# Activity:
# Using Helm to Install a Database

# Configuring Helm

- In this activity, you will install MariaDB on your cluster with Helm

- Cloud Shell already has Helm installed
  - No need for us to install it
  - We will be using the Bitnami Helm repository

- 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`

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# 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

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# Viewing the MariaDB Installation

- From Cloud Shell, run the following commands view the installation:

  `kubectl get pods`

  `kubectl get statefulsets`

  `kubectl get service`

  - Notice the chart is using a StatefulSet

- That is it!
  - Using Helm is easy

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# Installing Another Chart

- You can list all charts in a repo with:

  `helm search repo`

- Install the Tomcat chart with:

  `helm install tomcat-server bitnami/tomcat`

- Run the following commands view the installation:

  `kubectl get pods`

  `kubectl get deployments`

  `kubectl get service`

  - Wait for the Tomcat pod and service to be ready
  - Try accessing the Tomcat service `EXTERNAL-IP` in a browser
    - You should see the Tomcat home page

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# Upgrading and Uninstalling a Chart

- Perform an upgrade on the installed `tomcat-server`

  `helm upgrade tomcat-server bitnami/tomcat`
  - There should not be an upgrade (you just deployed it), but it will try

- Uninstall the `tomcat-server`

  `helm uninstall tomcat-server`

- Run the following commands verify it is uninstalled:

  `kubectl get pods`

  `kubectl get deployments`

  `kubectl get service`
  - It make take a minute for all the resources to delete

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# Clean Up

- Nothing to clean up

- Be sure to leave the MariaDB service running on your cluster
  - We will use it later

# Success

- **Congratulations**! You have successfully installed a workload with Helm
  - Installed MariaDB using a Helm chart
  - Installed Tomcat using a Helm chart
  - Upgraded an installed chart
  - Uninstalled a chart

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