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Challenge 1#

Problem

A 3-tier environment is a common setup. Use a tool of your choosing/familiarity create these resources. Please remember we will not be judged on the outcome but more focusing on the approach, style and reproducibility.

Answer:

There 3 layers in a 3 tier architecture

1) Presentation Layer-Resources here will be deployed in private subnet, NGINX or Apache Web Server will be used to render the web page

2) Application Layer-Request comes from web server to backend sever and a business logic

3) Data Layer-Resources here will be deployed in private subnet and stores the data

Bastion host in a public subnet will used to connect to these servers

Web Server or Application server hosting service selection

Static website-Google Cloud Storage Buckets connected to the domain name

Managed Platform(Dynamic Content)-App Engine or Cloud Run

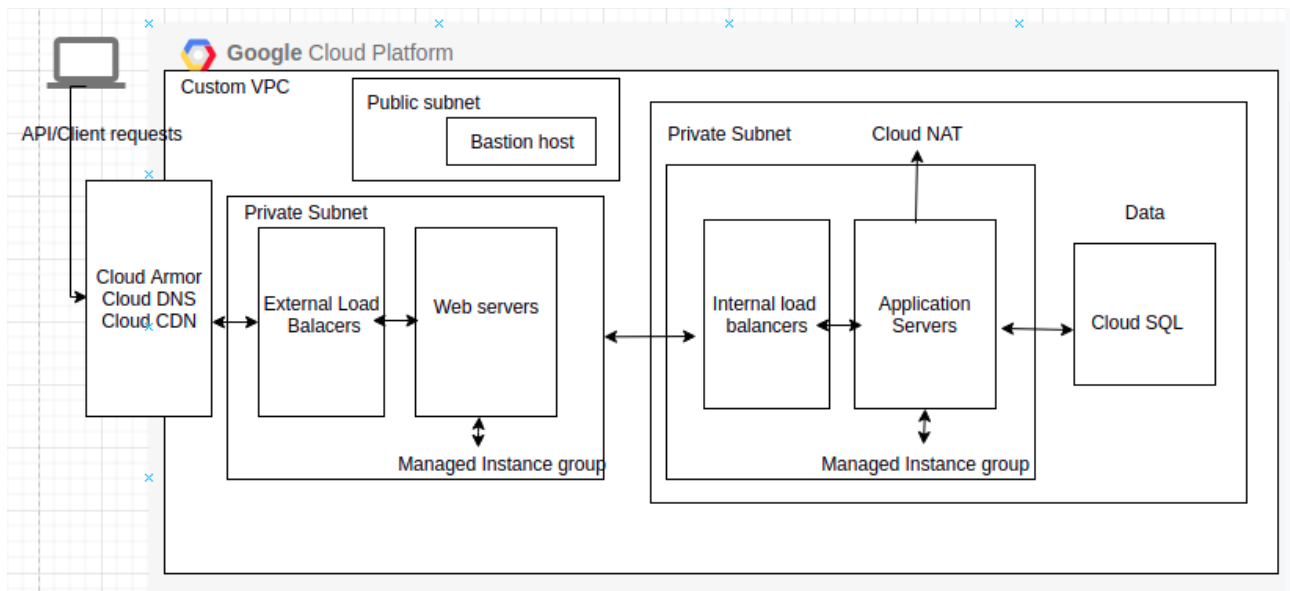
Virtual machines(Monolithic Application, complicated and need customization)-GCE VM Instances

Contaiers(Large businesses and micro services based application)- Google Kubernetes Engine

Database selection

MySQL/PostgreSQL installed on VM -Unmanaged approach

Cloud SQL instance-Managed approach



Challenge 2#

Problem

We need to write code that will query the meta data of an instance within AWS and provide a json formatted output. The choice of language and implementation is up to you.

Answer

We can query the metadata of VM instance using curl tool. We can override the default data format specification by using the alt=json query parameter, which return data in JSON string format.

```
curl "http://metadata.google.internal/computeMetadata/v1/instance/tags?alt=json" -H "Metadata-Flavor: Google"
```

Challenge 3#

Problem

We have a nested object, we would like a function that you pass in the object and a key and get back the value. How this is implemented is up to you.

Example Inputs

```
object = {"a":{"b":{"c":"d"}}
```

```
key = a/b/c
```

```
object = {"x":{"y":{"z":"a"}}
```

```
key = x/y/z
```

```
value = a
```

Hints:

We would like to see some tests. A quick read to help you along the way

We would expect it in any other language apart from elixir.

Answer

```
var object = {"a1": { "b1": { "c1": "d1" } } };
```

```
console.log("Result at 'a1.b1.c1': ",_.get(object, 'a1.b1.c1'));
```

```
console.log("Result at 'a1.b1.nonexistent key': ",_.get(object, 'a1.b1.nonexistent', "default result"));
```

```
var object2 = {"x1":{"y1":{"z1":"a1"}}};  
console.log("Result at 'x1.y1.z1': ",_.get(object2, 'x1.y1.z1'));
```

```
<script src="https://cdnjs.cloudflare.com/ajax/libs/lodash.js/4.17.11/lodash.js"></script>
```