



PARSHVANATH CHARITABLE TRUST'S

A. P. SHAH INSTITUTE OF TECHNOLOGY

Department of Information Technology

(NBA Accredited)



Semester: V

Academic Year: 2024-25

Class / Branch: TE IT

Subject: Advanced Devops Lab (ADL)

Name of Instructor: Prof. Vishal Badgujar

Name of Student: Shreya Sonawale

Student ID: 23104134

EXPERIMENT NO. 13

Aim: To demonstrate working of cloud launcher to launch the web application and Manage and Monitor the Application.

Theory:

To demonstrate the working of **Google Cloud Launcher (Google Cloud Marketplace)** to launch a web application, The purpose of this lab is to deploy a web application using a pre-configured environment from the Google Cloud Marketplace and

Prerequisites

- A **Google Cloud Platform (GCP)** account.
- **Billing enabled** on your GCP account (to avoid deployment restrictions).
- Basic knowledge of **web applications** (e.g., web servers, databases).
- Familiarity with the **Google Cloud Console**.

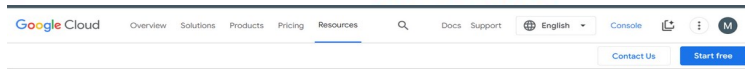
Step 1: Setting Up Your GCP Account

1. Login to Google Cloud Console:

- o Visit the Google Cloud Console.
- o Sign in using your Google account credentials.



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Step 1 of 2 Account Information

M.N. Kashilkar
mnkashilkar@apst.edu.in

[SWITCH ACCOUNT](#)

Country

India

By using this application, you agree to the [Google Cloud Platform](#), [Supplemental Free Trial](#), and [any applicable services and APIs Terms of Service](#).

[AGREE & CONTINUE](#)

Access to all Google Cloud products

Get everything you need to build and run your apps, websites and services, including Firebase and the Google Maps API.

\$300 credit for free

Put Google Cloud to work with \$300 in credit to spend over the next 90 days.

No autocharge after free trial ends

We ask you for your credit card to make sure you are not a robot. If you use a credit or debit card, you won't be charged unless you manually activate your full account.

Step 2 of 2 Payment Information

Your payment information helps us reduce fraud and a **debit card, you won't be charged until you manually activate your full account**.

Payments profile
[Create new payments profile](#)

Your payment information is saved in a payments profile in your Google Account and shared across Google services.

Payment method
Add payment method

Please complete the previous sections before continuing.

[START FREE](#)

Create a payments profile

Only **Organization** profiles can have multiple users. If you select an **Individual** profile, you agree that use of your profile is for your trade, business, craft, or profession. In some countries, this selection affects your tax options. Your profile type can't be changed after signing up. [Learn more about payments profile](#)

Profile type
Organization

Organization name
apsit

Legal name
M.N. Kashilkar

[Cancel](#)

[Create](#)

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The screenshot shows a payment setup screen on the Google Cloud Platform. A modal titled "Add credit or debit card" is open, requiring the following information: Card number, MM/YY, CVC, and Cardholder name (M.N. Kashikar). A checkbox for "Billing address and legal address are the same" is checked. Buttons for "Cancel" and "Save card" are at the bottom. In the background, a "START FREE" button and a "\$300 credit for free" offer are visible.

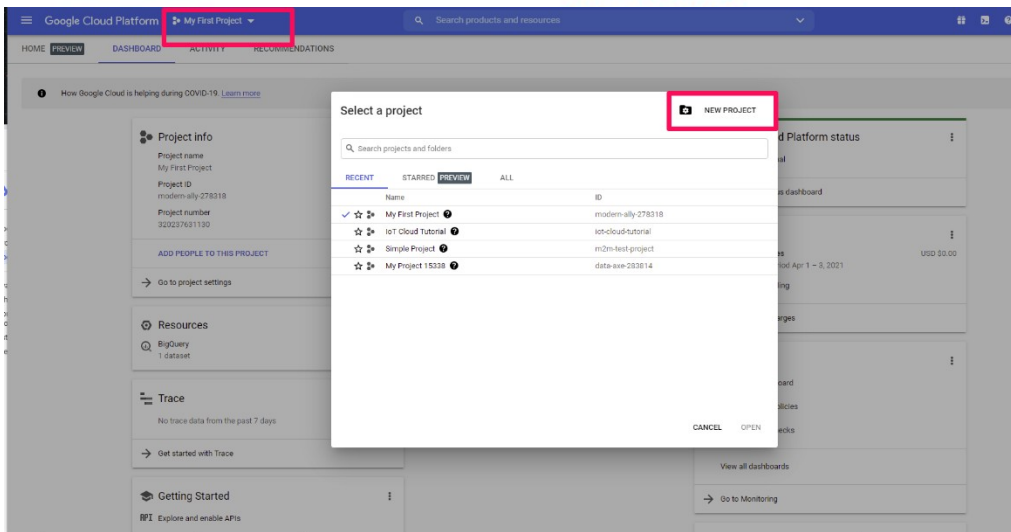
Create a New Project:

