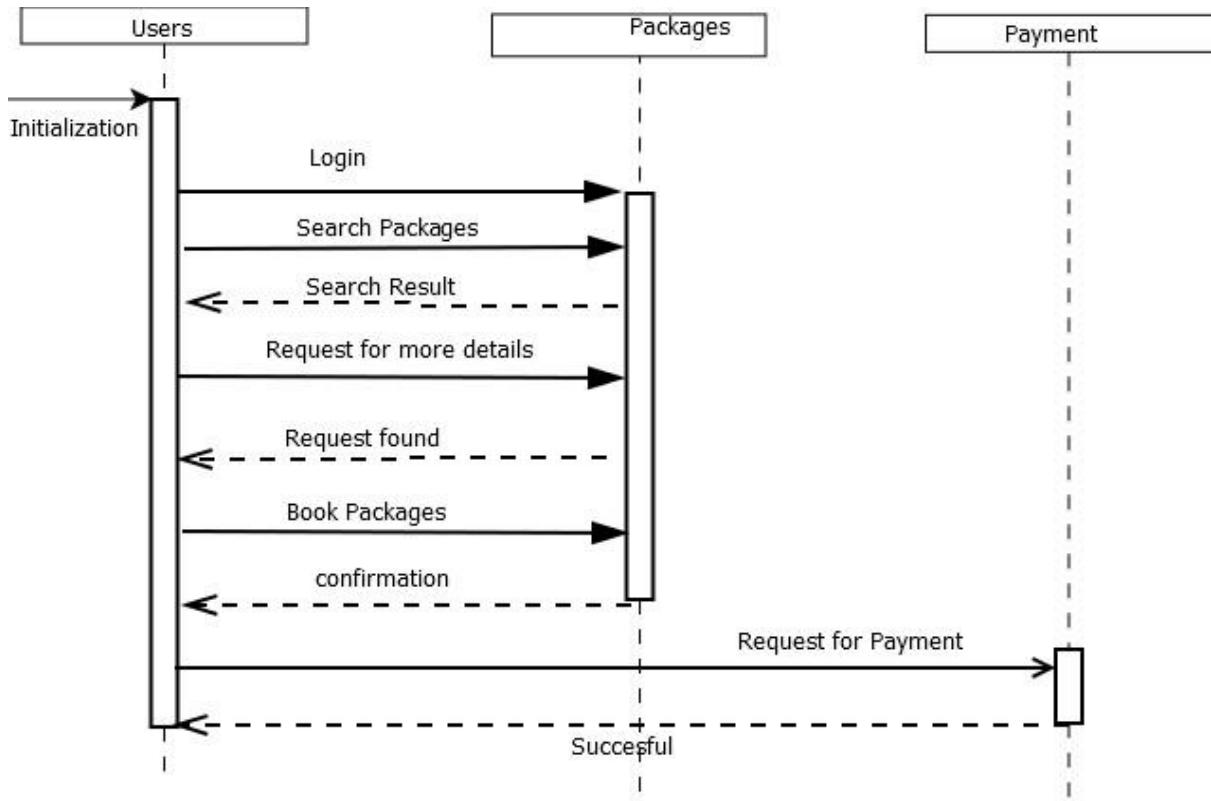
A sequence diagram is an interaction diagram that shows how objects operate with one another and in what order. It is a construct of a message sequence chart.

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.

