Module 2: Managing GCP

Assignment Solution - 1

Problem Statement:

Focus Area: Managing resources using the command line "Cloud SDK"

ShopToday-81 is a retailer, e-commerce, and online shopping company.
They have various retail outlets across the country.
As per the previous module project, they want to deploy and use the cloud environment separately, one for the retail department, one for e-commerce, and the other for online shopping.

Requirement:

So, we have three projects, and we need to create a bash script where we can deploy all services at one go as per the below facts:

- Most of the Retail outlets are in England.
- Video sharing Service is popular in the US-east region.
- Online shopping is popular in the Asia subcontinent.

You need to design and code a script to deploy a Virtual machine and Cloud storage bucket.
The same script should be used to deploy resources in all three projects.
Choose an appropriate region and zone for the deployment.

Steps:

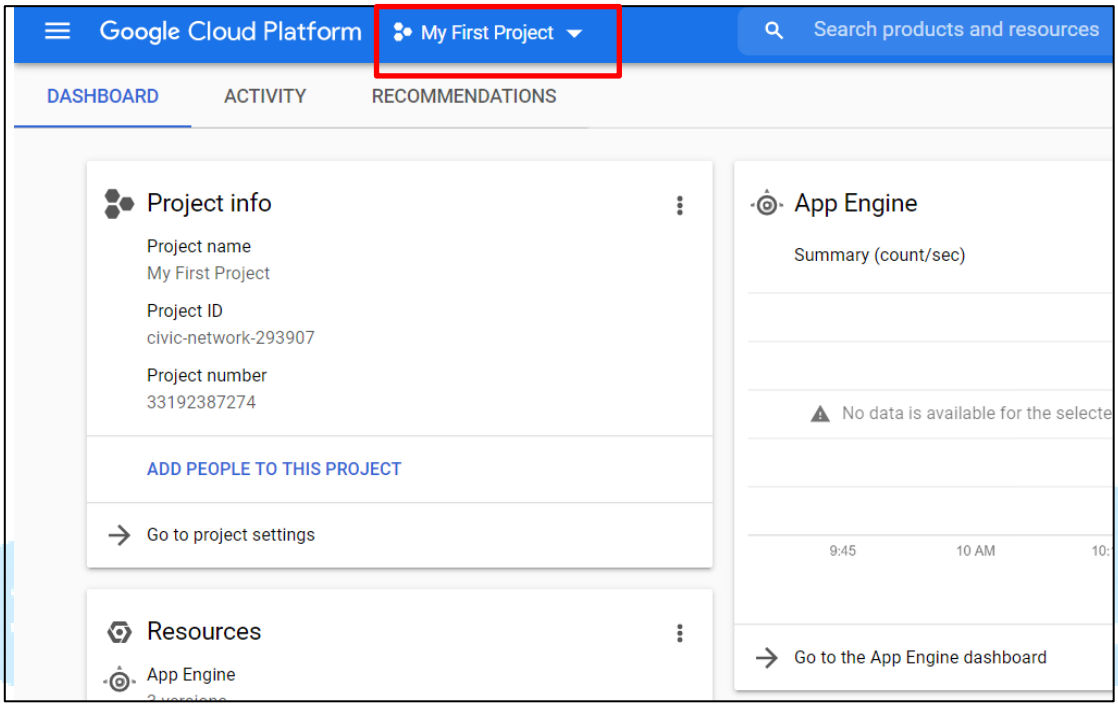
1. Create 3 GCP projects
2. Create a Bash script using Cloud SDK for the given requirements
3. Deploy the bash script using Cloud shell

Solution:

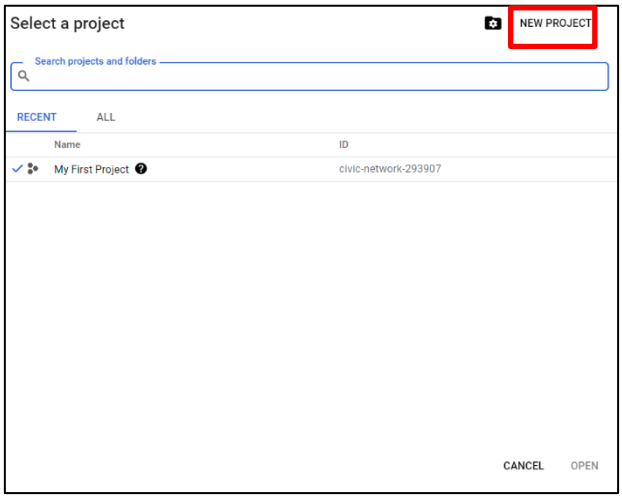
Step-1: Create 3 GCP Projects.

I have share how to create a single project which can be replicated for the other 2 projects.

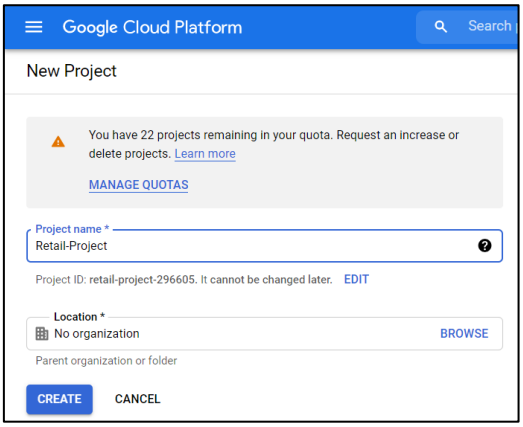
1. Go the Google Cloud Console and Click on the Project ID in the top navigation bar.



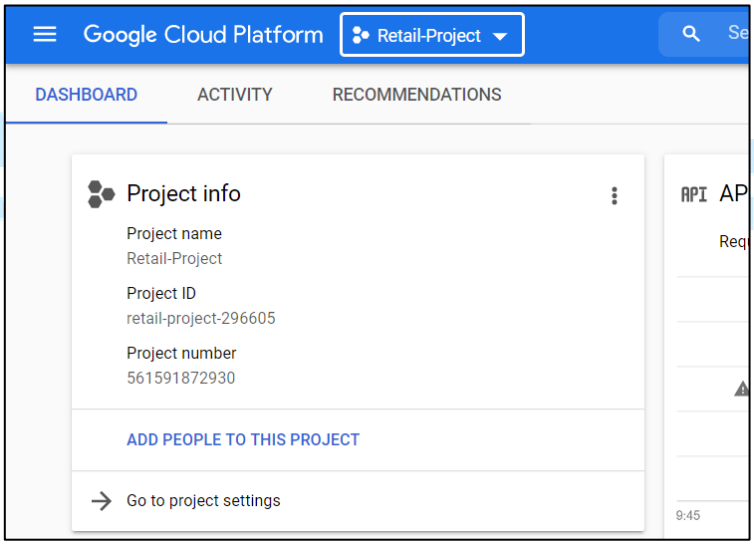
2. Click on New Project on the top right corner.



3. Enter the Project Name and Select the Location (This will be applicable if you are under an organization, you have to select a place in the organization hierarchy) and Click on **Create**



4. It will take a few minutes and project will be setup



We have successfully created a project in GCP, use the same steps to create other projects.

Step-2 Create Bash Script using GCloud SDK

Requirements when create the Bash Script:

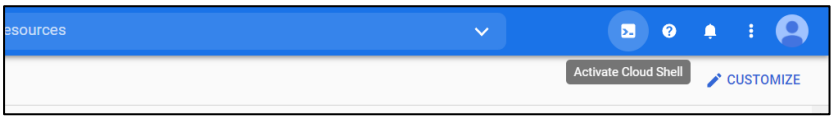
1. To deploy the resources first we need to select the project.
2. To deploy a VM instance we need an instance name and zone we are going to deploy
3. To deploy a cloud storage bucket, we need a globally unique and a bucket region.

