

DEPLOY SIMPLE JAVA APPLICATION USING GOOGLE APP ENGINE

- **GCP credit application**
- **Create a project** :Go to Google Cloud, Console--create a project
- **Add billing information:** Billing—add your credit—you will not be charged. Billing account for education. Apply credits. \$50
- **Create app engine application:** Compute-- App Engine (If not present, then google app engine, create account and then go to console
 - Create application
 - Enter geographic region- You can create only 1 app engine per project. Choose the nearest google datastore location for minimum charges- US east 1
 - Choose language and environment, App created
 - Activate Cloud Shell - a free online environment, with command-line access for managing your infrastructure and an online code editor
- **Enable App engine API:** API and services--*Enable App Engine Admin API and Google App engine Flexible Environment API.* to build application on app engine
- **Clone sample application from cloud repository:**
<https://github.com/GoogleCloudPlatform/java-docs-samples> this GitHub repository is maintained by google that comprises starter codes in Java to deploy applications on app engine.
 - Clone this repository by *git clone* from cloud shell.
 - *cd app-engine8/hello world.* Navigate to hello world app in app engine. There is a HelloAppEngine.java that implements a simple servlet
- **Download maven build:** To test and get development server running, we will need maven. *mvn clean ...build success....mvn package..*
- **Run app engine on localhost:** Download and install maven and run app engine. *mvn appengine:run...* this will install all dependencies needed for the application. Dev App server is now running. Go to Web preview...preview on localhost. On localhost application has been successfully deployed
- **Deploy app to app engine:** Now we need to deploy application to app engine that is hosted by google, so that everyone can see it.
 - Go to *appengine8/hellowprld/pom.xml* and change projectID to your projectID from google cloud project dashboard.

- *mvn package appengine:deploy* to deploy .
 - To find where it is deployed....*gcloud app browse*.
 - **Clean up to avoid billing charges:** Project settings=>shut down project
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You could also install google cloud tools for IDE like Eclipse and deploy app from there.

- Open Eclipse—Help—Eclipse Marketplace – search for google, install the google cloud tools—restart eclipse
- Now, to use google cloud, we need to download the google cloud SDK. Cloud SDK is a set of tools that you can use to manage resources and applications hosted on Google Cloud. Installing it means the API will be locally available to us on Eclipse
- Install google cloud tools for eclipse from marketplace
- Windows--Preferences—search google—google cloud tools—if not downloaded—click on App Engine Java Components—download SDK installer – Run—Install – SDK installed. *gcloud init* terminal will open—login to gmail account
- Now SDK is installed, we need to install app-engine component. We need to tell which component from cloud SDK do we want to use. For that, go to terminal—write *gcloud components install app-engine-java*
- Go back to eclipse—windows—preferences—sdk installed—apply and close
- Now create project—a google app engine standard java project

To create a dynamic web project, if that option is missing in Eclipse:

- Download Java EE tools on Eclipse. Help-- Install new software--In "Work with", paste: <http://download.eclipse.org/releases/kepler>
- In "Web, XML, Java EE and OSGi Enterprise Development", check: Eclipse Java EE Developer Tools; Eclipse Java Web Developer Tools; Eclipse Web Developer Tools; Eclipse XML Editors and Tools.