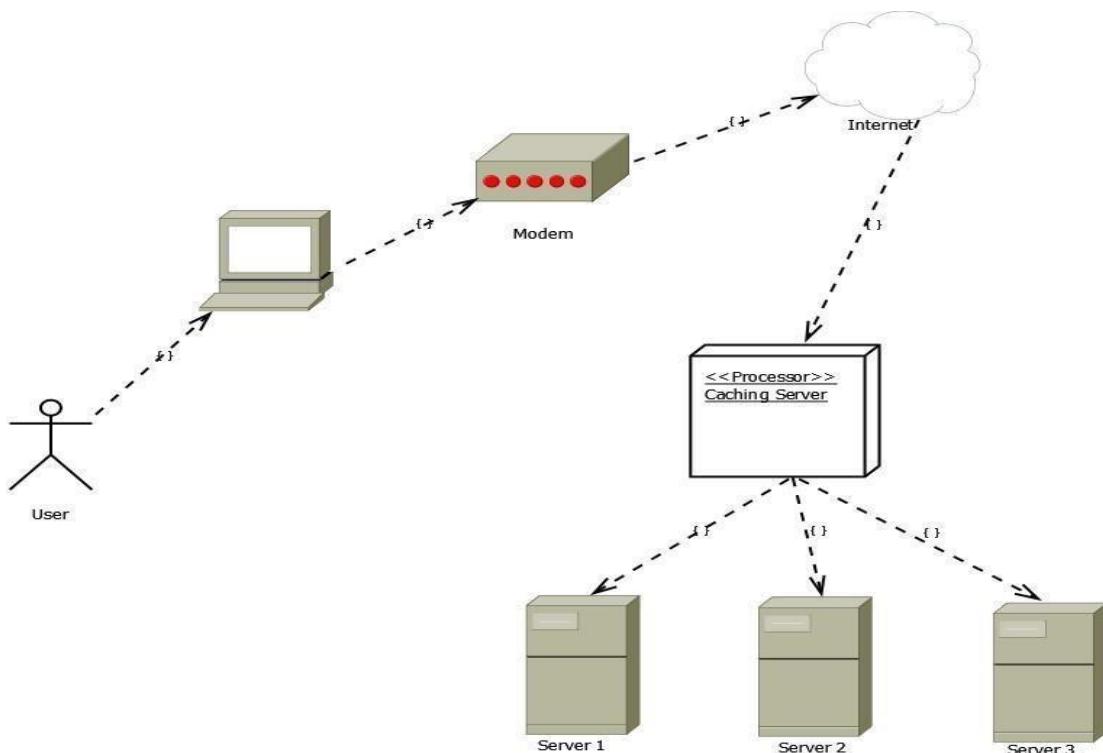
Sequence diagrams are sometimes called event diagrams or event scenarios.

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.



#### 8.4.5 DEPLOYMENT DIAGRAM

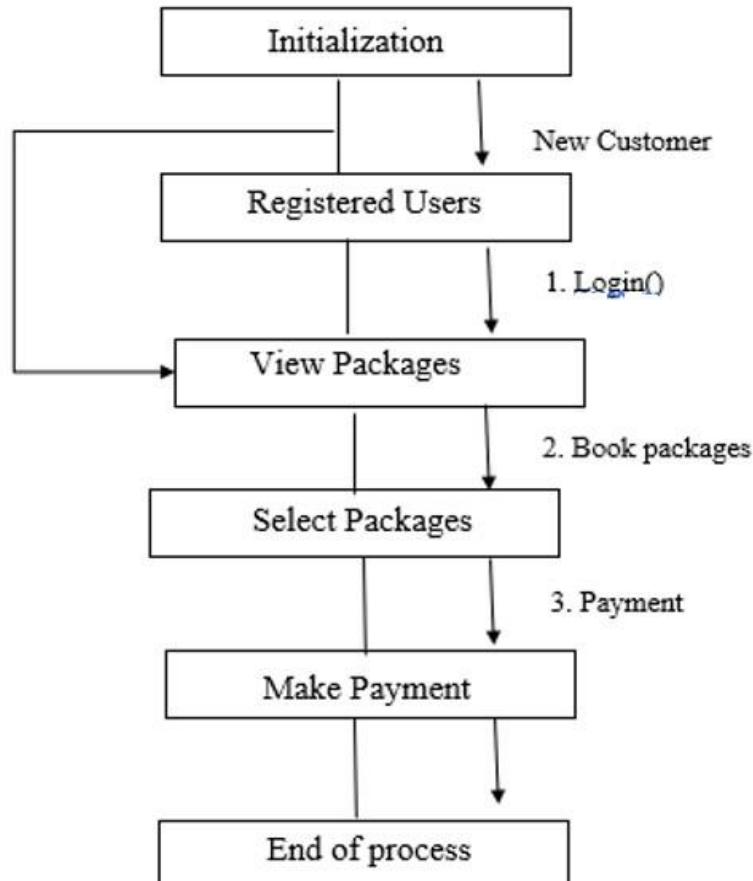


#### 8.4.6 COLLABORATION DIAGRAM

Collaboration diagram shows the object organization as seen in the following diagram. In the collaboration diagram, the method call sequence is indicated by some numbering technique. The number indicates how the methods are called one after another. We have taken the same order management system to describe the collaboration diagram.

Method calls are similar to that of a sequence diagram. However, difference being the sequence diagram does not describe the object organization, whereas the collaboration diagram shows the object organization.

