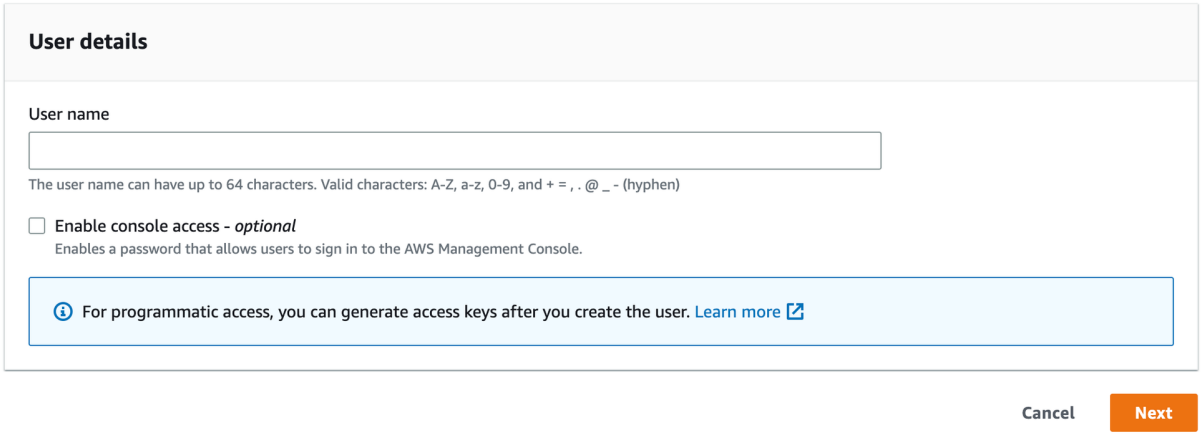
Steps to implement Hands-on Project - Mission 2

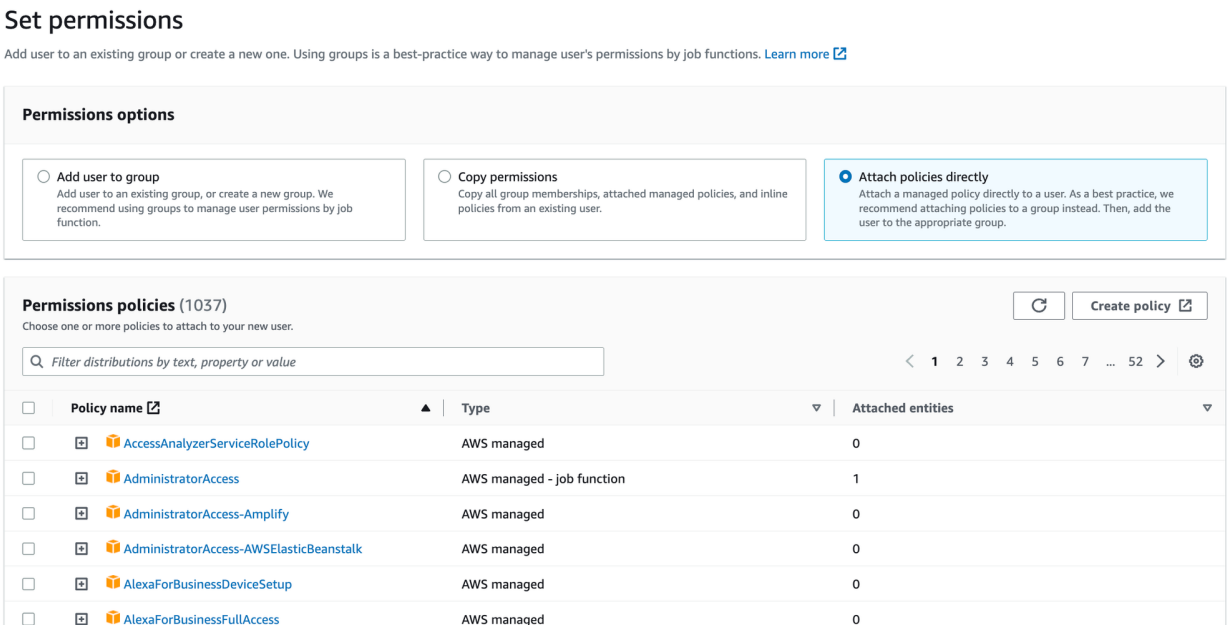
Amazon Web Services

- Access AWS console and go to IAM service
- Under Access management, Click in "Users", then "Add users". Insert the User name **luxxy-covid-testing-system-en-app1** and click in **Next** to create a programmatic user.

