
Trust Platform Demo Google IoT Core Account Setup Guide

1. INTRODUCTION

This document mainly focusses on the how-to setup the google cloud account
For connecting the trust platform devices to cloud.

2. SETTING UP OF GOOGLE CLOUD

- Log into the console -
https://console.cloud.google.com/start?tutorial=iot_core_quickstart
- Use your personal Gmail account to log in. Select “Try for free”.
Note: If not, create a new email account from [HERE](#)
- Create a new Google cloud project with the name – gcp-trust-demo by clicking the **Select a project** and **NEW PROJECT**

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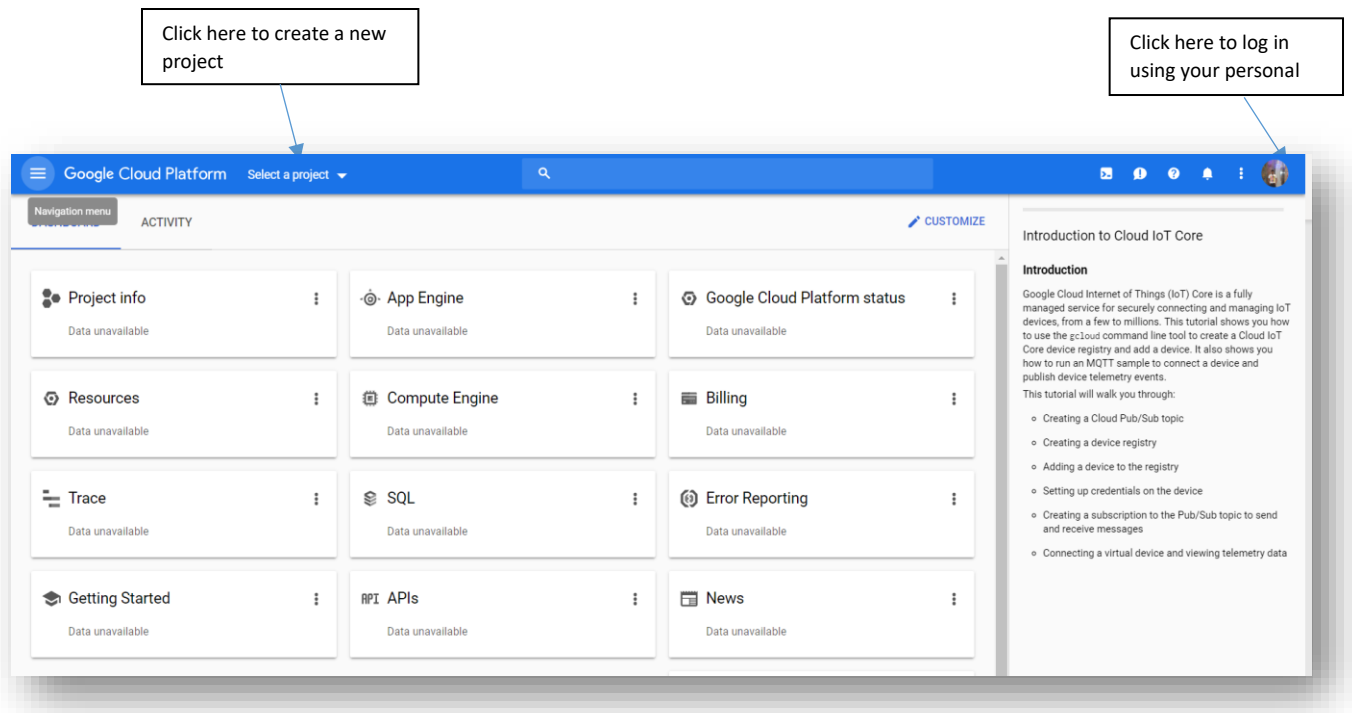


