

# Module 4: Security and Identity Fundamentals

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Assignment Solution - 1

## **Problem Statement:**

**Focus Area:** Authentication, authorization, and Access Control, service accounts

**Company ShopToday-81** organization team has upskilled its Google Platform knowledge. The CTO has introduced GCP in all the teams – department heads, finance team, Quality Engineers, Data Analytics, etc. He wants his existing legacy tools to run a quality test on applications and databases deployed in Cloud. The CTO wants to have a high-level view of all projects and resources in the organization.

Also, team-wise access shall be provided as per the below need:

- Department heads should have complete control of their respective departments. And should be able to view details of other projects and resources
- The finance team should be able to collect the cumulative cost of all resources
- The legacy application should be able to use cloud resources as and when required
- A data Analyst team should be able only to run their queries at any time
- Quality Engineers should have access to Logs and monitoring Metrics but should not have access to resources and Services

### **Requirement:**

The HR has Hired five developers to work on new applications and 4 DevOps engineers to manage and host applications on Cloud. You need to create three projects - 1 each for development, testing, and Productions.

Also, you need to give appropriate permissions to all new employees where developers should have access only to the development and testing environment, and DevOps engineers have access to production only.

### **Steps:**

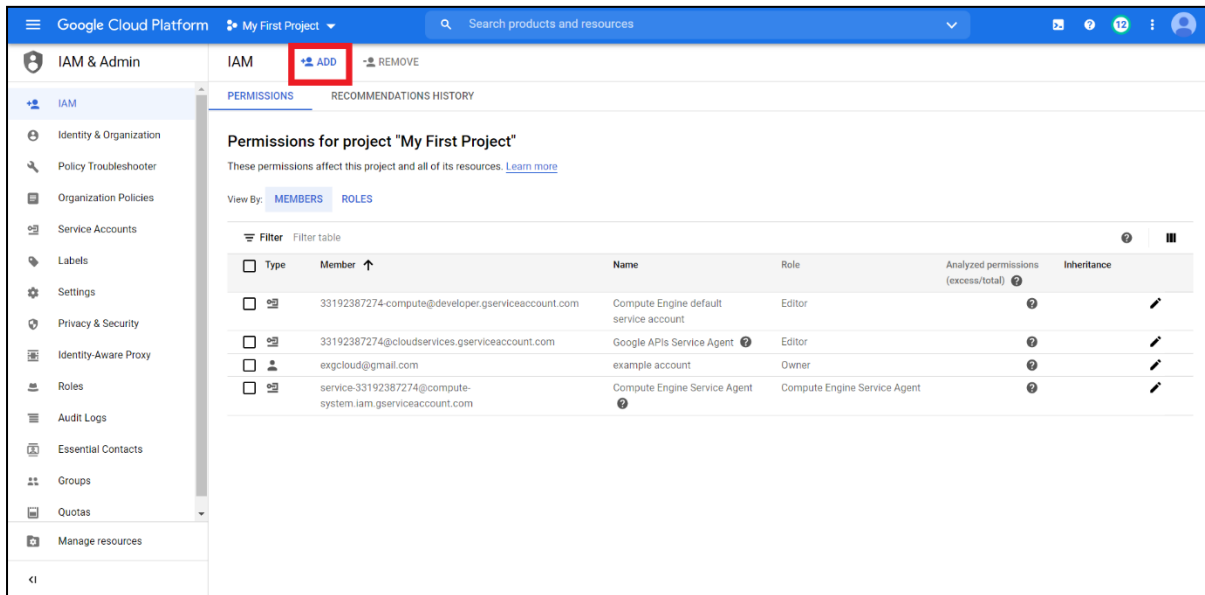
1. Department heads should own the role for their department and Viewer role for other projects
2. Finance team should have Billing Admin or Billing Viewer role
3. Data analyst team should have BigQuery Job User role
4. Quality Engineers should have Monitoring admin role
5. Create 3 projects for 3 environments
6. Provide access control for each user in only to their environments