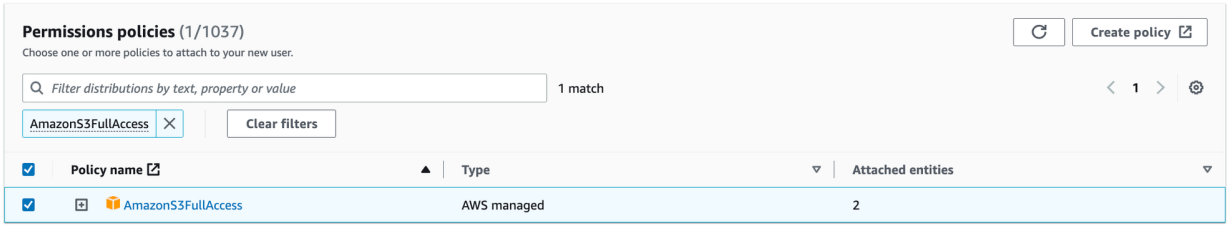
Specify user details



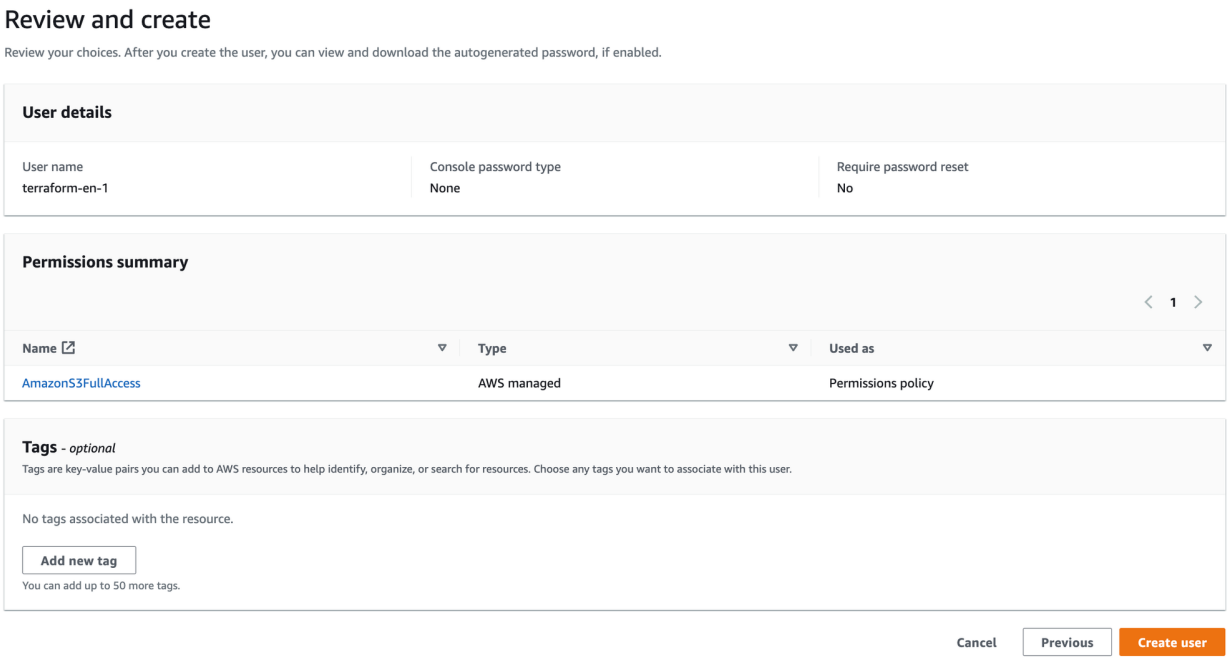
- On Set permissions, Permissions options, click in "Attach policies directly" button.



- Type **AmazonS3FullAccess** in **Search**.
- Select **AmazonS3FullAccess**

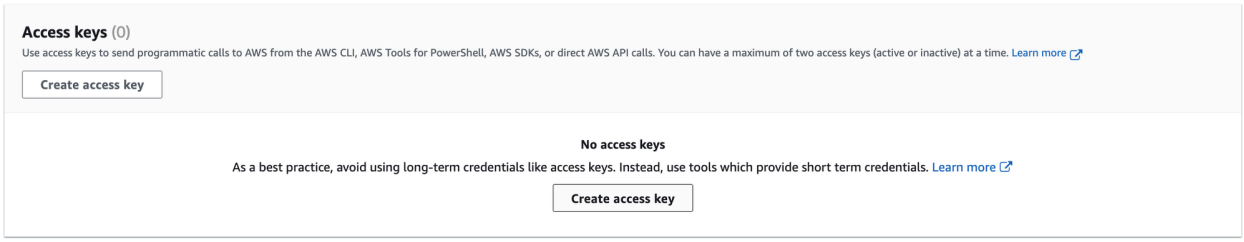


- Click in **Next**
- Review all details and click in Create user



Steps to create access key:

