# Techpuzzle #8

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Link to the Techpuzzle Challenge

# Relevant Links for this techpuzzle

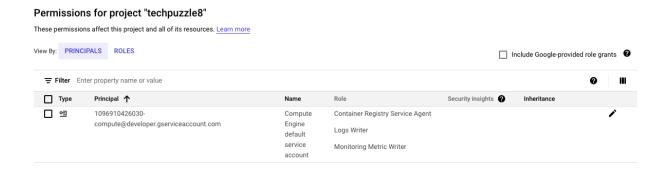
Deploying containers on VMs and MIGs
Creating a basic build configuration file
Enabling the logging agent
Authorize the Logging agent
Troubleshoot the Ops Agent

# Prerequisite

default VPC network
Cloud Build API enabled
Compute API enabled
constraints/compute.vmExternallpAccess - Allowed
constraints/compute.requireShieldedVm - Not enforced

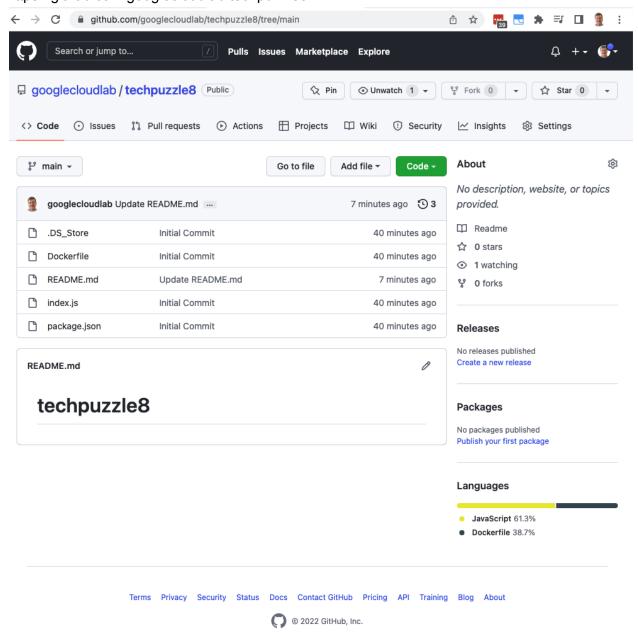
### **Permissions**

Assign Compute Engine Default Service Account the role Container Registry Service Agent Assign Compute Engine Default Service Account the role Monitoring Metric Writer Assign Compute Engine Default Service Account the role Log Writer



# Github

https://github.com/googlecloudlab/techpuzzle8



# Set up the Environment for the Release of Version 1.0

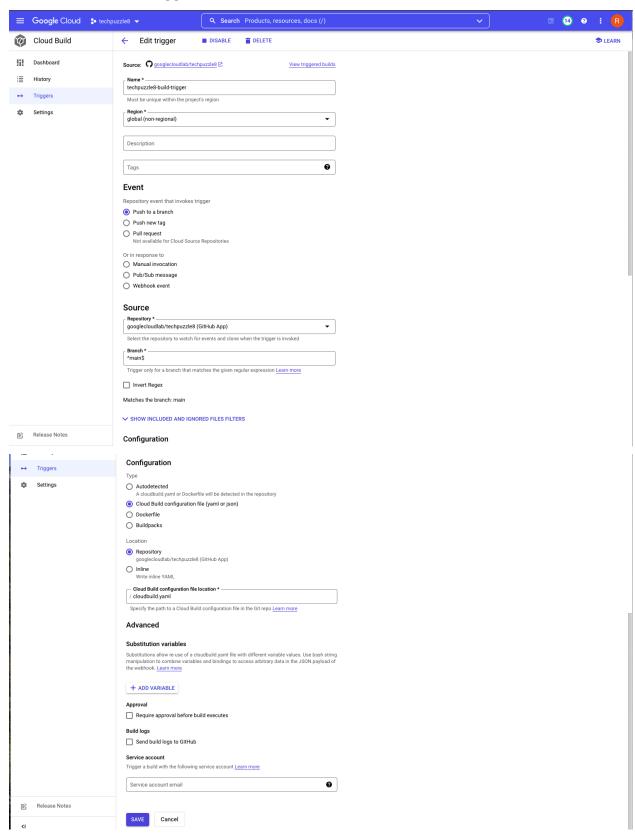
### Cloudbuild for Initial Setup for first commit

Create an initial cloudbuild.yaml file to create/build and push the image and create a new vm for version 1.0.