## Solution:

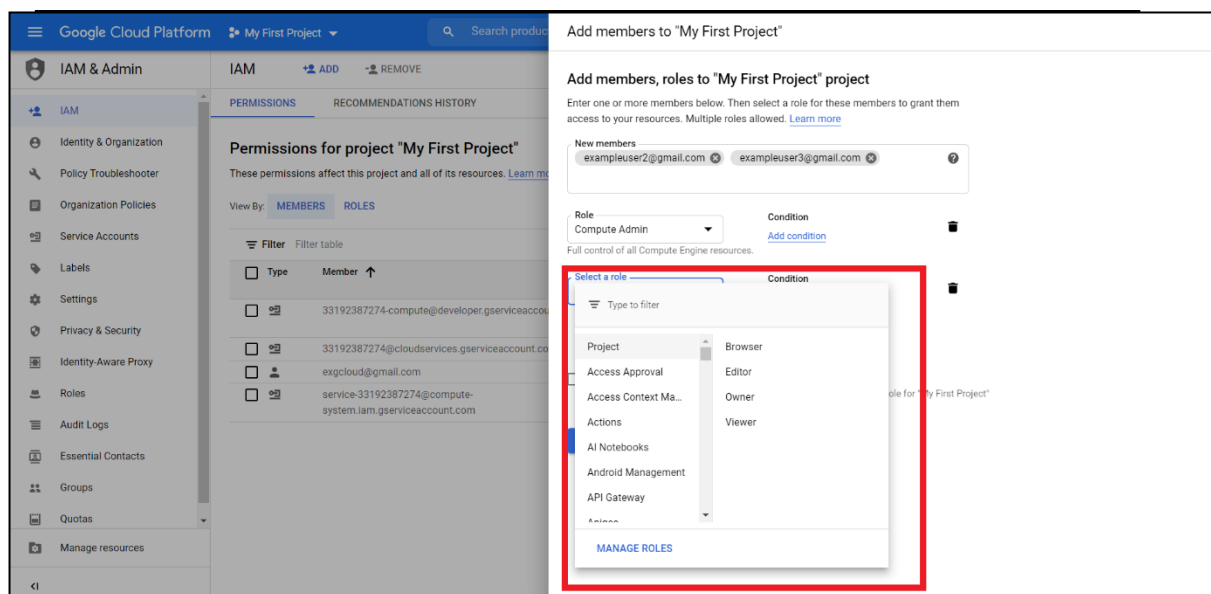
### Step-1-4 Assign roles to users:

You must assign roles to users based on their work. Here we will assign a role to a user and it can be repeated for the other users.

1. To Assign members to the project and assign roles to them. To add new members, click on Add in IAM page.



2. You will see a new screen where it asks for email addresses. Here we can put in the users' email addresses who need access and follow them by assigning roles to these users.
3. Click on add role and select the role for the specific user