- Click on the user you have created.
- Go to Security credentials tab.
- Scroll down and go to Access keys section.
- Click on Create access key



- Select **Command Line Interface (CLI)** and **I understand the above recommendation and want to proceed to create an access key** checkbox.
- Click Next
- Click on Create access key
- Click on Download .csv file
- After download, click Done.
- Now, rename .csv file downloaded to **luxxy-covid-testing-system-en-app1.csv**

Google Cloud Platform (GCP)

- Navigate to Cloud SQL instance and create a new user **app** with password **welcome123456** on Cloud SQL MySQL database

- Connect to Google Cloud Shell
- **Download** the mission2 files to Google Cloud Shell using the wget command as shown below

```
cd ~ mkdir mission2_en cd mission2_en wget https://tcb-public-events.s3.amazonaws.com/icp/mission2.zip unzip mission2.zip
```

- Connect to MySQL DB running on Cloud SQL (once it prompts for the password, provide **welcome123456**)

```
mysql --host=<public_ip_cloudsql> --port=3306 -u app -p
```

- Once you're connected to the database instance, create the products table for testing purposes

```
use dbcovidtesting; source ~/mission2_en/mission2/en/db/create_table.sql show tables; exit;
```

- Enable Cloud Build API via Cloud Shell.

```
# Command to enable Cloud Build API gcloud services enable
cloudbuild.googleapis.com
```

Known issue during this step

If you see the error below, please follow the steps to fix it:

```
ERROR: (gcloud.builds.submit) INVALID_ARGUMENT: could not resolve source: goo
gleapi: Error 403: 989404026119@cloudbuild.gserviceaccount.com does not have
storage.objects.get access to the Google Cloud Storage object., forbidden To
solve it: 1. Access IAM & Admin; 2. Click on check-box Include Google-provide
d role grants; 3. Click and select your Cloud Build Service Account Example:
989404026119@cloudbuild.gserviceaccount.com Cloud Build Service Account 4. On
your Cloud Build Service Account, right side, click on Edit principal 5. Clic
k on Add another role 6. Click on Select Role, and filter by Storage Admin or
gcs. Select Storage Admin (Full control of GCS resources). 7. Click on Save a
nd go to Cloud Shell.
```

- Build the Docker image and push it to Google Container Registry. Please replace the <PROJECT_ID> with your My First Project ID.

```
cd ~/mission2_en/mission2/en/app gcloud builds submit --tag
gcr.io/<PROJECT_ID>/luxxy-covid-testing-system-app-en
```

- Open the Cloud Editor and edit the Kubernetes deployment file (**luxxy-covid-testing-system.yaml**) and update the variables below on **line 33** in red with your <PROJECT_ID> on the Google Container Registry path, on **line 42** AWS Bucket name, AWS Keys (open file l**uxxy-covid-testing-system-en-app1.csv** and use **Access key ID** on **line 44** and **Secret access key** on **line 46**) and Cloud SQL Database Private IP on **line 48**.

```
cd ~/mission2/en/kubernetes luxxy-covid-testing-system.yaml image:
gcr.io/<PROJECT_ID>/luxxy-covid-testing-system-app-en:latest ... - name:
AWS_BUCKET value: "luxxy-covid-testing-system-pdf-en-xxxx" - name:
S3_ACCESS_KEY value: "xxxxxxxxxxxxxxxxxxxx" - name: S3_SECRET_ACCESS_KEY
value: "xxxxxxxxxxxxxxxxxxx" - name: DB_HOST_NAME value: "172.21.0.3"
```

- Connect to the GKE (Google Kubernetes Engine) cluster via Console (follow the video)
- Deploy the application Luxxy in the Cluster

```
cd ~/mission2_en/mission2/en/kubernetes kubectl apply -f luxxy-covid-testing-
system.yaml
```

- Get the Public IP and test the application (CLICK HERE to download COVID-19 Testing result sample). Search for **GKE**, click on **Services & Ingress**, and then on **Endpoints** address:port
- You should see the app up & running! Congrats! 🎉