Fig: Logging in and creating a project on the cloud

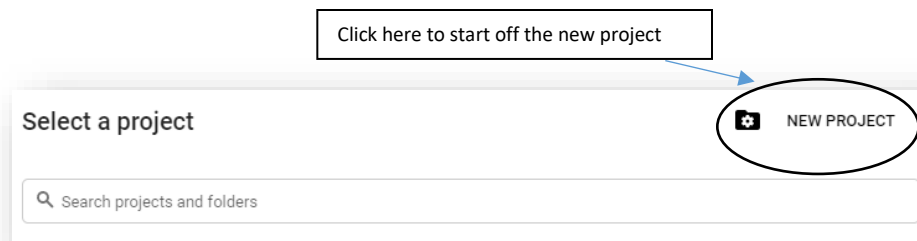


Fig: Creating a new project

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Project name *
gcp-trust-demo

Project ID: gcp-trust-demo. It cannot be changed later. [EDIT](#)

Location *
No organization [BROWSE](#)

Parent organization or folder

[CREATE](#) [CANCEL](#)

Enter the project name

Select the organization, location and select create

Fig: Entering the Project details

- Select organization if available or just select No organization.
- Once the project is created, the home page looks like the screen shot below. Note down the Project Id.

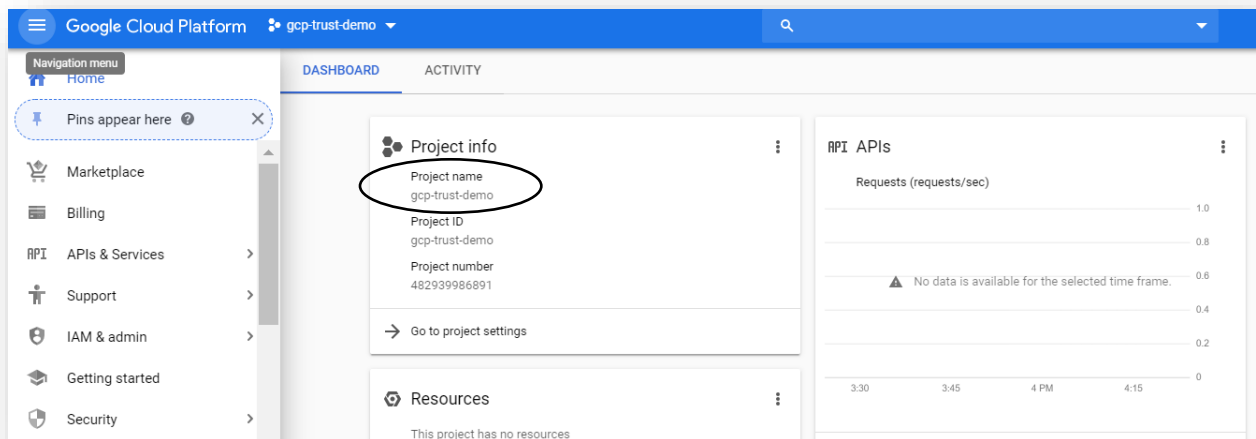
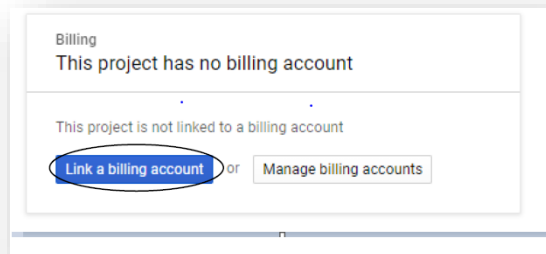
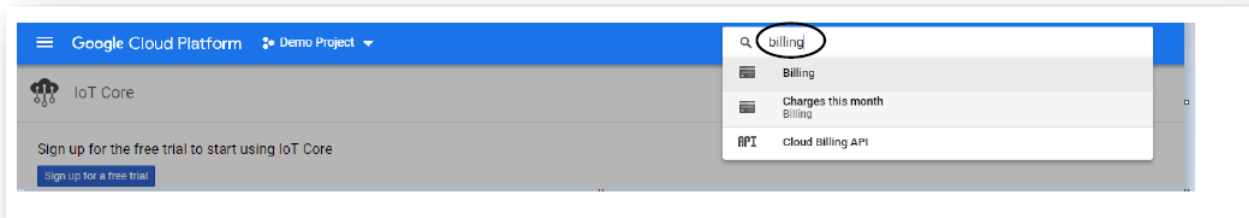


Fig: Project info page

- In the search bar, type “billing” to get to the billing page. It is necessary to do it during this step, as without credit card information, the IoT Core cannot be accessed. Click Link a billing account to add the credit card information. Follow the prompts to complete the billing information.

