



Google App Engine

What is App Engine

- Run your web apps on Google's infrastructure and it scales automagically.
- Supports Python and Java runtimes. Python has more features, but Java is close behind.
- Pay for what you use. It's free up to 500Mb and a five million page views per month.

Application Environment

- dynamic web serving, with full support for common web technologies
- persistent storage with queries, sorting and transactions
- automatic scaling and load balancing
- APIs for authenticating users and sending email using Google Accounts
- a fully featured local development environment that simulates GAE
- task queues for performing work outside of the scope of a web request
- scheduled tasks for triggering events at specified times and regular intervals
- run in a secure environment that provides limited access to the underlying operating system.

Java Runtime

- Standard Java 5/6 complete with Servlets and JavaServer Pages (JSP).
- Sandbox is in JVM. For example, writing a file will throw an runtime exception
- Familiar APIS. Use Datastore with Java Data Objects (JDO) and Java Persistence API (JPA). Mail is sent with JavaMail.
- Can also use JavaScript, Ruby or Scala

DataStore

- Distributed storage built on BigTable. Grows with you data. It is not SQL.
- Data entities have a kind and a set of properties.
- Queries can retrieve entities a given kind. Queries can filter and sort by values of properties.
- Properties are you standard primitives plus more.
- Entities are schemaless and structure is enforced by application code.

App Engine Services

- Google Accounts for user authentication
- URL Fetch for getting web resources
- Mail for sending mail
- Memcache for in-memory key-value cache accessible by multiple instances of your app.
- Image Manipulation for resize, crop, rotate and flip.
- Scheduled tasks (task queues coming soon).

Quotas and Limits

- 500MB of storage and up to 5 million page views a month. 10 applications per developer.
- Responses must occur within 30 seconds and queries can return at most 1000 results.
- CPU Time: 6.5 hours of CPU time per day
- Bandwidth: 1 gigabyte of data transferred in and out of the application per day
- Data: 1 gigabyte stored, 12 gigabytes sent and 115 gigabytes received via DataStore API