



# Developing Java Applications on Google's App Engine

## Abstract

With Google's App Engine support for the Java language, it is now easy to develop and deploy enterprise Java applications on the Google App Engine.

Google App Engine provides a highly scalable and robust platform that has virtually no limits over the number of users and the amount of data the application uses.

The Google App Engine platform provides powerful services for enterprise web applications such as: GWT for AJAX functionality, DataStore services for data housing, Image services, Memcache services, URL fetching and authentication.

This course is intended for anyone who wishes to develop Java web applications on the Google App Engine.

## Target Audience

Java developers.

## Prerequisites

Familiarity with the Java language.

Familiarity with HTML, CSS & Javascript.

Familiarity with the JavaEE Servlets & JSP.

## Content:

### JavaEE Web Tier Overview (2 hours)

- The Servlets Model.

- Writing JSPs.

- The Deployment Descriptor.

### Overview on Google App Engine (2 hours)

- What is Cloud Computing?

- Cloud vs. Grid.

- Basic GAE Concepts.



Creating an App Engine Project.  
The App Engine SDK.  
The Sandbox Model.  
Quotas.

### **JPA & the DataStore Service (4 hours)**

Object Relational Mapping.  
Mapping configurations.  
Relationships.  
Working with the persistence manager.  
Working with Query objects.  
Using the DataStore Service.

### **The Memcache Service (2 hours)**

The JCache Standard.  
The Low-level API.

### **Additional Services (4 hours)**

Applying transformation with the Images Service.  
Scheduling with the Cron Service.  
Sending Mail with the Mail Service.  
Accessing the Web with URL Fetching.  
Authentication with Google Accounts.

### **Introduction to AJAX (1 hour)**

What is AJAX?  
The XMLHttpRequest.  
Understand options and limits with AJAX

### **Google Web Toolkit (7 hours)**

GWT Overview.  
Building UI with Widgets.  
Creating Custom Widgets.  
GWT-RPC.  
Integrating Third Parties' Javascript Libraries.  
Supporting the 'Back' Button.  
I18N in GWT.  
Unit Testing with GWT.



**Deployment & Misc (2 hours)**

Administration.  
Using the AppCfg tool.  
Supported Java Frameworks.

**Duration:            3 days.**