# GuestBook AWS infrastructure

1 Networking

I would suggest to have a separate VPC for our guestbook. We can use RDS for PostgreSQL database and ElasticCache for Redis in one subnetwork. Web instances can be created in autoscaling group in two or more other subnetworks for reliability. Requests would be balanced between them using ELB, the only entry point from outside.
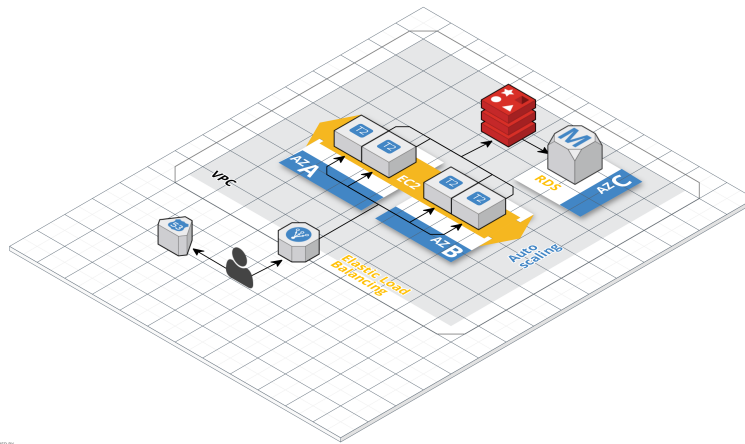
2 Deployment

Wherever we keep our source code - github or bitbucket, we can also keep it in CodeCommit and make CodePipeline to watch a particular git branch, and trigger CodeDeploy when new features are merged to that branch to update the application on instances.
CodePipeline could also trigger other jobs, like testing and building the code, that could be archived and saved in S3 bucket. Keeping pre-built application on S3 would speed the deployment process up.

3 Optimization

The whole enviroment can be described in CloudFormation templates. I

would create one separate CloudFormation stack for VPC, subnets with route tables, ACLs and security groups. Another for RDS and ElastiCache. And the third one for autoscaling group with ELB. This would allow to easily duplicate autoscaling group if we need to run several different releases of our application.

This would also allow us to put 2 autoscaling groups behind one load balancer, with one on-demand instance per AZ in one and several spot instances in another for cost optimization.