GOOGLE APP ENGINE

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Agenda

1. All about Google App Engine
    a. Why do we need it ?
    b. Which languages are supported?
    c. Standard vs Flexible Environment .
2. Step by step demo :)
3. Quiz time :P

What is Google App Engine?

App Engine is a platform for developing and hosting web applications.

How can we use it ?

You can develop your app using any of the supported programming languages , then let App Engine take care ofthe rest , such as scaling your app instances based on demand. In short **“Focus just on writing code, without the worry of managing the underlying infrastructure”**

Which language can we use ? How ?

Many of the popular languages, libraries, and frameworks to develop your apps, are supported . Example

- Java,
- PHP,
- Node.js,
- Python,
- C#,
- .Net,
- Ruby
- Go
- Bring your own language runtimes and frameworks if you choose. :)

Which language can we use ? How ?

Manage resources from the command line, debug source code in production and run API backends easily using industry leading tools such as Cloud SDK, Cloud Source Repositories, IntelliJ IDEA, Visual Studio and PowerShell.

Standard Environment VS Flexible Environment

The standard environment is optimal for applications with the following characteristics:

- Source code is written in **specific versions of the supported programming languages**: For ex.
  - Python 2.7, Python 3.7
  - Java 8, Java 11 (beta)
- Experiences **sudden and extreme spikes of traffic** which require immediate scaling.
- 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.
- The deployment time is in seconds
- Scaling to zero possible

The flexible environment is optimal for applications with the following characteristics:

- Source code that is written in a version of any of the supported programming languages:
  Python, **Java**, **Node.js**, **Go**, **Ruby**, **PHP**, or **.NET**
- Uses or depends on frameworks that include **native code**.
- Accesses the resources or services of your Google Cloud Platform project that reside in the **Compute Engine network**.
- The deployment time is in minutes.
- Scaling to zero is not possible.

More comparison

Feature	Standard environment	Flexible environment
Instance startup time	Seconds	Minutes
Maximum request timeout	60 seconds - Learn more	60 minutes
Background threads	Yes, with restrictions	Yes
Background processes	No	Yes

Now time for a hello world Demo

We can deploy by

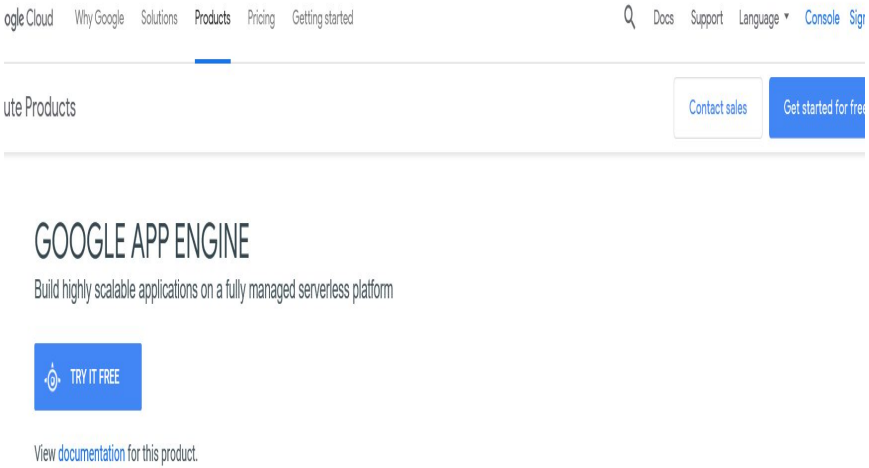
installing GOOGLE CLOUD SDK.

Or

using CLOUD SHELL in the browser itself.

