



ROITRAINING
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Activity: Using Helm to Install a Database

Configuring Helm

- In this activity, you will install MariaDB on your cluster with Helm
- Helm is preinstalled in Cloud Shell
- From Cloud Shell, run the following commands to add the Bitnami repo:
`helm repo add bitnami https://charts.bitnami.com/bitnami`
`helm repo list`
- Run the following command to search for MariaDB:
`helm search repo mariadb`
 - This should find a few charts, including one named: bitnami/mariadb

Installing MariaDB

- From Cloud Shell, run the following command to install the chart:
`helm install database-server bitnami/mariadb`
 - This will start the installation of MariaDB
 - You will also see information displayed about how to obtain the database root password
 - It is using Kubernetes secrets

Initializing the events_db Database

- You will now connect to the database
- And create the schema needed to store the events data

Retrieving the Database Password

- Near the end of the output from Helm, copy the entire line that retrieves the database password, it starts with:

`ROOT_PASSWORD=$(kubectl get secret ...`

- Paste the command at the terminal to run it
- Display the password with: `echo $ROOT_PASSWORD`
- Copy and save the password, you will need it shortly

Initializing the Database

- Scroll up in the output from helm, copy the command that will run a pod to use as a database client, it will start with:

`kubectl run database-server-mariadb-client ...`

- Be sure to copy the entire command - it may span two lines
- Paste the command at the terminal to run it
 - It may take 20-30 seconds to run
 - This opens a command prompt on a pod with the MariaDB/MySQL client installed
- You will see something like this:

```
rattan_kevin_k@cloudshell:~/aaadeloitte (jenkins-base)$ kubectl run database-server-mariadb-client --rm --tty -i --restart='Never' --image docker.io/bitnami/mariadb:10.5.8-debian-10-r69 --namespace default --command -- bash
If you don't see a command prompt, try pressing enter.
I have no name!@database-server-mariadb-client:/$
```

Initializing the Database (continued)

- Scroll up in the output from helm, copy the command that will open a connection to the database, it will start with:
`mysql -h database-server-mariadb ...`
 - Paste the command at the terminal to run it
 - When prompted, use the password retrieved earlier

Creating the Schema

- Copy the entire SQL on this slide and paste it in the Cloud Shell terminal
- This will create the DB schema and insert two rows

```
DROP DATABASE IF EXISTS events_db;
CREATE DATABASE events_db;

USE events_db;

CREATE TABLE events(
  id INT NOT NULL AUTO_INCREMENT,
  title VARCHAR(255) NOT NULL,
  description TEXT NOT NULL,
  location VARCHAR(255) NOT NULL,
  likes INT DEFAULT 0,
  datetime_added TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP,
  PRIMARY KEY ( id )
);

SHOW TABLES;

INSERT INTO events (title, description, location) VALUES ('Pet Show (DB)', 'Super-fun with furry friends!', 'Dog Park');

INSERT INTO events (title, description, location) VALUES ('Company Picnic (DB)', 'Come for free food and drinks.', 'At the lake');

SELECT * FROM events;
```


Success

- **Congratulations!** You have successfully installed a database with Helm