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- In the cloud platform search bar type “**Pub/Sub API**” and click on “**Enable API**”.

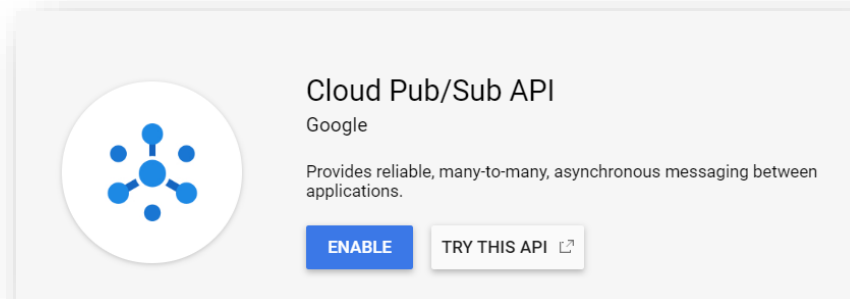
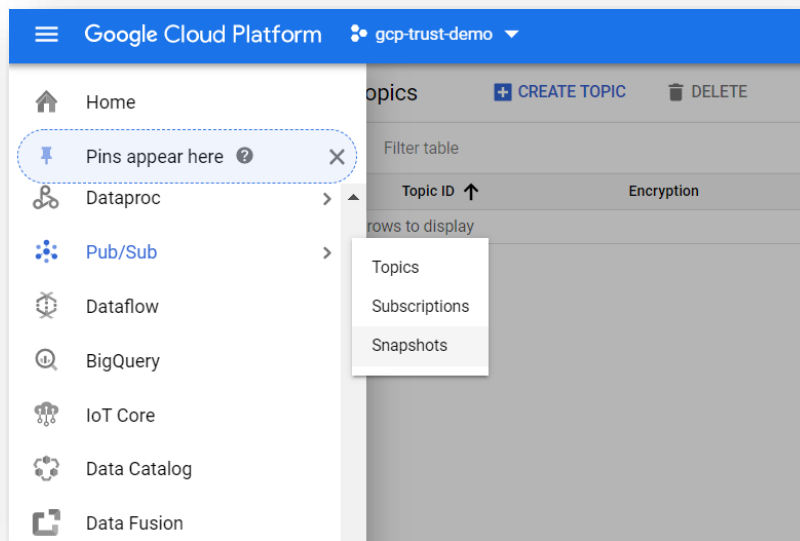


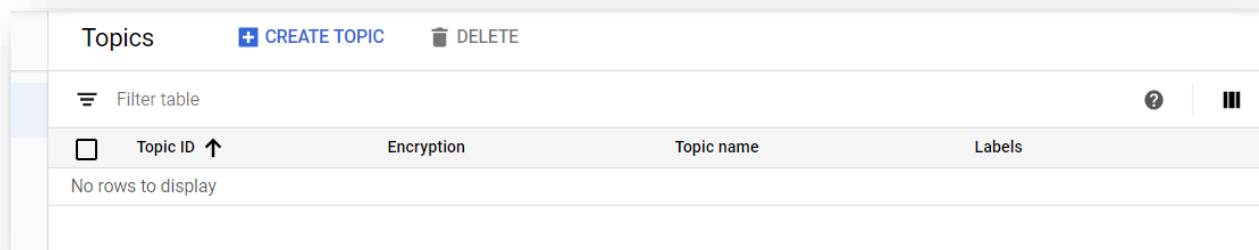
Fig: Enabling API

- In the navigational pane, select **Topics** from **Pub/Sub** as in the below figure