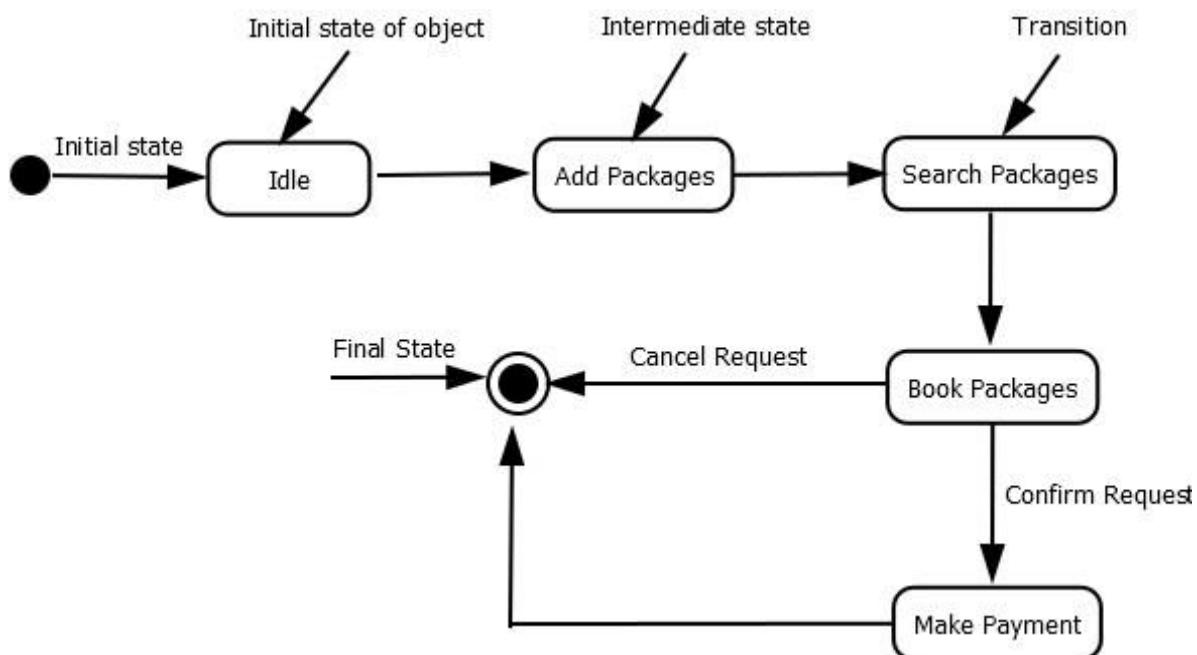
To choose between these two diagrams, emphasis is placed on the type of requirement. If the time sequence is important, then the sequence diagram is used. If organization is required, then collaboration diagram is used.



#### 8.4.7 STATE CHART DIAGRAM

The name of the diagram itself clarifies the purpose of the diagram and other details. It describes different states of a component in a system. The states are specific to a component/object of a system.

State chart diagram describes a state machine. State machine can be defined as a machine which defines different states of an object and these states are controlled by external or internal events. Activity diagram explained in the next chapter, is a special kind of a Statechart diagram. As State chart diagram defines the states, it is used to model the lifetime of an object.