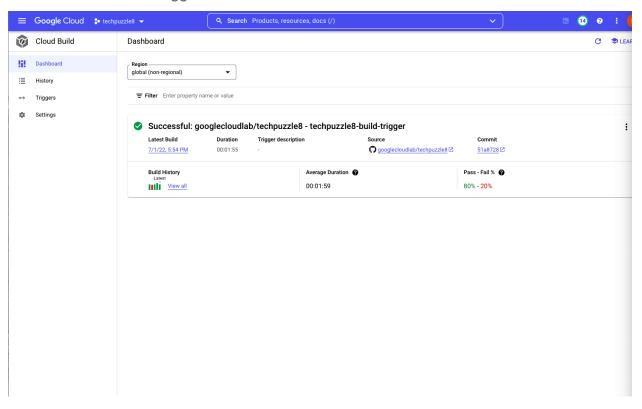
Create a cloudbuild.yaml file that will be triggered when the source code on Github changes.

```
steps:
  # Docker Build
  - name: 'gcr.io/cloud-builders/docker'
    args: ['build', '-t',
           'gcr.io/${PROJECT ID}/techpuzzle8-repo/techpuzzle8',
  # Docker Push
  - name: 'gcr.io/cloud-builders/docker'
    args: ['push',
'gcr.io/${PROJECT ID}/techpuzzle8-repo/techpuzzle8:latest']
  # Entrypoint, timeout and environment variables
  - name: 'gcr.io/google.com/cloudsdktool/cloud-sdk'
    entrypoint: 'qcloud'
    timeout: 240s
    args: ['compute', 'instances',
           'create-with-container', 'nginx-vm',
           '--image-family', 'cos-stable',
           '--image-project', 'cos-cloud',
           '--container-image',
'gcr.io/${PROJECT ID}/techpuzzle8-repo/techpuzzle8:latest',
           '--metadata', 'google-logging-enabled=true']
      - 'CLOUDSDK COMPUTE REGION=us-central1'
      - 'CLOUDSDK COMPUTE ZONE=us-central1-a'
```

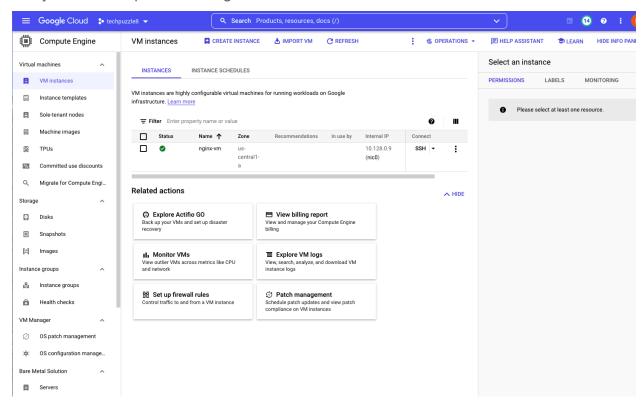
# Create Cloud Build Trigger



# Run the Cloud Build Trigger



#### Verify the VM is up and running



#### SSH to the VM and verify the version

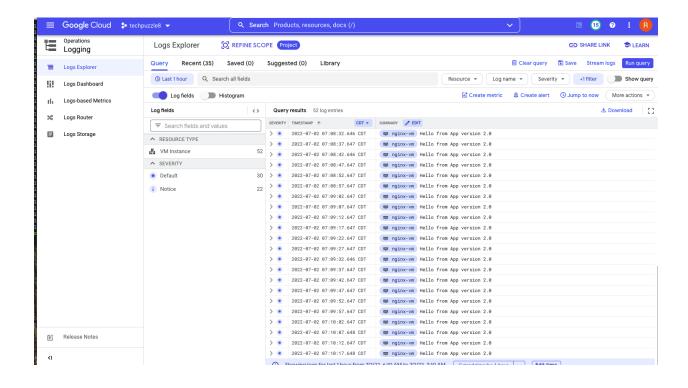
```
Creating directory '/home/admin_closech altostrat_com'.

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```

#### Verify the logs in Cloud Logging

Note: Make sure Compute Engine Default Service Account has proper permissions to write logs and monitoring metric writer. See the beginning of the document for permission setup.