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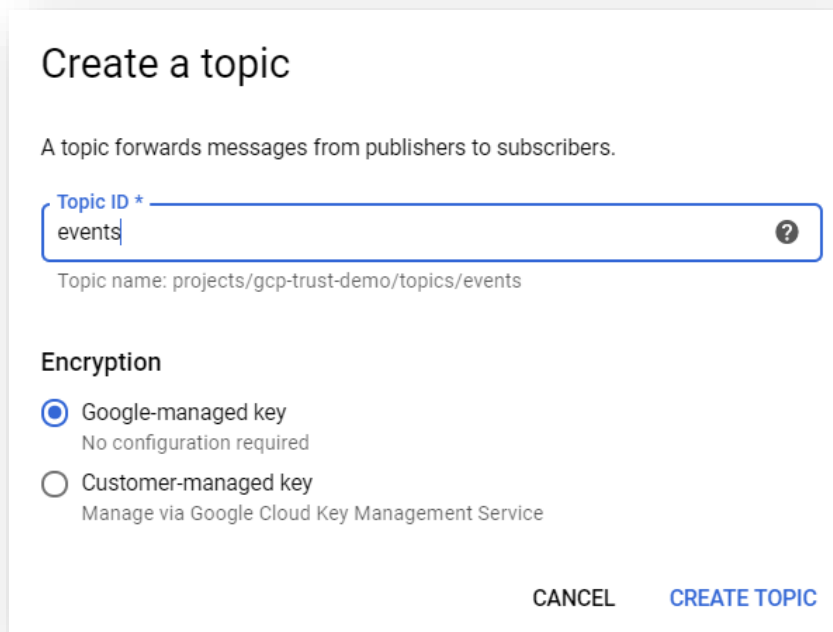


Click **Create Topic**



- Enter the name of topic as “**Events**” and click “**Create Topic**”.

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The screenshot shows a 'Create a topic' dialog box. At the top, it says 'Create a topic'. Below that, a description reads: 'A topic forwards messages from publishers to subscribers.' There is a text input field for 'Topic ID *' with the value 'events' entered. A help icon (?) is to the right of the input field. Below the input field, it says 'Topic name: projects/gcp-trust-demo/topics/events'. Under the heading 'Encryption', there are two radio button options: 'Google-managed key' (which is selected) with the subtext 'No configuration required', and 'Customer-managed key' with the subtext 'Manage via Google Cloud Key Management Service'. At the bottom right, there are two buttons: 'CANCEL' and 'CREATE TOPIC'.

Fig: Creating a topic

- Enter “**Google Cloud IoT API**” in the search bar. Once you select it, click **Enable**

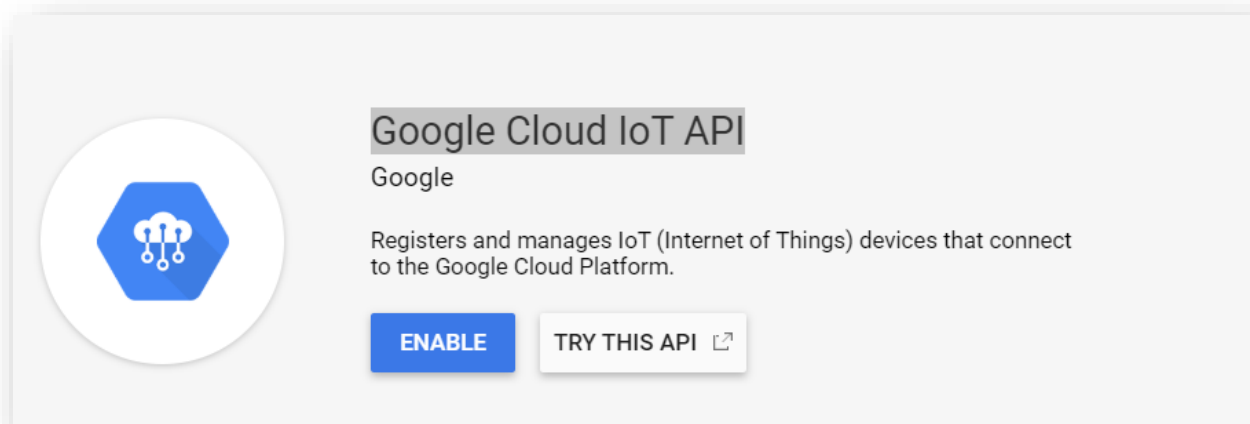
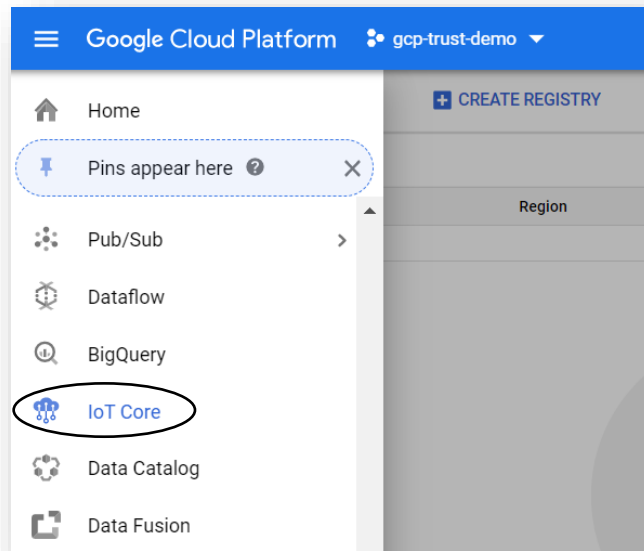