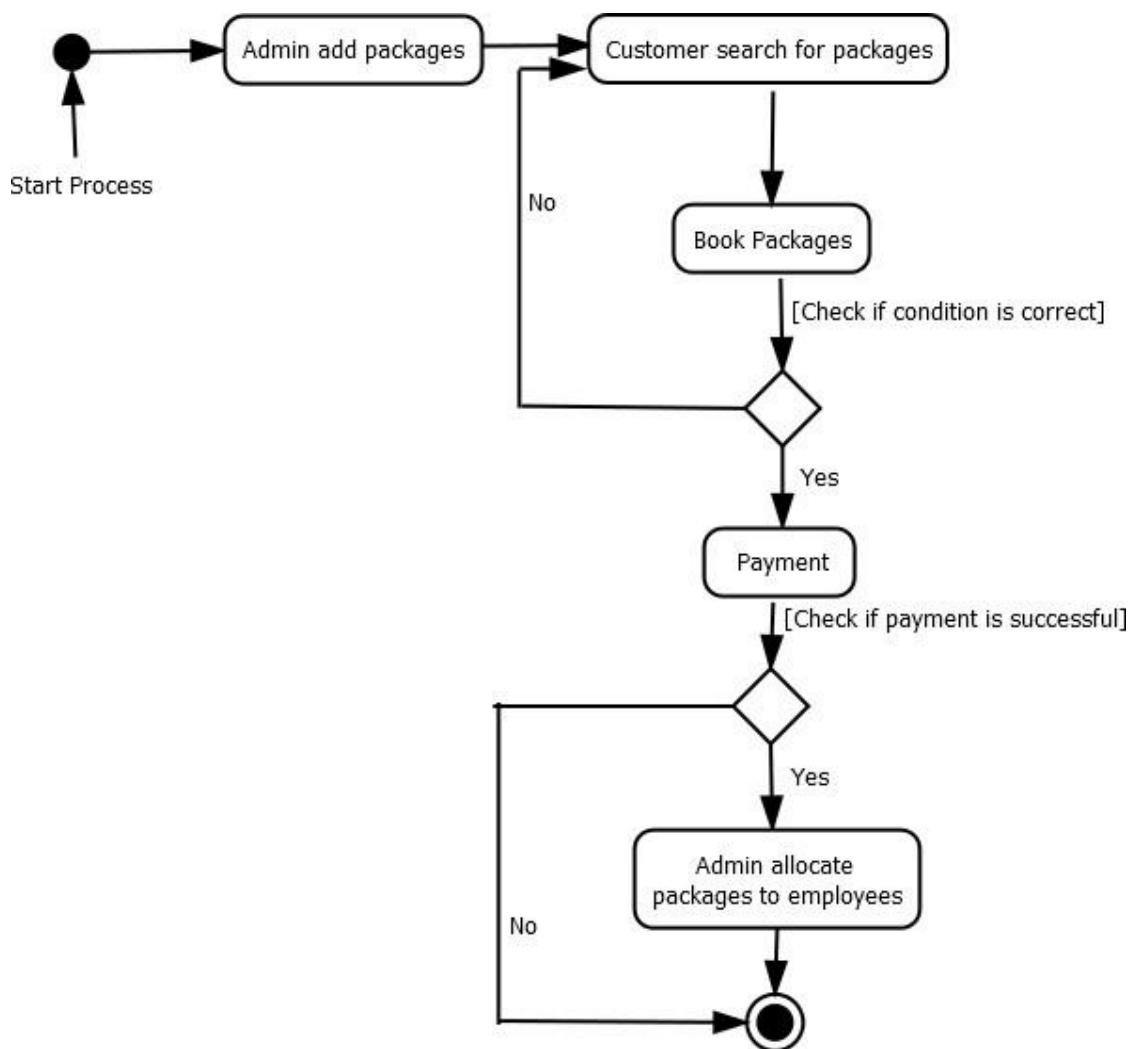


#### 8.4.8 ACTIVITY DIAGRAM

Activity diagram is another important diagram in UML to describe the dynamic aspects of the system.

Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system.

The control flow is drawn from one operation to another. This flow can be sequential, branched, or concurrent. Activity diagrams deal with all type of flow control by using different elements such as fork, join, etc



## 8.5 SYSTEM SPECIFICATION

### 8.5.1 Hardware Specification

Processor	- Pentium IV/AMD Dual core
RAM	- 1 GB
Hard disk	- 500 GB

### 8.5.2 Software Specification

Front End	- PHP
Backend	- MYSQL
Client on PC	- Windows 10
Technologies used	- JS, HTML5, AJAX, J Query, PHP, CSS

## 8.6 Software Description

### 8.6.1 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 Lerdorf 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.

### 8.6.2 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.

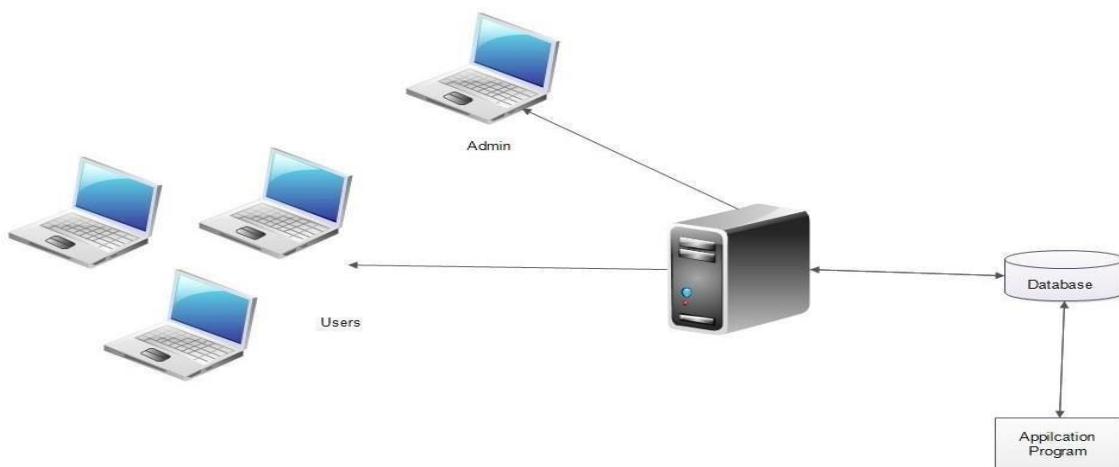
MySQL Server has a practical set of features developed in close cooperation with our users. It is  
**Amal Jyothi College of Engineering** **Dept. of Computer Applications**

very likely that your favorite application or language supports the MySQL Database Server.

