Approach 1: Deployment using Elastic Beanstalk

This is my 2nd or 3rd approach which actually work.

Below are command lines that need to be executed on a computer with assumptions of the following:

- AWS CLI installed
- AWS configure has been executed
- Region is ap-southeast-2

```
aws s3api create-bucket --bucket rea-sinatra-bucket --region ap-southeast-2 --create-bucket-configuration LocationConstraint=ap-southeast-2

wget https://github.com/rea-cruitment/simple-sinatra-app/archive/master.zip

aws s3 cp master.zip s3://rea-sinatra-bucket

aws elasticbeanstalk check-dns-availability --cname-prefix REA-Sinatra

aws elasticbeanstalk create-application --application-name REA-Sinatra

aws elasticbeanstalk create-application-version --application-name REA-Sinatra --version-label v1 --source-bundle S3Bucket=rea-sinatra-bucket,S3Key=master.zip

aws elasticbeanstalk create-environment --cname-prefix REA-Sinatra --application-name REA-Sinatra --version-label v1 --environment-name REA-Sinatra-env --solution-stack-name "64bit Amazon Linux 2018.03 v2.11.0 running Ruby 2.6 (Passenger Standalone)" --option-settings Namespace="aws:autoscaling:launchconfiguration",OptionName=EC2KeyName,Value=MyKeyPair_1
```

Approach 2: Deployment using EC2 instance

This is my 1st approach which is not working. I would like to share my thoughts of the user-data which may work.

Save my_script.txt on the local drive where the AWS CLI is going to be executed from.

These are the assumptions for the computer where the command line will be executed from:

- AWS CLI installed
- AWS configure has been executed

my_script.txt

```
#!/bin/bash
yum update -y
yum install -y gcc
yum install -y httpd
service httpd start
chkconfig httpd on
groupadd www
usermod -a -G www ec2-user
chown -R root:www /var/www
chmod 2775 /var/www
find /var/www -type d -exec chmod 2775 {} +
find /var/www -type f -exec chmod 0664 {} +
gpg --keyserver hkp://keys.gnupg.net --recv-keys
409B6B1796C275462A1703113804BB82D39DC0E3
7D2BAF1CF37B13E2069D6956105BD0E739499BDB
curl -sSL https://get.rvm.io | bash -s stable
source /etc/profile.d/rvm.sh
usermod -a -G rvm ec2-user
rvm get head
rvm install 2.6.5
gem install sinatra
wget https://github.com/rea-cruitment/simple-sinatra-
app/archive/master.zip
unzip master.zip
bundle install
ruby helloworld.rb -o 0.0.0.0 &
```

Still outstanding from the script:

- Install a reverse proxy
- Configure the reverse proxy forwarding all traffic to Sinatra app webpage (http://127.0.0.1:4567)
- Ruby is not updated
- Sinatra not installed
- Need to work out how to actually run helloworld.rb during instance launch

```
aws ec2 run-instances --image-id ami-07cc15c3ba6f8e287 --count 1 --
instance-type t2.micro --key-name MyKeyPair_1 --user-data
file://my_script.txt
```

Other approaches that didn't work

CodeDeploy + CodeCommit + CodePipeline

Failed with the following message during EC2 deployment (CodeDeploy):

The overall deployment failed because too many individual instances failed deployment, too few healthy instances are available for deployment, or some instances in your deployment group are experiencing problems.

Jenkins (with AWS Elastic Beanstalk plugin) + GitHub with appspec.yml + deploy

GitHub repository 1 to host the required packages

GitHub repository 2 to host the simple sinatra app content

Jenkins to poll repository 2 on a regular basis then build an Elastic Beanstalk App