Fig: Enabling APIs for IoT Core

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- Click IoT Core from the navigation pane as shown in below figure



- Once you are inside IoT core then click on “**CREATE REGISTRY**”

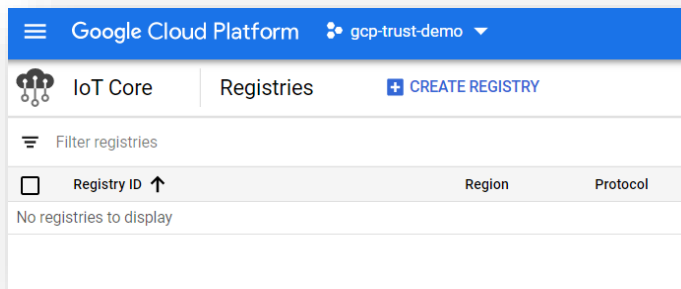


Fig: Creating device registries

- Enter the following details:
 - Registry Id – trust_reg_id
 - Region – us-central1
 - MQTT and HTTP are enabled
 - Default telemetry topic – Select the pub/sub topic you have created in the previous step from the drop down.
 - Device State Topic – optional

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- And then click “Create”

The screenshot shows the 'Create a registry' form in the Google Cloud IoT Core console. The form is titled 'IoT Core' and 'Create a registry'. It contains several sections for configuring a new registry:

- Registry ID:** A text input field containing 'trust_reg_id'. Below it, a note states: 'Enter a permanent ID that starts with a lowercase letter. Must end in a letter or number. You can also include the following characters: + . % - _ ~'.
- Region:** A dropdown menu showing 'us-central1'. Below it, a note states: 'Determines where data is stored for devices in this registry. Choice is permanent.'
- Protocol:** Two checkboxes are checked: 'MQTT' and 'HTTP'. Below them, a note states: 'Select the protocols your devices will use to connect to Cloud IoT Core. Learn more'.
- Cloud Pub/Sub topics:** A note states: 'Cloud IoT Core routes device messages to Cloud Pub/Sub for aggregation. You can route messages to different topics and subfolders in Cloud Pub/Sub based on the type of data in the messages. Learn more'.
- Default telemetry topic:** A dropdown menu showing 'projects/gcp-trust-demo/topics/events'. Below it, a note states: 'Device telemetry events will be published to this topic by default. Add more topics if you want these events to be published to separate topics.'
- Add more telemetry topics:** A section with a blue link 'Add more telemetry topics'.
- Device state topic (Optional):** A note states: 'State events published by MQTT devices are stored in the registry by default. You can also select a Cloud Pub/Sub topic where these messages will be published on a best-effort basis. Learn more'. Below it is a dropdown menu showing 'Select a Cloud Pub/Sub topic'.
- Add CA certificate:** A section with a blue link 'Add CA certificate'.
- Stackdriver Logging:** A note states: 'Set the default logging for all devices in this registry. You can apply a different setting or debug at the device level. Learn more'. Below it are four radio buttons: 'None' (selected), 'Error', 'Info', and 'Debug'.