## 8.7 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

### 8.7.1 Architectural Design



The registered user, admin, service provider can access 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.

### 8.7.2 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 done 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 eliminates 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

**Table No 1 : tbl\_login**

Primary key: login\_id

SL No	Field name	Data type	Size	Description
1	login_id	Int	20	Primary key
2	username	Varchar	200	E-mail id of user
3	password	Varchar	200	Password of user
4	login_status	Int	20	Status of user
5	login_role	Int	20	Role of user

**Table No 2 : tbl\_registration**

Primary key : reg\_id

Foreign key : login\_id references tbl\_login

SL No	Field name	Data type	Size	Description
1	reg_id	Int	20	Primary key
2	login_id	Int	20	Foreign key
3	reg_name	Varchar	50	Name of user
4	reg_place	Varchar	50	Place of user
5	reg_phone	Varchar	50	Phone of user
6	reg_status	Int	20	Status of registration

**Table No 3 : tbl\_package**

Primary key : package\_id

SL No	Field name	Data type	Size	Description
1	package_id	Int	20	Primary key
2	package_name	Varchar	200	Name of package

**Table No 4 : tbl\_userdetails**

Primary key : user\_id

Foreign key : login\_id references tbl\_login

SL No	Field name	Data type	Size	Description
1	wedding_id	Int	20	Primary key
2	login_id	Int	20	Foreign key
3	bride_name	Varchar	200	Name of bride
4	groom_name	Varchar	200	Name of groom
5	bride_address	Varchar	200	Address of bride
6	groom_address	Varchar	1000	Address of groom
7	bride_photo	Varchar	1000	Photo of bride
8	groom_photo	Varchar	200	Photo of groom
9	religion_name	Varchar	30	Name of religion
10	wed_date	Date	50	Date of wedding
11	wedding_user_id	Varchar	1000	Id generated for user
12	wed_hall	Varchar	200	Name of auditorium
13	wed_hall_address1	Varchar	200	Hall address line 1
14	wed_hall_address2	Varchar	200	Hall address line 2
15	wed_hall_pincode	Int	200	Pincode of hall
16	wedding_status	Int	30	Status of wedding

**Table No 5 : tbl\_catering**

Primary key : cat\_id

Foreign key : package\_id references tbl\_package

SL No	Field name	Data type	Size	Description
1	cat_id	Int	20	Primary key
2	package_id	Int	20	Foreign key
3	food_name	Varchar	200	Name of food
4	food_type	Varchar	200	Type of food
5	food_description	Varchar	1000	Food description
6	food_price	Int	200	Price of food
7	food_status	Int	10	Status of food

**Table No 6 : tbl\_hall\_decor**

Primary key : hall\_id

Foreign key : package\_id references tbl\_package

SL No	Field name	Data type	Size	Description
1	hall_id	Int	20	Primary key
2	package_id	Int	20	Foreign key
3	stage_dec_name	Varchar	200	Name of decoration
4	decor_type	Varchar	200	Type of decoration
5	stage_description	Varchar	1000	Description of decoration
6	stage_price	Int	200	Price for decoration
7	stage_status	Int	10	Status

**Table No 7 : tbl\_otp**

Primary key : otpid

SL No	Field name	Data type	Size	Description
1	otpid	Int	20	Primary key
2	email	Varchar	200	Email id
3	otp	Varchar	200	Otp
4	Status	Int	20	status
5	count	Int	20	Count

**Table No 8 : tbl\_studio**

Primary key : studio\_id

Foreign key : package\_id references tbl\_package

SL No	Field name	Data type	Size	Description
1	studio_id	Int	10	Primary key
2	package_id	Int	10	Foreign key
3	photo_package_name	Varchar	200	Studio package name
4	photo_package_desc	Varchar	1000	Package description
5	studio_price	Int	200	Price
6	photo_status	Int	10	Status

**Table No 9 : tbl\_dress**

Primary key : dress\_id

Foreign key : package\_id references tbl\_package

SL No	Field name	Data type	Size	Description
1	dress_id	Int	20	Primary key
2	package_id	Int	20	Foreign key
3	dress_name	Varchar	200	Name of dress
4	dress_type	Varchar	200	Type of dress
5	dress_description	Varchar	1000	Description
6	dress_status	Int	10	Status

**Table No 10 : tbl\_image**

Primary key : image\_id

Foreign key : package\_id references tbl\_package

SL No	Field name	Data type	Size	Description
1	image_id	Int	20	Primary key
2	package_id	Int	20	Foreign Key
3	item_img_id	Int	20	Id of image
4	image	Varchar	1000	Image
5	image_status	Int	20	Status

