
Learning with JupyterHub

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CHAPTER 1

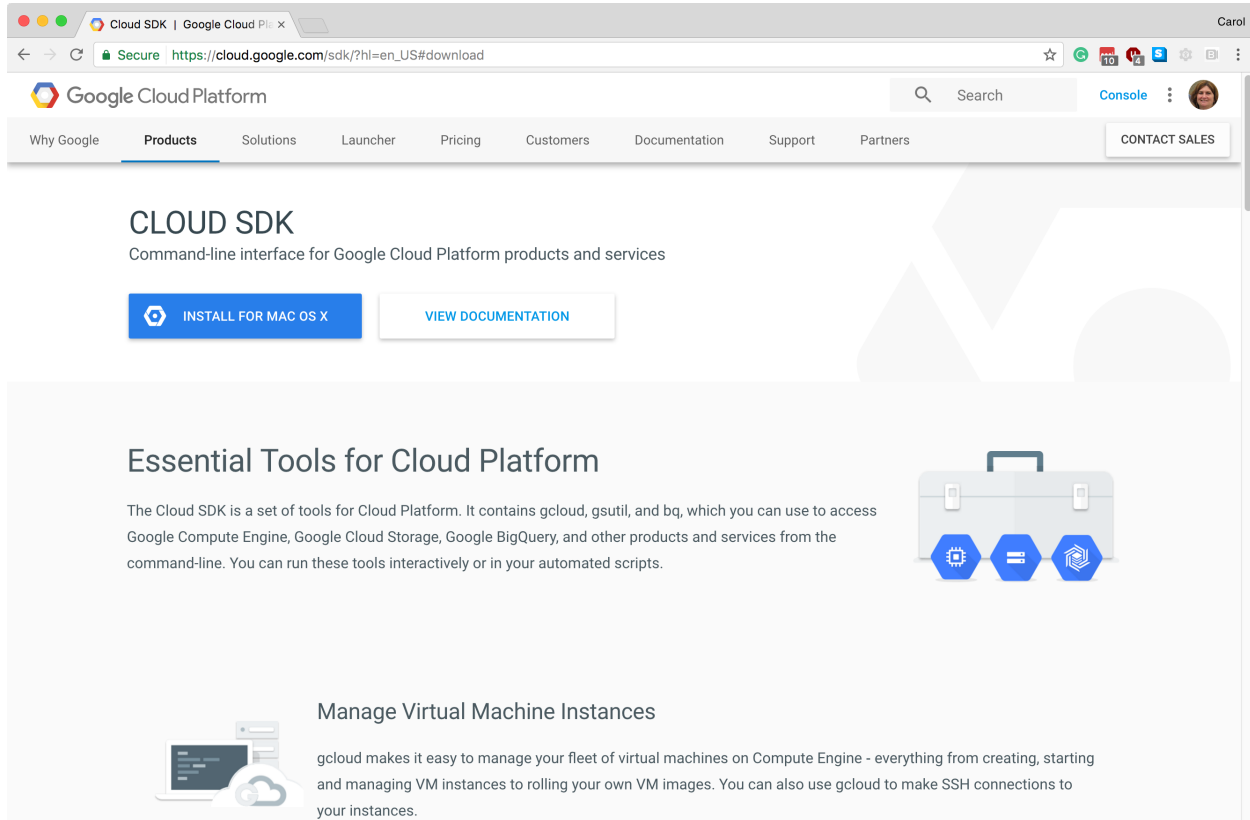
Getting Started with Google Cloud

This section will help you:

- create a Google Cloud account
- install the Google Cloud SDK
- initialize the SDK and authenticate with Google Cloud

Create a Google Cloud account

Install the Google Cloud SDK



Google Cloud SDK Documentation

Google Cloud SDK Documentation

Google Cloud SDK is a set of tools that you can use to manage resources and applications hosted on Google Cloud Platform. These include the `gcloud`, `gsutil`, and `bq` command line tools.

Install the latest Cloud Tools version (147.0.0)

PLATFORM	PACKAGE	SIZE	SHA1 CHECKSUM
Mac OS X (x86_64)	google-cloud-sdk-147.0.0-darwin-x86_64.tar.gz	13.4 MB	e2ecbd294801721a7cc97616ebfae191f3800fbf
Mac OS X (x86)	google-cloud-sdk-147.0.0-darwin-x86.tar.gz	13.4 MB	2a029b65e0c73749f58bbf1af809249c7345caa7

- Click the download button
- Install the downloaded package (using `bash ./google-cloud/sdk/install.sh`)

Initialize the SDK and authenticate

```
gcloud init
```

Answer prompts.

```
images
```

Use `gcloud --help` to get to help pages.

CHAPTER 2

Create a Kubernetes cluster

Enter:

```
gcloud container clusters create my-cluster-name --num-nodes=3 --zone=us-central1-b
```

If you get this error:

```
ERROR: (gcloud.container.clusters.create) ResponseError: code=503, message=Project_
↪ alert-result-161014 is not fully initialized with the default service accounts.
↪ Please try again later.
```

Go to this URL in browser:

<https://console.cloud.google.com/kubernetes/list>

This tutorial lets you set up a JupyterHub installation on a Kubernetes Cluster (on Google Cloud), using Helm for managing installation & upgrades.

Create a kubernetes cluster: `gcloud container clusters create my-cluster-name --num-nodes=3 --zone=us-central1-b`

If you get this error:

ERROR: (gcloud.container.clusters.create) ResponseError: code=503, message=Project alert-result-161014 is not fully initialized with the default service accounts. Please try again later.

go to in browser

<https://console.cloud.google.com/kubernetes/list>

Install kubectl and make sure it works: `gcloud components install kubectl` `kubectl get node` (should return 3 nodes) Install helm using <https://github.com/kubernetes/helm/blob/master/docs/install.md> Clone our git repository `git clone https://github.com/data-8/jupyterhub-k8s` Create a file called 'config.yaml'. This will hold the various customizations we perform for our JupyterHub installation. Make the values initially be: `name: "name-of-your-hub"` `hub: cookieSecret: "<output-of-openssl rand -hex 32>" token: proxy: "<output-of-openssl rand -hex 32>"` (Note: Make sure these aren't curly quotes in your file!) Run `helm init` to prepare the kubernetes cluster for helm installation Run `helm install helm-chart --name=<name-of-your-hub> --namespace=<name-of-your-hub> -f config.yaml` You can see the pods being created with `kubectl --namespace=<name-of-your-hub> get pod`. Wait for the hub and proxy pod to get to running (the cull might be in error - ignore it for now, it'll be fixed when <https://github.com/data-8/jupyterhub-k8s/issues/143> is fixed) You can find the IP to use for accessing the JupyterHub with `kubectl --namespace=<name-of-your-hub> get svc` - the external IP for the 'proxy-public' service should be accessible in a minute or two. The default authenticator is 'dummy' - any username / password will let you in!

We can explore setting other options, such as persistent storage for users, memory / cpu limits, and other authenticators now!

Common errors:

Something like "could not find default credentials. See <https://developers.google.com/accounts/docs/application-default-credentials> for more information." Do `gcloud auth application-default login` and follow the prompts. The link provided has other options for advanced use cases.

CHAPTER 4

Indices and tables

- `genindex`
- `modindex`
- `search`