4. Click on **Save**.

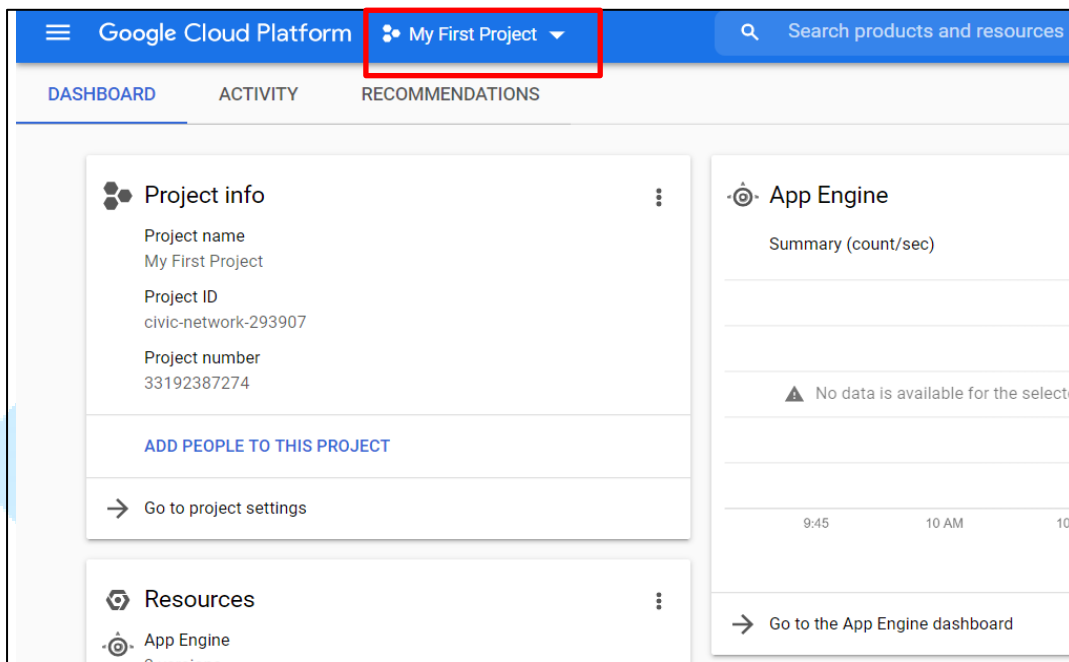
In a similar way, assign

- Department heads -> Owner role for their department and Viewer role for other projects.
- Finance team -> Billing Admin or Billing Viewer role
- Data analyst team -> BigQuery Job User
- Quality Engineers -> Monitoring admin role

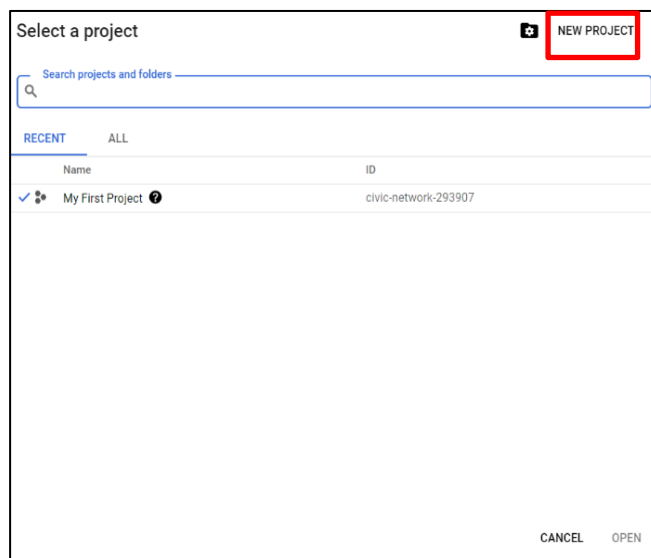
### Step-5: Create 3 Projects for 3 Environments

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

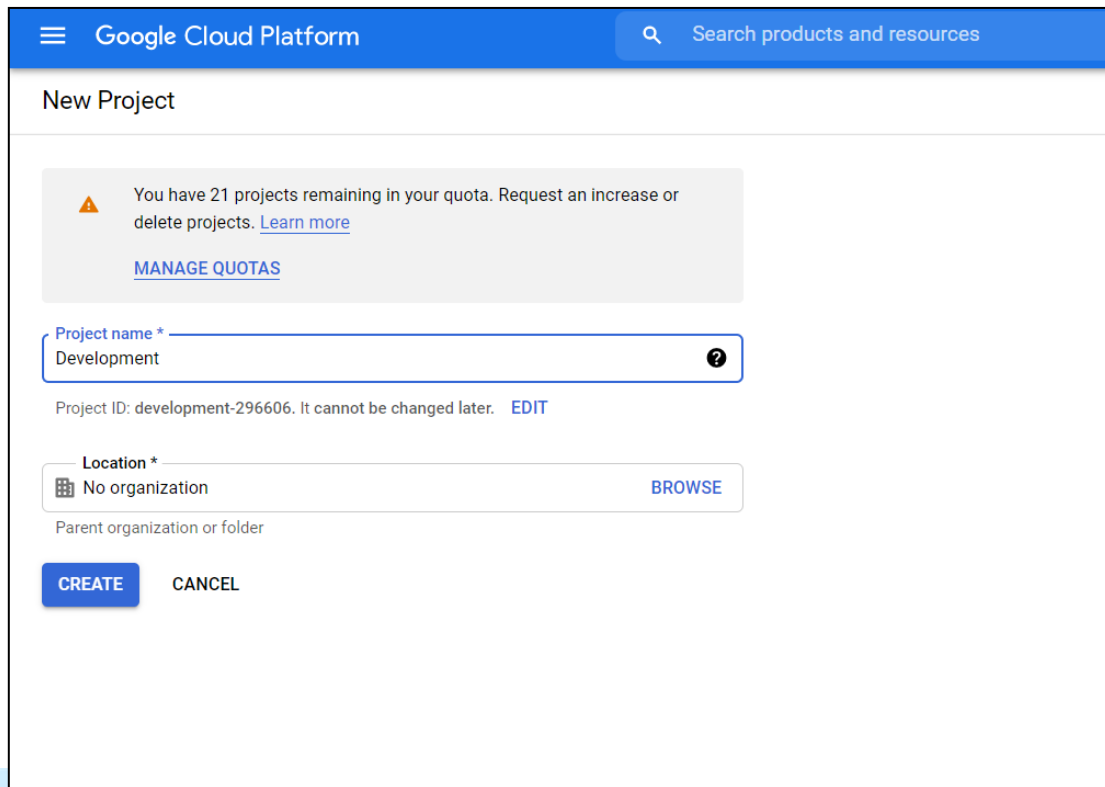
1. Go the Google Cloud Console and Click on the Project ID in the top navigation bar.



