Google Cloud Platform: Stand vs Flexible

➤ **App Engine** : Choose an App Engine Environment

➤ User can run your applications in App Engine using the flexible environment or standard environment. User can also choose to simultaneously use both environments for your application and allow your services to take advantage of each environment's individual benefits.

➤ App Engine is well suited to applications that are designed using a microservice architecture.

➤ **When to choose the standard environment**

➤ Application instances run in a sandbox, using the runtime environment of a supported language.

➤ Applications that need to deal with rapid scaling.

➤ Source code is written in specific versions of the supported programming languages: Python 2.7, Python 3.7, Java 8, Java 11, Node.js 8, Node.js 10, PHP 5.5, PHP 7.3, Ruby 2.5 (beta), Go 1.11, Go 1.12 and Go 1.13 (beta)

➤ Intended to **run for free or at very low cost**, where you pay only for what you need and when you need it. For example, your application can scale to 0 instances when there is no traffic.

➤ Experiences sudden and extreme spikes of traffic which require immediate scaling.

➤ **When to choose the flexible environment**

➤ Application instances run within Docker containers on Compute Engine virtual machines (VM).

➤ Applications that receive consistent traffic, experience regular traffic fluctuations, or meet the parameters for scaling up and down gradually.

➤ Source code that is written in a version of any of the supported programming languages: Python, Java, Node.js, Go, Ruby, PHP, or .NET

➤ Runs in a Docker container that includes a custom runtime.

➤ Uses or depends on frameworks that include **native code**.

➤ Accesses the resources or services of your Google Cloud project that reside in the **Compute Engine network**.

➤ **Compare the flexible environment to Compute Engine**

➤ Flexible environment VM instances are restarted on a weekly basis. During restarts, Google's management services apply any necessary operating system and security updates.

➤ You always have root access to Compute Engine VM instances. By default, SSH access to the VM instances in the flexible environment is disabled. If you choose, you can enable root access to your app's VM instances.

➤ Code deployments can take longer as container images are built by using the Cloud Build service.

See you in next lecture …