**Table No 11 : tbl\_add\_cart**

Primary key : cart\_id

Foreign key : login\_id references tbl\_login, package\_id references tbl\_package, wedding\_id references tbl\_userdetails

<b>SL No</b>	<b>Field name</b>	<b>Datatype</b>	<b>Size</b>	<b>Description</b>
1	cart_id	Int	20	Primary key
2	login_id	Int	20	Foreign key
3	package_id	Int	20	Foreign key
4	wedding_id	Int	20	Foreign key
5	item_id	Int	20	Id of items
6	cart_quantity	Int	50	Quantity of items
7	cart_price	Int	200	Price of items
8	cart_status	Int	20	Status of cart
9	order_status	Int	20	Status of order

**Table No 12 : tbl\_register\_emp**

Primary key : reg\_emp\_id

Foreign key : login\_id references tbl\_login , package\_id references tbl\_package

<b>SL No</b>	<b>Field name</b>	<b>Data type</b>	<b>Size</b>	<b>Description</b>
1	reg_emp_id	Int	20	Primary key
2	login_id	Int	20	Foreign key
3	emp_name	Varchar	20	Name of employee
4	emp_phone	Bigint	200	Phone of employee
5	company_name	Varchar	200	Name of company
6	company_address_line1	Varchar	200	Company address line 1
7	company_address_line2	Varchar	200	Company address line 2
8	company_address_line3	Varchar	200	Company address line 3
9	company_pincode	Int	200	Pincode of company
10	company_phone	Bigint	200	Phone of company
11	license_document	Varchar	1000	Gender of employee
12	package_id	Int	20	Foreign key
13	emp_reg_status	Int	20	Status

**Table No 13 : tbl\_work\_assign**

Primary key : work\_assign\_id

Foreign key : wedding\_id references tbl\_userdetails, package\_id references tbl\_package, reg\_emp\_id references  
tbl\_register\_emp

<b>SL No</b>	<b>Field name</b>	<b>Data type</b>	<b>Size</b>	<b>Description</b>
1	work_assign_id	Int	20	Primary key
2	wedding_id	Int	20	Foreign key
3	package_id	Int	20	Foreign Key
4	reg_emp_id	Int	20	Foreign Key
5	work_paid_status	Int	20	Status of payment
6	work_assign_status	Int	20	Status of work

**Table No 14 : tbl\_paycard\_details**

Primary key : paycard\_detail\_id

<b>SL No</b>	<b>Field name</b>	<b>Data type</b>	<b>Size</b>	<b>Description</b>
1	paycard_detail_id	Int	20	Primary key
2	pay_type	Varchar	200	Foreign Key
3	pay_card_no	Bigint	200	Amount paid to employees
4	pay_expiry_month	Date	50	Expiry month
5	pay_expiry_year	Varchar	200	Expiry year
6	pay_card_holder_name	Varchar	200	Card holder name
7	pay_card_cvv	Int	200	CVV
8	pay_balance	Int	200	Balance in account
9	pay_card_status	Int	20	Status

**Table No 15 : tbl\_payment**

Primary key : pay\_id

Foreign key : paycard\_detail\_id references tbl\_paycard\_details, login\_id references tbl\_login

SL No	Field name	Data type	Size	Description
1	pay_id	Int	20	Primary key
2	paycard_detail_id	Int	20	Foreign Key
3	paid_date	Date	20	Date of payment
4	pay_amount	Int	200	Amount paid
5	login_id	Int	20	Foreign key
6	pay_status	Int	20	Status of payment

**Table No 16 : tbl\_pay\_emp**

Primary key : pay\_emp\_id

Foreign key : work\_assign\_id references tbl\_work\_assign

SL No	Field name	Data type	Size	Description
1	pay_emp_id	Int	20	Primary key
2	work_assign_id	Int	20	Foreign Key
3	pay_amount	Int	200	Amount paid to employees
4	pay_emp_date	Date	50	Date of payment
5	pay_emp_status	Int	20	Status of payment

## 8.8 System Testing

### 8.8.1 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.

## 8.8.2 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 developer 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

### 8.8.2.1 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.

### **8.8.2.2 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.

### **8.8.2.3 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.

### **8.8.2.4 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.

## 8.9 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.

### 8.9.1 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.

#### **8.9.4 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".

## 8.10 Conclusion and Future Enhancements

### 8.10.1 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

### 8.10.2 CONCLUSION

The software reduces the time consumption and the manual efforts of a wedding planner in planning and managing the wedding events. The proposed system helps the wedding planner to manage both users and employees. It provides a user-friendly interface for the users which is more effective. It allows the users to pay for selected packages and the admin can then allocate the packages to the employees. It also allows payment to completed works of employees.