```
(resource.type="gce_instance" AND resource.labels.instance_id="2260888835222324593")
OR (resource.type="global" AND jsonPayload.instance.id="2260888835222324593")
resource.type="gce_instance"
logName="projects/techpuzzle8-355019/logs/cos_containers"
resource.labels.instance_id="2260888835222324593"
```



# Modify the Environment for the Release of Version 2.0

Update index.js with the new version

```
const VERSION="2.0"
setInterval(function() {
```

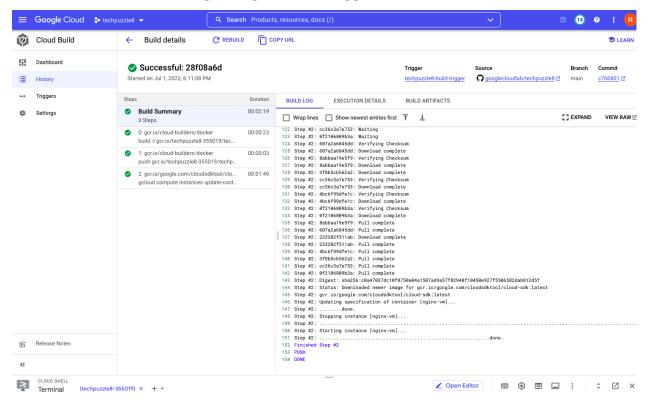
```
console.log(`Hello from App version ${VERSION}`)
}, 5000)
```

Update cloudbuild.yaml to update container

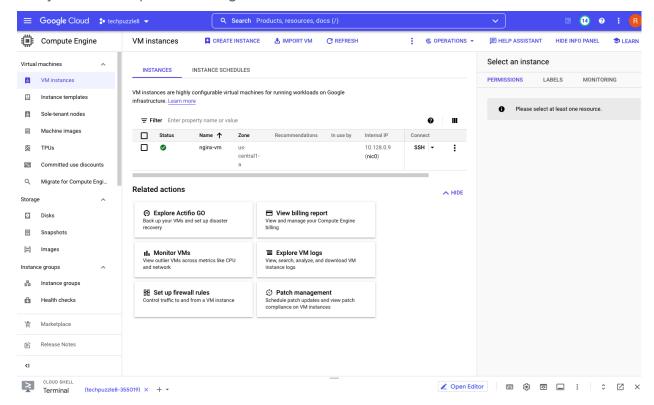
Change create-with-container to update-container and remove vm options.

```
steps:
  # Docker Build
  - name: 'gcr.io/cloud-builders/docker'
    args: ['build', '-t',
           'gcr.io/${PROJECT ID}/techpuzzle8-repo/techpuzzle8',
  # Docker Push
  - name: 'gcr.io/cloud-builders/docker'
    args: ['push',
'gcr.io/${PROJECT ID}/techpuzzle8-repo/techpuzzle8:latest']
  # Entrypoint, timeout and environment variables
  - name: 'gcr.io/google.com/cloudsdktool/cloud-sdk'
    entrypoint: 'gcloud'
   timeout: 240s
    args: ['compute', 'instances',
           'update-container', 'nginx-vm',
           '--container-image',
'gcr.io/${PROJECT ID}/techpuzzle8-repo/techpuzzle8:latest']
    env:
      - 'CLOUDSDK COMPUTE REGION=us-central1'
      - 'CLOUDSDK COMPUTE ZONE=us-central1-a'
```

### Commit and Push the changes to github and trigger the build



#### Verify the VM is up and running



### SSH to the VM and verify the version

```
### SSH-in-browser

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resource.type="gce_instance"
logName="projects/techpuzzle8-355019/logs/cos_containers"
resource.labels.instance_id="2260888835222324593"
```

