

Starting DSpace Containers on Google Cloud Platform

These notes are experimental.

- [Create Linux Instance on GCP \(https://console.cloud.google.com\)](https://console.cloud.google.com)
- [Open SSH in a browser window](#)
- [Configure Firewall for the Instance](#)
- [Configuration Script](#)
- [Set Docker Permissions for your user account](#)
- [Clone DSpace Docker Compose Files](#)
- [Follow the documented DSpace Docker instructions](#)

Create Linux Instance on GCP (<https://console.cloud.google.com>)

Name ?

instance-2

Region ?

us-central1 (Iowa)

Zone ?

us-central1-a

Machine configuration

Machine family

General-purpose

Machine types for common workloads, optimized for cost and flexibility

Generation

First

Powered by Skylake CPU platform or one of its predecessors

Machine type

n1-standard-2 (2 vCPU, 7.5 GB memory)



vCPU

Memory

2

7.5 GB

⌵ CPU platform and GPU

Container ?

☐ Deploy a container image to this VM instance. [Learn more](#)

Boot disk ?



New 10 GB standard persistent disk

Image

Debian GNU/Linux 9 (stretch)

Change

Identity and API access ?

Service account ?

Compute Engine default service account ▼

Access scopes ?

- ☒ Allow default access
- ☐ Allow full access to all Cloud APIs
- ☐ Set access for each API

Firewall ?

Add tags and firewall rules to allow specific network traffic from the Internet

- ☒ Allow HTTP traffic
- ☐ Allow HTTPS traffic

Open SSH in a browser window

Filter VM instances

Columns

	Name	Zone	Recommendation	In use by	Internal IP	External IP	Connect
☐	instance-1	us-central1-a			10.128.0.2 (nic0)	35.184.171.6	SSH
☒	instance-2	us-central1-a			10.128.0.3 (nic0)	35.192.125.217	SSH

Open in browser window

Open in browser window on custom port

Open in browser window using provided private SSH key

View gcloud command

Use another SSH client

Configure Firewall for the Instance

- Click the instance name to view instance details
- Under "Network Interfaces", select "View Details"
- Create a "DSpace" firewall rule that provides access to ports 80, 8080, 8983, 3000, 3030



Firewall rule details

[EDIT](#)[DELETE](#)

dspace

Description

Logs

Turning on firewall logs can generate a large number of logs which can increase costs in Stackdriver. [Learn more](#)

- ☐ On
☒ Off

Network

default

Priority [?]

Priority can be 0 - 65535 [Check priority of other firewall rules](#)

Direction

Ingress

Action on match

Allow

Targets

All instances in the network

Source filter [?]

IP ranges

Source IP ranges [?]

0.0.0.0/0 ✕

Second source filter [?]

None

Protocols and ports

- ☐ Allow all
☒ Specified protocols and ports

tcp:80,8080,3000,3030,8983

⌵ [Disable rule](#)

Save

Cancel

Equivalent [REST](#)

Configuration Script

Configure Docker and Docker Compose

```
### Update OS

sudo apt-get -y update

### Install Java and Git

sudo apt-get -y install default-jdk

sudo apt-get -y install git

### Install Docker
### https://docs.docker.com/install/linux/docker-ce/debian/

sudo apt-get -y install \
    apt-transport-https \
    ca-certificates \
    curl \
    gnupg2 \
    software-properties-common

curl -fsSL https://download.docker.com/linux/debian/gpg | sudo apt-key add -

sudo apt-key fingerprint 0EBFCD88

sudo add-apt-repository \
    "deb [arch=amd64] https://download.docker.com/linux/debian \
    $(lsb_release -cs) \
    stable"

sudo apt-get -y update

sudo apt-get -y install docker-ce docker-ce-cli containerd.io

### Install Docker compose
### https://docs.docker.com/compose/install/

sudo curl -L "https://github.com/docker/compose/releases/download/1.23.2/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose

sudo chmod +x /usr/local/bin/docker-compose
```

Set Docker Permissions for your user account

Configure Docker and Docker Compose

```
### Grant Docker exec permissions ot the current user

sudo usermod -aG docker _<your user name>_
```

Clone DSpace Docker Compose Files

Note: sign into a new SSH session to execute these commands.

Configure Docker and Docker Compose

```
### Clone DSpace-Docker-Images  
  
cd  
git clone https://github.com/DSpace-Labs/DSpace-Docker-Images.git  
cd DSpace-Docker-Images/docker-compose-files/dspace-compose
```

Follow the documented DSpace Docker instructions

See <https://github.com/DSpace-Labs/DSpace-Docker-Images/blob/webinar/documentation/run.DSpace7.md>