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### WEBSITES:

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

## 8.12 APPENDIX

### 8.12.1 SAMPLE CODE

#### Connection code

```
<?php
```

```
$con=mysqli_connect("localhost","root","","db_wedding"); ?>
```

#### Admin add dress

```
<?php include 'conn.php'; session_start();

$query=mysqli_query($con,"SELECT * FROM `tbl_login`");

$user_id=$_SESSION['id'];

if(isset($_POST['dress_add_button'])) {

$dress_name= $_POST['dress_name'];

$dress_description = $_POST['dress_description'];

$price = $_POST['price'];

$dress_type=$_POST['dress_type'];

$result = mysqli_query($con,"INSERT INTO

tbl_dress(`dress_name`,`dress_descripion`,`dress_price`,`dress_type`,`package_id`,`dress_status`)

VALUES('$dress_name','$dress_description','$price','$dress_type','4',1)");

$last_id = mysqli_insert_id($con); $photo=$_FILES['dress_image']['name'];

move_uploaded_file($_FILES['dress_image']['tmp_name'],"upload_images/dress/".$photo);

mysqli_query($con, "INSERT INTO tbl_image (`item_img_id`, `package_id`, `image`, `image_status`) VALUES (".$last_id",'4','".$photo "','1') ");

echo "<script>alert('Dress item inserted into database');

window.location.href='edit_dress.php';

</script>";

if(mysqli_query($con,$result)) { echo

"<script>alert('Dress item inserted into

database'); window.location.href="

'edit_dress.php'; </script>";

}

if(!$result){ echo "<script>alert('Dress name already exists..');

window.location.href= 'edit_dress.php' ;</script>";

}

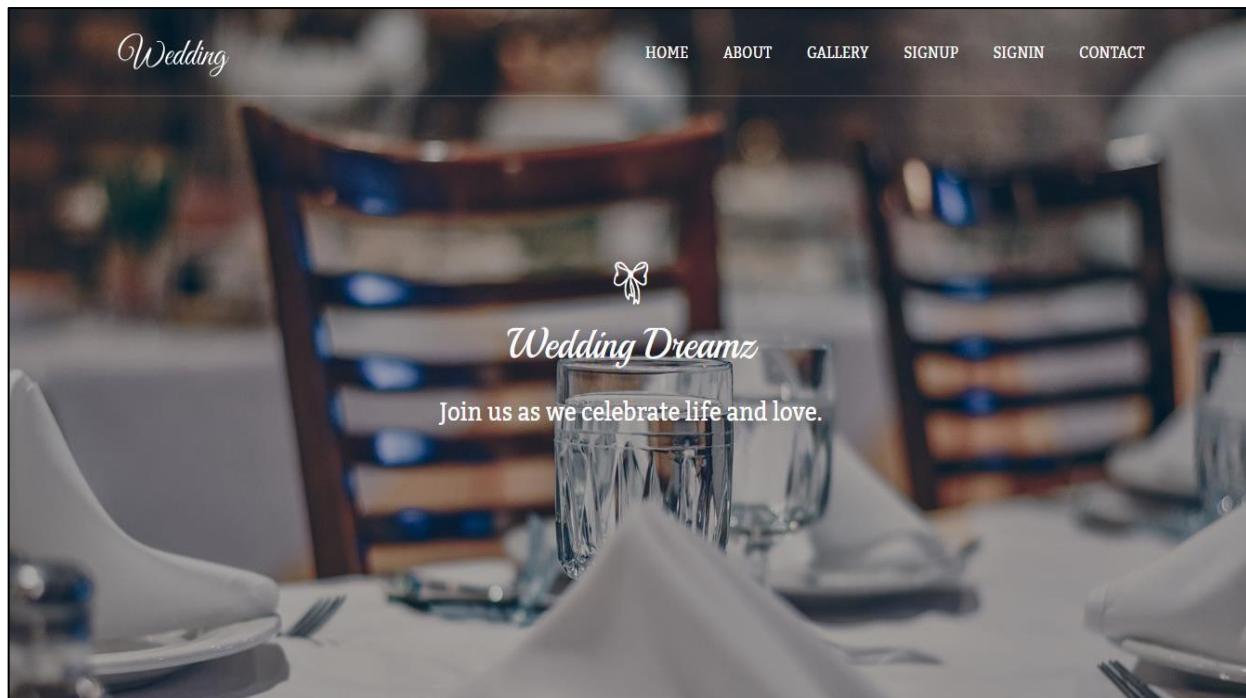
?>
```

```
<!doctype html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
<script src="../common-js/jquery-3.2.1.min.js"></script>
<script src="../common-js/oh-autoval-script.js"></script>
</head>
<body>
<div class="cards">
<div class="container-add-emp">
<button type="button" id="adddressitem" class="btn btn-primary">Add Dress Item</button>
<form name="myform" id="add-dress" class="oh-autoval-form" method="post" action="">
<h5 class="card-header">Add New Dress Items</h5>
<table>
<tr>
<td class="tbl-row-hd">Dress Name</td>
<td class="tbl-row-hd"><input type="text" class="av-name av-required" avmessage="Enter a valid Name" name="dress_name" id="form-control" placeholder="Dress Name" required=""></td>
</tr>
<tr>
<td class="tbl-row-hd">Dress Description</td>
<td class="tbl-row-hd"><textarea class="av-required" av-message="Enter Description" name="dress_description" id="form-control1" placeholder="Dress Description" required=""></textarea></td>
</tr>
<tr>
<td class="tbl-row-hd">Image</td>
<td class="tbl-row-hd"><input type="file" class="av-image av-required" av-message="Upload a valid Image" style="box-shadow:none; border: 1px solid #d2d2e4;" name="dress_image" id="form-control" required=""></td>
</tr>
<tr>
```

```
<td class="tbl-row-hd">Price</td>
<td class="tbl-row-hd"><input type="text" class="av-price av-required" av-message="Enter
a valid Price" name="price" id="form-control" placeholder="Price" required=""></td> </tr>
<tr>
    <td class="tbl-row-hd">Dress Type</td>
    <td class="tbl-row-hd"><select name="dress_type" id="form-control" class="av-required"
av-message="Enter Type" required=""> <option selected disabled>--Select--</option>
<option value="groom" name="dress_type" id="dress_type">groom</option>
<option value="bride" name="dress_type" id="dress_type">bride</option>
</select></td>
</tr>
</table>
<input type="submit" class="btn btn-primary" name="dress_add_button"
id="dress_add_button" value="Add">
</form>
</div>
</div> </body>
</html>
```