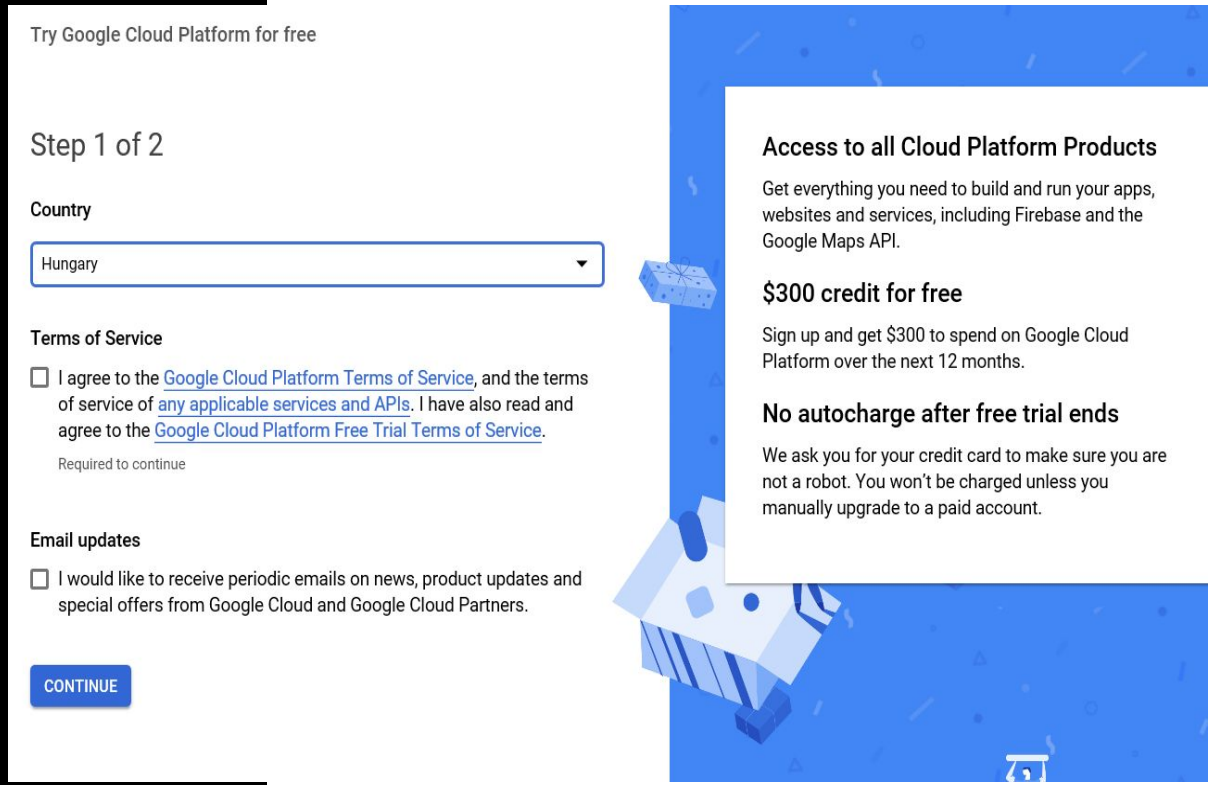
So first things first

Go to https://cloud.google.com/appengine/



Step1 - Registration

You login and provide your bank card details.



Step2- Download Google cloud SDK and link it with your google cloud & create a new project.

To initialize the SDK:

1. Run the following at a command prompt:

```
gcloud init
```

Note: To prevent the command from launching a web browser, use `gcloud init --console-only` instead. To authorize without a web browser and non-interactively, create a service account with the appropriate scopes using the Google Cloud Platform Console and use `gcloud auth activate-service-account` with the corresponding JSON key file.

2. Accept the option to log in using your Google user account:

```
To continue, you must log in. Would you like to log in (Y/n)? Y
```

3. In your browser, log in to your Google user account when prompted and click **Allow** to grant permission to access Google Cloud Platform resources.

Note

You can also download additional useful components and client libraries

https://cloud.google.com/apis/docs/cloud-client-libraries

https://cloud.google.com/sdk/docs/components

Step 3-
The source code +YAML file + requirement.txt

What is YAML file?

YAML is a human-readable data-serialization language.It is commonly used for configuration files and in applications where data is being stored or transmitted. Before we can run our web application, we need to provide App Engine with a configuration file. **This is the file that the web server will use to get information about what Python code we want it to run.**

For Python 3.7, the `app.yaml` is required to contain at least a `runtime: python3` entry, for a brief overview,

TIME FOR A DEMO