Create VM using GCP templates(Jinja2)

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Creating a Basic Template

A basic configuration file might be enough for simple workloads but for more complex architectures or for configurations that you plan to reuse, you can break your configuration into templates.

A template is a separate file that is imported and used as a type in a configuration. You can use as many templates as you want in a configuration.

Templates allow you to separate your configuration out into different pieces that you can use and reuse across different deployments. Templates can be as generalized or specific as you need. With templates, you can also take advantage of features like template properties, environment variables, modules, and other template functionality to create dynamic configuration and template files.

Template syntax

Templates can be written in either Jinja 2.10.x or Python 3.x. Jinja maps more closely to the YAML syntax, so it might be easier to write templates in Jinja if you are more familiar with YAML.

You can also write template files in Python and take advantage of Python to programmatically generate parts of your templates. For example, you can use Python libraries to format template definitions. If you are familiar with Python, this might be a better format for you.

Deployment Manager accepts both Jinja and Python templates. You can import templates in both languages in the same configuration.

To create a template using Jinja, create a file `vm-template.jinja`, provide required configuration.

```
resources:
- name: vm-template
  type: compute.v1.instance
  properties:
    zone: {{ properties.zone }}
    machineType: {{ properties.machineType }}
    disks:
    - deviceName: boot
      type: PERSISTENT
      boot: true
      autoDelete: true
      initializeParams:
        sourceImage: {{ properties.sourceImage }}
    networkInterfaces:
    - network: global/networks/default
```

In this Jinja2 template, placeholders like {{ properties.zone }}, {{ properties.machineType }}, and {{ properties.sourceImage }} are used to dynamically insert values based on the properties provided during deployment.

Deploying templates

Now the templates can be deploy in 2 ways.

1. We can create configuration file in yaml and import the template and use it as a type in our configuration
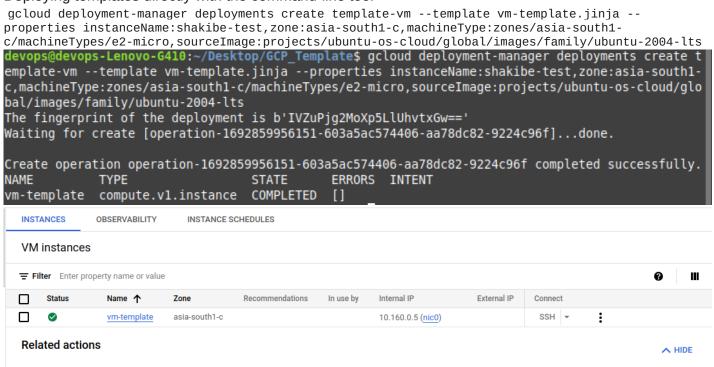
```
imports:
- path: vm-template.jinja

resources:
- name: my-vm-deployment
  type: vm-template.jinja
  properties:
    instanceName: shakibe-test
    zone: asia-south1-c
    machineType: zones/asia-south1-c/machineTypes/e2-micro
    sourceImage: projects/ubuntu-os-cloud/global/images/family/ubuntu-2004-lts
```

and deploy it using gcloud deployment-manager.

```
 gcloud deployment-manager deployments create shakibe-test-deployment --config shakibe_vm.yaml
```

2. Deploying templates directly with the command-line tool

```
 gcloud deployment-manager deployments create template-vm --template vm-template.jinja --
 properties instanceName:shakibe-test,zone:asia-south1-c,machineType:zones/asia-south1-
 c/machineTypes/e2-micro,sourceImage:projects/ubuntu-os-cloud/global/images/family/ubuntu-2004-lts
```

```
devops@devops-Lenovo-G410:~/Desktop/GCP_Template$ gcloud deployment-manager deployments create t
emplate-vm --template vm-template.jinja --properties instanceName:shakibe-test,zone:asia-south1-
c,machineType:zones/asia-south1-c/machineTypes/e2-micro,sourceImage:projects/ubuntu-os-cloud/glo
bal/images/family/ubuntu-2004-lts
The fingerprint of the deployment is b'IVZuPjg2MoXp5LlUhvtxGw=='
Waiting for create [operation-1692859956151-603a5ac574406-aa78dc82-9224c96f]...done.

Create operation operation-1692859956151-603a5ac574406-aa78dc82-9224c96f completed successfully.
NAME           TYPE                    STATE       ERRORS   INTENT
vm-template    compute.v1.instance     COMPLETED   []
```

INSTANCES	OBSERVABILITY	INSTANCE SCHEDULES

VM instances

| ☰ Filter | Enter property name or value |

	Status	Name ↑	Zone	Recommendations	In use by	Internal IP	External IP	Connect	
☐	✔	vm-template	asia-south1-c			10.160.0.5 (nic0)		SSH ▾	⋮

Related actions   ∧ HIDE

https://cloud.google.com/deployment-manager/docs/configuration/templates/create-basic-template