## 8.12.2 SCREENSHOTS

### Index Page



### User Module

#### Home Page

WEDDING DREAMZ

HOME PACKAGES CART PAID

\* Enter the Wedding Details to get your Wedding ID to purchase desired packages

Add Wedding Details

Wedding Details

Wedding ID: 2AchuAromal

**View Packages**

The screenshot shows a grid of four main package categories under a pink header bar labeled "WEDDING DREAMZ". Each category includes an image, a title, and a price.

Image	Title	Price	Description
	DIY Jars	₹ 65000	Hall Decoration Package
	Fairytale Wedding	₹ 50000	Hall Decoration Package
	Flower Backdrop	₹ 45000	Hall Decoration Package
	Green Wedding	₹ 45000	Hall Decoration Package

Below the main grid, there are two rows of smaller images showing different wedding decoration styles.

**Cart**

The screenshot shows a "Shopping Cart" page with a pink header bar labeled "WEDDING DREAMZ". The cart contains one item: Peda.

Image	Name	Price	Quantity	Total Price	Action
	Peda	₹ 10	250	₹ 2500	X Remove

On the right side, there is a "PRICE DETAILS" section with a button labeled "Checkout >>".

## View Paid Packages

Item	Package	Quantity	Wedding ID	Price
Samosa	Food	150	2AchuAromal	2400
Spotlighting	Hall Decoration	1	2AchuAromal	50000
Saree	Dress	1	2AchuAromal	50000
Fairytale	Studio	1	2AchuAromal	100000

Admin Module

## Work assigned view

Wedding ID	Package	Employee	Wedding Date	Venue	Settings
3NeemaRoy	Fairytale Wedding	Ram	2019-06-20	Kumli	
3NeemaRoy	Fairytale	Ancel	2019-06-20	Kumli	

View employee details

Manager Name	Manager Mobile	Company Name	Contact Number	Email	Address	License	Package
Athira	9876655789	Darasana Studios	8087865652	athira@gmail.com	Star Complex Kozhencerry Pathanamthitta 689650	<a href="#">View License</a>	Studio
Rohan	9283767276	Eventure	8078387878	rohan@gmail.com	Golden Buildings Ranni Pathanamthitta 687989	<a href="#">View License</a>	Hall Decoration
Aaron	9283767276	Paris Fashions	8087865652	aaron@gmail.com	Paris Plaza Kanjirapally	<a href="#">View License</a>	Dress

## Employee Module

Work Assignment