# GCP Project 1

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## Architecture

All components are part of GCP Project 1 zamerman.

At the next level, we have a Cloud Storage bucket called revantarctica-zamerman, a Cloud Datastore database, two external IP addresses, and a VPC network called revantarctica.

The network is broken into two subnets called revantartica-a and revantarctica-b, a NAT gateway for instances without external IPs to access the internet through, and a set of firewall rules by which traffic between and to instances is restricted and controlled.

In subnet revantarctica-a, we have a bastion server and a development instance to get the site up and running. In revantarctica-b, we have an autoscaling instance group built from templates created using the development instance.

In order to provide HTTPS service to the internet, we have a load balancer made up of a HTTPS health check, a HTTPS backend service, a HTTPS target proxy, and forwarding rules.

Instances periodically copy server code from the Cloud Storage bucket.

The server calls upon Cloud Functions to pull images from bucket, calculate Fibonacci numbers, pull data from datastore, post data to datastore, and get temperatures at specific latitude and longitude coordinates.