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

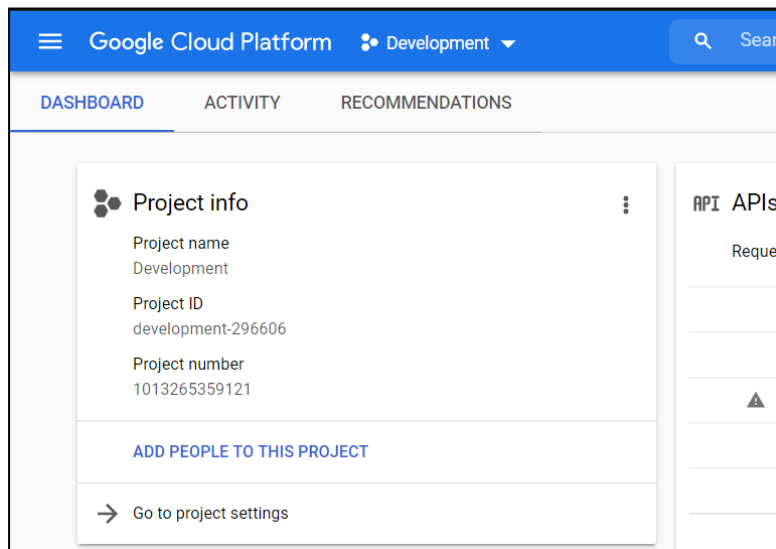


3. Enter the Project Name and Select the Location (This will be applicable if you are under an organization, you have to select a place in the organization hierarchy) and Click on **Create**



The screenshot shows the 'New Project' page in the Google Cloud Platform console. At the top, there's a blue header with the Google Cloud Platform logo and a search bar. Below the header, the page title is 'New Project'. A warning message states: 'You have 21 projects remaining in your quota. Request an increase or delete projects. [Learn more](#)'. Below this, there's a 'Project name' field with the value 'Development' and a help icon. Underneath, it shows 'Project ID: development-296606. It cannot be changed later. [EDIT](#)'. The 'Location' is set to 'No organization' with a 'BROWSE' button. At the bottom, there are 'CREATE' and 'CANCEL' buttons.

4. After a few seconds the project will be created.



The screenshot shows the 'Project info' dashboard for the 'Development' project. The top navigation bar includes 'Google Cloud Platform', a dropdown menu showing 'Development', and a search bar. Below the navigation bar, there are tabs for 'DASHBOARD', 'ACTIVITY', and 'RECOMMENDATIONS'. The 'Project info' section displays the following details: Project name: Development, Project ID: development-296606, and Project number: 1013265359121. There is a button 'ADD PEOPLE TO THIS PROJECT' and a link 'Go to project settings'.

5. Similar to Step-1 assign the developers in development project, testers in testing project, Operations team for production project editor roles in their respective projects.