At the bottom of the form are two buttons: 'Create' and 'Cancel'.

Fig: Entering the details for the device registry

- Next, search for “IAM and admin” -> service accounts -> Create Service Account

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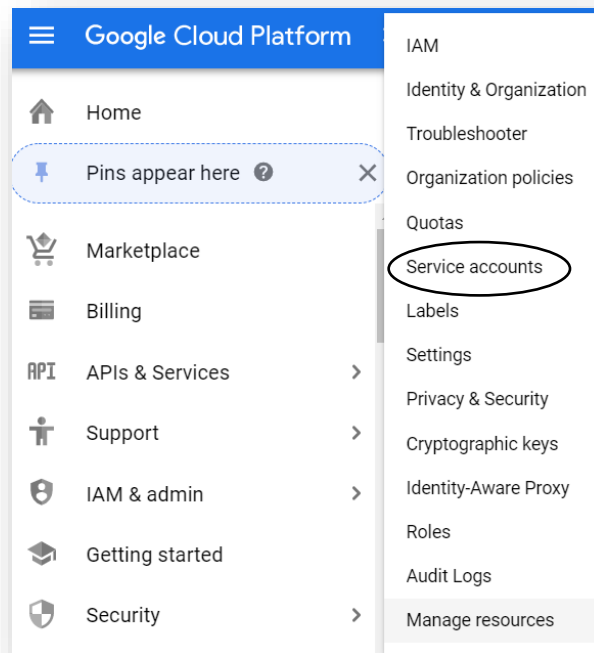
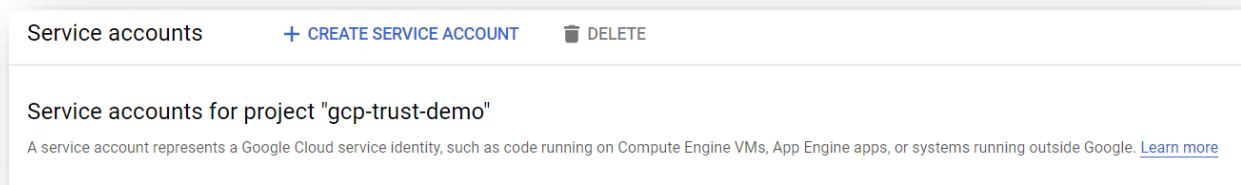


Fig: Navigating to IAM

Click **Create Service Account** as in below figure

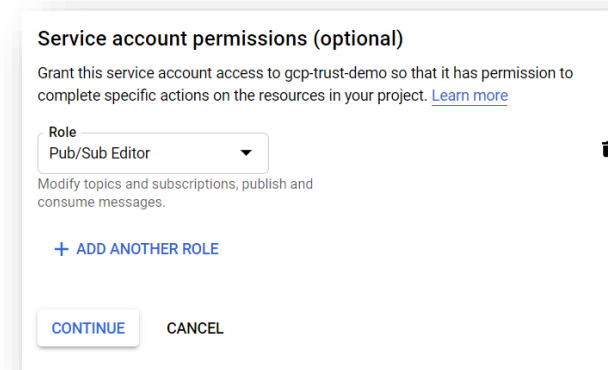
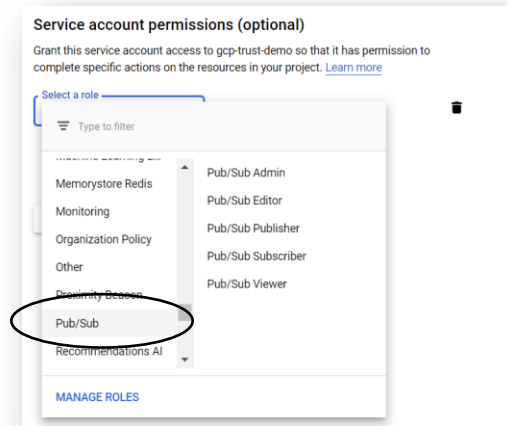