1. The following bash script, we take project ID, region and zone as input and deploy the VM instance and Bucket in the project ID given.

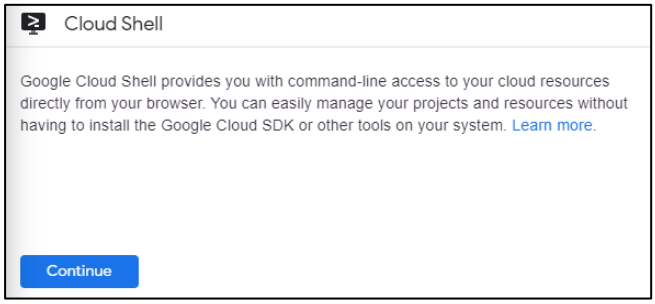
```
#!/bin/bash
read PROJECT_ID
echo "Enter Region name"
read region
echo "Enter Zone name"
read zone
gcloud config set project $PROJECT_ID
instance_name=instance-${PROJECT_ID}
bucket_name=bucket-${PROJECT_ID}
gcloud compute instances create $instance_name --zone=$zone --quiet
gsutil mb -l $region gs://$bucket_name
```


Step-3: Run the Script using Cloud Shell

1. In the Cloud Console, in the top right toolbar, click the Activate Cloud Shell button.



2. Click continue



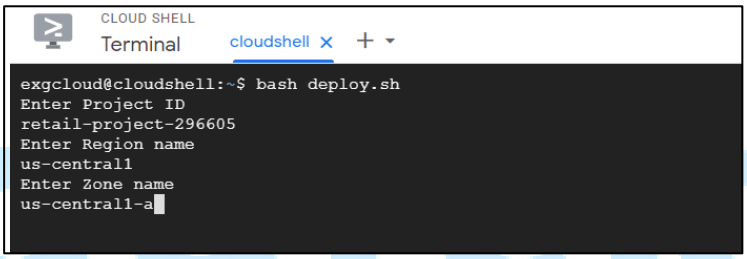
3. After a few minutes, the Cloud shell will be provisioned.

4. Create a file called deploy.sh using nano

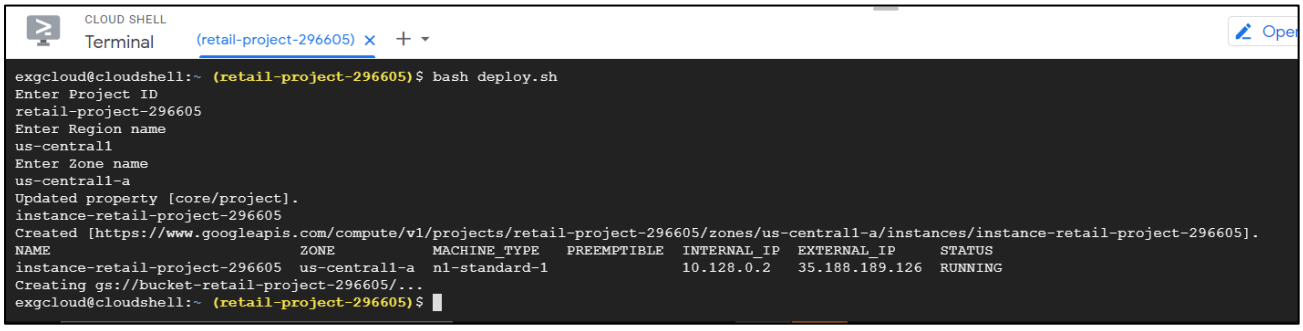
```
nano deploy.sh
```

5. Copy & paste the script we shown above and exit the nano editor by pressing **Ctrl+X, and Y**
6. Run the script using the following command and input the values

```
bash deploy.sh
```



7. The following image shows the final output of the script



In this way, deploy the resources with regions given according to the problem

Online Video Sharing -> **us-east1 region** and **us-east1-a zone**

Online Shopping -> **ap-south1 region** and **ap-south1-a zone**