- Click on the **project drop-down** on the top-left corner of the console.
- Select **New Project**.
- Name the project (e.g., "Cloud Launcher Demo") and select your billing account.
- Click **Create**

The screenshot shows the "New Project" creation form in the Google Cloud Platform. At the top, a blue header bar contains the "Google Cloud Platform" logo and a search icon. Below the header, a "New Project" section is visible. A warning message states: "You have 22 projects remaining in your quota. Request an increase or delete projects. [Learn more](#)". Below this, a "MANAGE QUOTAS" link is present. The "Project name *" field is highlighted with a red box and contains the text "The name is required.". Below it, the "Location *" dropdown menu is set to "No organization" and is also highlighted with a red box. At the bottom, the "CREATE" button is highlighted with a red box, and the "CANCEL" button is visible next to it.



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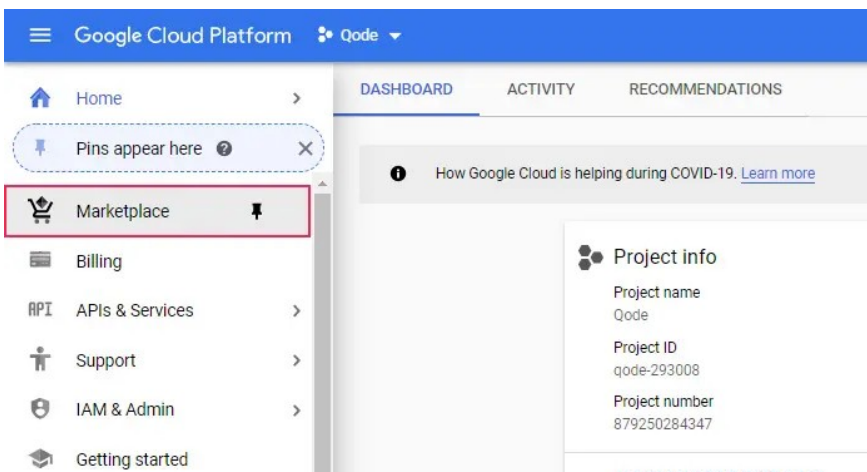
Step 2: Navigating Google Cloud Marketplace

1. Open Google Cloud Marketplace:

- o In the **left-hand menu**, navigate to **Marketplace**.
- o This section allows you to find pre-configured solutions such as WordPress, LAMP stack, or Django, as well as other web application frameworks and services.

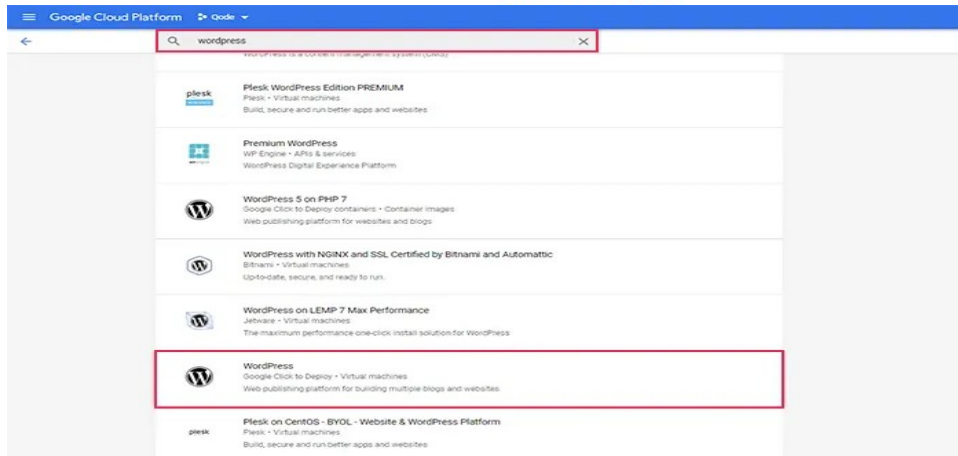
2. Search for a Web Application:

- o Use the **search bar** in the Marketplace to find a web application you want to deploy. For this demo, let's deploy a simple **WordPress** instance.
- o Type "**WordPress**" and select the official package from the search results.





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Step 3: Deploying the Web Application

1. Launch the WordPress App:

- o On the WordPress product page, click **Launch on Compute Engine**.
- o You'll be taken to a page to configure the deployment.

2. Configure Deployment Settings:

- o Choose the **zone** where you want to deploy the application (e.g., us-central1).
- o Select the **machine type** (e.g., e2-small) which will allocate the appropriate CPU and memory resources.
- o **Disk type:** Choose either the default **Persistent Disk** or **SSD** (for faster performance).
- o **Networking:** Leave the default networking settings, or create a new Virtual Private Cloud (VPC) if necessary.

3. Click Deploy:

- o After selecting your settings, click **Deploy** to start the process. GCP will automatically create the necessary infrastructure, including a virtual machine (VM), storage, and network configuration.



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Google Cloud Platform WordPress website



WordPress

Google Click to Deploy

Web publishing platform for building multiple blogs and websites

LAUNCH

VIEW PAST DEPLOYMENTS

OVERVIEW

PRICING

SUPPORT

Overview

WordPress is a software application used to create websites and blogs.

[Learn more](#)

About Google Click to Deploy

Popular open stacks on Google Compute Engine packaged by Google

Additional details

Runs on: Google Compute Engine

Type: [Virtual machines](#), Single VM

Last updated: 4/6/22

Google Cloud Platform WordPress website

New WordPress deployment

Enable required APIs

The following APIs are required to deploy a VM product from Marketplace

[Compute Engine API](#)

Not enabled

[Cloud Deployment Manager V2 API](#)

Not enabled

[Cloud Runtime Configuration API](#)

Not enabled

ENABLE

SEND FEEDBACK

Google Cloud Platform WordPress website

New WordPress deployment

Source IP ranges for HTTP traffic

☒ Allow HTTPS traffic from the Internet

Source IP ranges for HTTPS traffic

Stackdriver

Monitoring and management for services, containers, applications, and infrastructure

☐ Enable Stackdriver Logging

☐ Enable Stackdriver Monitoring

☐ I accept the [GCP Marketplace Terms of Service](#).

DEPLOY



Step 4-Accessing the Web Application

1. Monitor Deployment Progress:

See the progress of the deployment in the Google Cloud Console. This includes setting up the virtual machine, installing WordPress, and configuring the environment.

2. Get the External IP Address:

Once deployment is complete, go to the **VM instances** page from the left-hand menu under **Compute Engine**.

Locate the deployed WordPress instance, and note the **External IP Address** assigned to the VM.

3. Access the Web Application:

- o Open a new browser tab and navigate to the External IP address you noted.
- o You should see the WordPress installation page, where you can set up the site (e.g., language, admin credential)