- Enter **data_view** in the service account name and click **CREATE**

A screenshot of the 'Service account details' form in the Google Cloud Platform. The form has several fields: 'Service account name' (with 'data_view' entered and circled in red), 'Display name for this service account' (empty), 'Service account ID' (with 'data-view' entered), and 'Service account description' (empty). At the bottom, there are 'CREATE' and 'CANCEL' buttons. The email address '@gcp-trust-demo.iam.gserviceaccount.com' is visible next to the service account ID.

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- In the next window select the role type as **Pub/Sub Editor** and Click **CONTINUE** as in below figures



- Click **Create Key** in the next window and make sure the JSON type is selected and Click **Create** and click **Done**

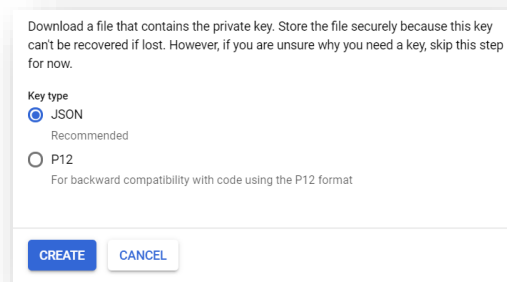
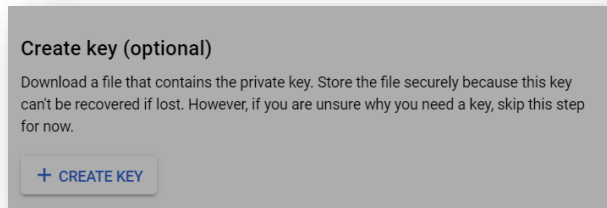
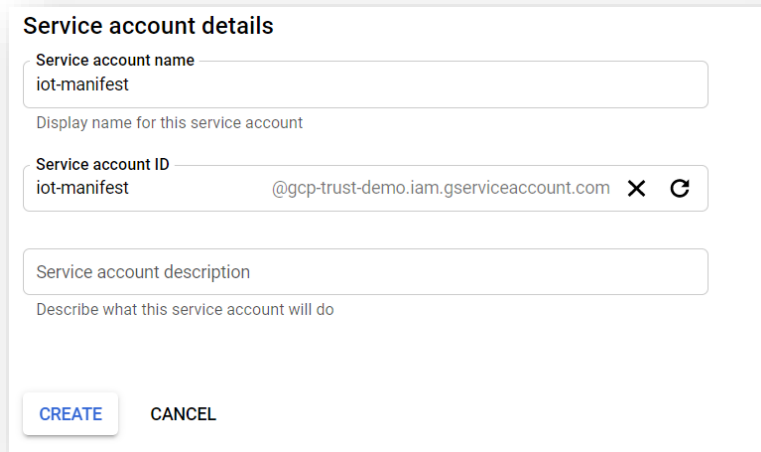


Fig: Generating the json format key

A json file is downloaded, rename the json file as **data_view.json** and place it in the Docs folder of Trust_Platform/DesignTool.

- Now we need to create another service account for the device registration through the manifest file.
- Click '**CREATE SERVICE ACCOUNT**' as shown in the previous steps and enter the service account name as **iot-manifest** and click CREATE

