

Google Cloud Computing Foundation Course
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Lecture-64
Cloud Deployment Manager

In this topic you will learn about Google cloud deployment manager. GCPs infrastructure is code tool. Cloud deployment manager is an infrastructure as code tool to manage GCP resources. Setting up an environment and GCP can entail many tasks including setting up compute, network and storage resources and then keeping track of their configurations. You can do this all by hand if you want but it is far more efficient to use a template which is a specification of what the environment should look like. Cloud deployment manager allows you to do this.

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You create template files that describe what you want the components of your environment to look like. This allows the process of creating these resources to be repeated over and over with very consistent results. You can focus on the set of resources that comprise the application or service instead of deploying each service resource separately. One resource definition can also reference another resource creating dependencies and controlling the order of execution. Adding deleting or changing resources in the deployment is also a lot easier.

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Cloud Deployment Manager



Declarative language

- The system figures out the steps to take.
- Specify the resources needed using YAML.

Many tools use an imperative approach which requires you to define the steps to take to create and configure resources. A declarative approach allows you to specify what the configuration should be like and let the system figure out the exact steps to take to get there. Cloud deployment manager allows you to specify all the resources needed for your application in a declarative format using YAML. YAML is a human readable data serialization language commonly used for configuration files.

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Cloud Deployment Manager



Template-driven

- Creates sets of resources that are typically deployed together.
- Python and Jinja2 templates control what gets deployed programmatically.
- Pass variables and get output values in return.

Templates allow the use of building blocks to create abstractions or sets of resources that are typically deployed together for example an instance template an instance group or even an auto

scalar. You can use Python or Jinja two templates to parameterize the configuration. Allowing them to be used repeatedly by changing input values to define what image to deploy, the zone in which to deploy or how many Virtual Machines to deploy you can also pass in variables like zone, machine size, number of machines and whether it is a test or production or staging environment.

You can pass these into those templates to get output values back like IP addresses assigned or links to the instance.

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In addition to Google deployment manager which is specific to Google cloud and cannot be used outside with other cloud providers. Google has a team of engineers dedicated to ensuring that Google Cloud support is also available for popular third party open-source tools that support infrastructure is code.