Step 5 -Configuring the Web Application

1. Set Up WordPress:

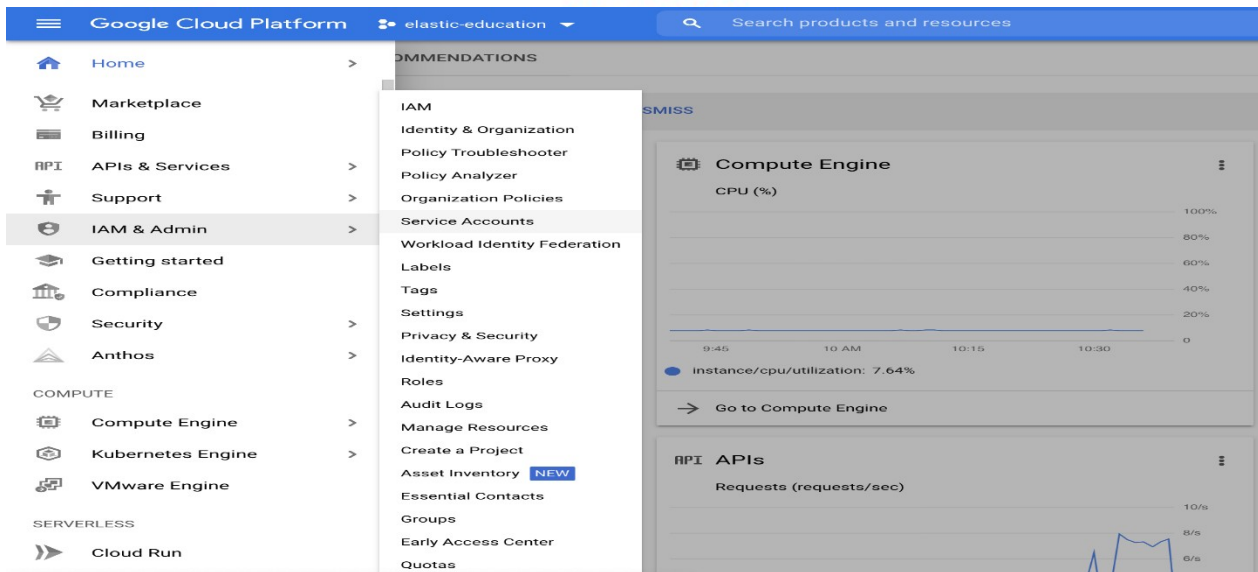
- o Follow the on-screen instructions to complete the WordPress setup.
- o Choose your site's title, create an admin username, and password.
- o After setup, log in to the WordPress admin panel to customize your site.

2. Explore the Admin Dashboard:

- o Once logged in, explore the admin dashboard where you can add new content, change the theme, or install plugins.



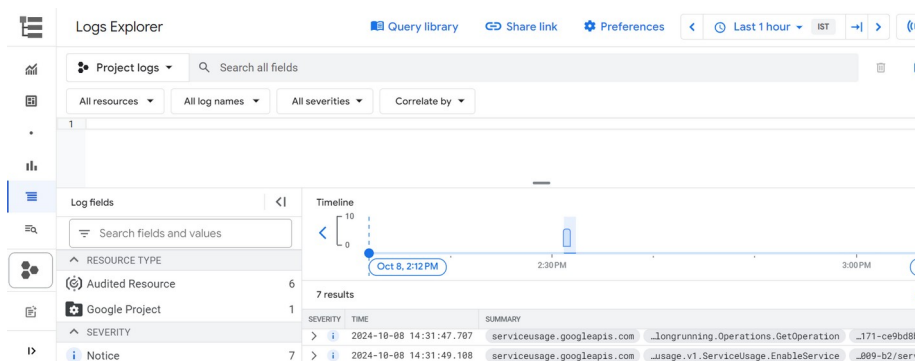
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Step 6: Manage and Monitor the Application

1. View Logs and Performance:

- o Go to the **Operations** menu in the Cloud Console and select **Logs Explorer**.
- o This allows you to view real-time logs from the web server, which can be useful for troubleshooting and monitoring application performance.



2. Scaling and Auto-healing:



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- o Discuss how you can modify the configuration to enable auto-scaling and high availability.
- o For advanced users, demonstrate how to enable **Cloud Monitoring** and **Alerting** to get notified if the web server is under heavy load or goes down.

Step 7 : Clean Up Resources

1. Delete Resources:

- o To avoid unnecessary billing charges, delete the resources you created after the lab.
- o Go to **Compute Engine > VM Instances**, and select the instance you deployed (WordPress).
- o Click **Delete** to remove the virtual machine and associated resources.

2. Verify Billing:

- o Check your **billing dashboard** to ensure there are no active resources still incurring charges.

Conclusion: Thus we have deployed a WordPress instance, accessed it through the web, and explored management and monitoring functionalities within GCP.