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Service account details

Service account name
iot-manifest

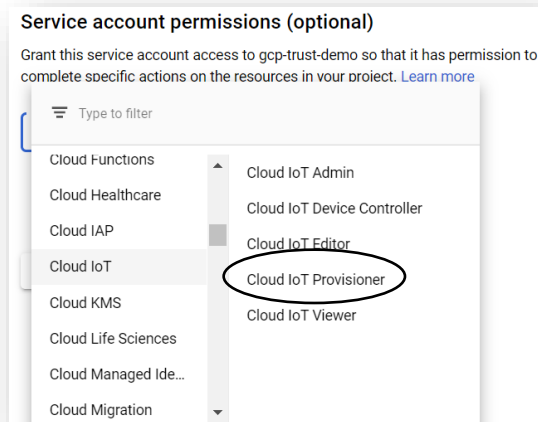
Display name for this service account

Service account ID
iot-manifest @gcp-trust-demo.iam.gserviceaccount.com X ↺

Service account description
Describe what this service account will do

CREATE CANCEL

- Select the role as Cloud IoT Provisioner from Cloud IoT and Click **CONTINUE**



Service account permissions (optional)

Grant this service account access to gcp-trust-demo so that it has permission to complete specific actions on the resources in your project. [Learn more](#)

Type to filter

Cloud Functions	Cloud IoT Admin
Cloud Healthcare	Cloud IoT Device Controller
Cloud IAP	Cloud IoT Editor
Cloud IoT	Cloud IoT Provisioner
Cloud KMS	Cloud IoT Viewer
Cloud Life Sciences	
Cloud Managed Ide...	
Cloud Migration	

- Click **CREATE KEY** and make sure the JSON is selected and click **CREATE**.

A JSON file is downloaded and click **Done**. Rename the downloaded file as **iot-manifest.json** and place it Docs folder of Trust_Platform/DesignTool.

- Now search for Pub/Sub in the search bar and create a new subscription. Give it the name **“data-view”** and click **“create”**

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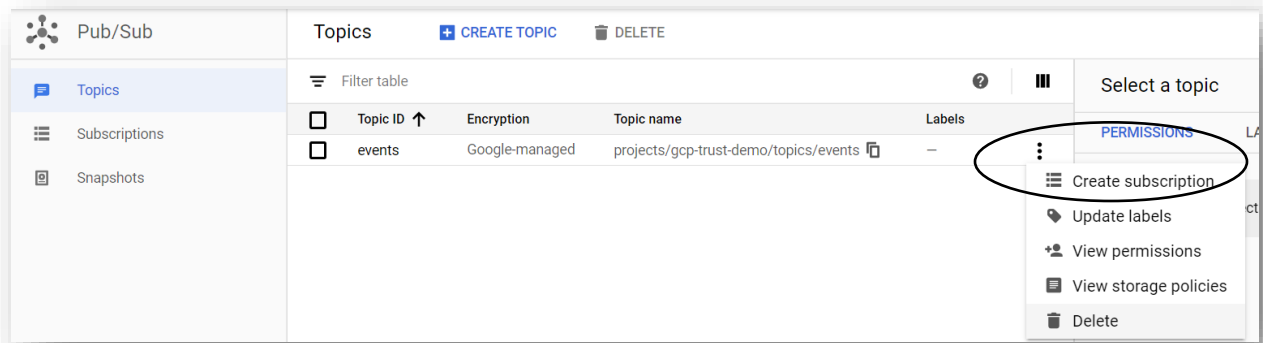


Fig: Creating a new subscription

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← Add subscription to topic

A subscription directs messages on a topic to subscribers. Messages can be pushed to subscribers immediately, or subscribers can pull messages as needed.

Subscription ID *
data-view ?

Subscription name: projects/gcp-trust-demo/subscriptions/data-view

Topic name
projects/gcp-trust-demo/topics/events

Delivery type ?

☒ Pull
☐ Push

Subscription expiration ?

☒ Expire after this many days of inactivity (up to 365)
31 Days

A subscription is inactive if there is no subscriber activity such as open connections, active pulls, or successful pushes.

☐ Never expire
The subscription will never expire no matter the activity.

Acknowledgement deadline ?

Deadline time is from 10 seconds to 600 seconds
10 Seconds

Message retention duration ?

Deadline time is from 10 minutes to 7 days

Days: 7 Hours: 0 Minutes: 0

☐ Retain acknowledged messages ?
When enabled, acknowledged messages are retained for the message retention duration specified above. This increases message storage fees. [Learn more](#)

CREATE

Fig: Entering the name for the subscription

The GCP iot cloud account is setup for the device registration through the manifest file.

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