Runbook: AWS workshop for 3 tier architecture.

Download prerequisite cf code from my github

https://github.com/JosephTing91/jjtechEc2AutomationPub.git

Go to the workshop webpage for steps referenced in this runbook

https://catalog.us-east-1.prod.workshops.aws/workshops/85cd2bb2-7f79-4e96-bdee-8078e469752a/en-US/introduction

Complete Part 0: Setup.

> *********For the ec2 role you create, name it Ec2-SSM-S3Read*** (this is what i called it in the template)

Go to cloud formation and complete the run the following stacks:

******IMPORTANT NOTE. CREATE STACKS IN NORTH VIRGINIA REGION ONLY FOR NOW SINCE THAT IS HOW THE TEMPLATE IS SET UP******

-run vpc stack.

> **-name it vpc**.
> -specify dev environment.

-run asg-lb stack i named mine asg-lb...

> -specify keypair parameter (make sure there is a keypair in North virginia)
> -leave ACM Certificate blank (it is unneeded for now)
> -leave export vpc stack name as it is.
> -for OwnIP, plug in your own ip address.

-run rds stack. i called it rds.

> -leave parameters as default.

The template completes Part 1 and 2 of the workshop steps. All infrastructure has been provisioned. However, there is quite a bit of configuration left to do on the ec2 instances.

Next, Navigate to the workshop webpage and go to ***Part 3: App tier Deployment.***

Start at ***Connect to Instance*** subsection and follow steps Until end of configure database.

Next, complete the subsection called Configure App Instance

In this subsection, you must edit the config file called dbconfig.js.

-Here is how you fill in the file for dbconfig.js file downloaded in the beginning step.

DBconfig.js

```
module.exports = Object.freeze({
    DB_HOST : 'mysql57db.cggdpmo6alkj.us-east-1.rds.amazonaws.com',
    DB_USER : 'dbadmin',
    DB_PWD : 'database1407',
    DB_DATABASE : 'webappdb'
});
```

-copy endpoint from RDS database.
-other values are taken from the template parameter defaults.
-after editing the dbconfig file, upload the entire app-tier folder to s3.

-Follow rest of linux commands on the ***configure app*** instance step and also complete the entire ***test app tier*** subsection.

Skip Part 4 this is the power of cloudformation and IaC. to skip many steps) .

Part 5 Web Tier instance deployment

Complete ***Update Config File*** subsection. Here is a snippet of what my replaced text looked like.

```
#proxy for internal lb
location /api/{
        proxy_pass http://internal-InternalLoadbalancer-1632970132.us-east-1.elb.amazonaws.com:80/;
}
```

-Skip web instance Deployment

-complete ***connect to instance*** and ***configure web instance***. (below i have included some troubleshooting issues i encountered in this step)

The following linux command in the document under ***configure web instance*** was giving me errors saying missing argument.

sudo aws s3 cp s3://BUCKET_NAME/nginx.conf .

Here was my solution, to add the path of the location i wanted to download the file as the second argument. Replace the bucket name with your own bucket name.

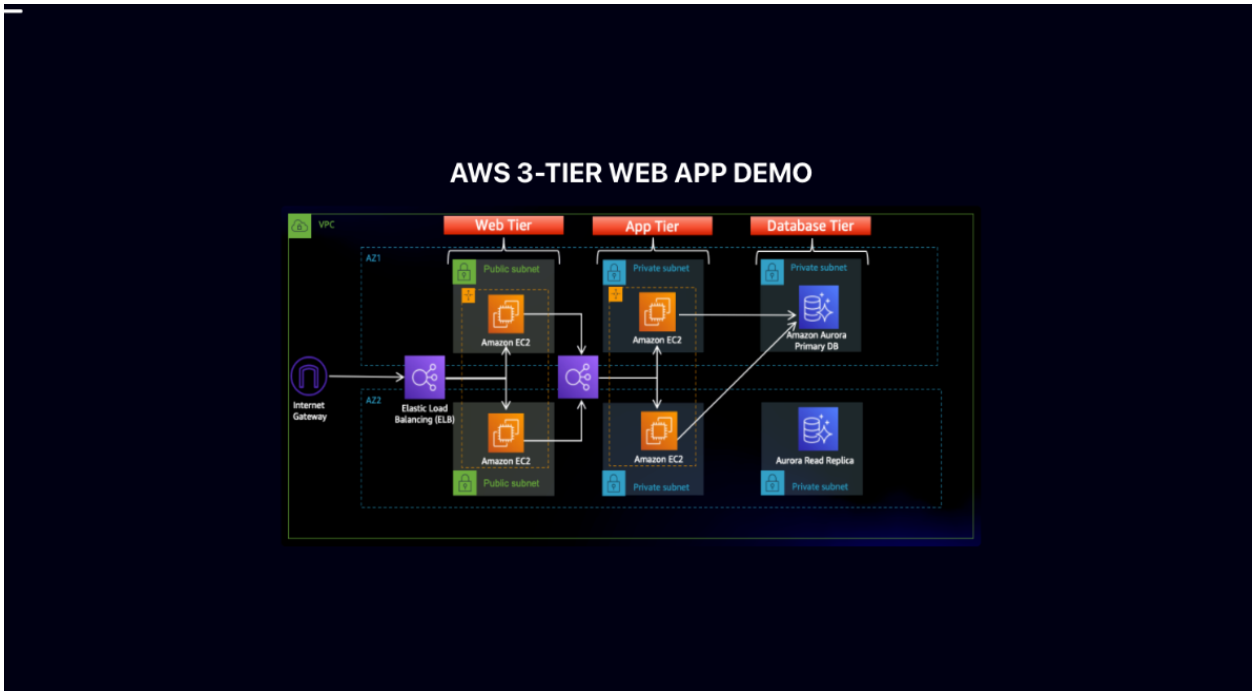
```
sudo aws s3 cp s3://ahjoesbucket/nginx.conf /etc/nginx
```

-Complete the rest of the steps under Configure web instance.

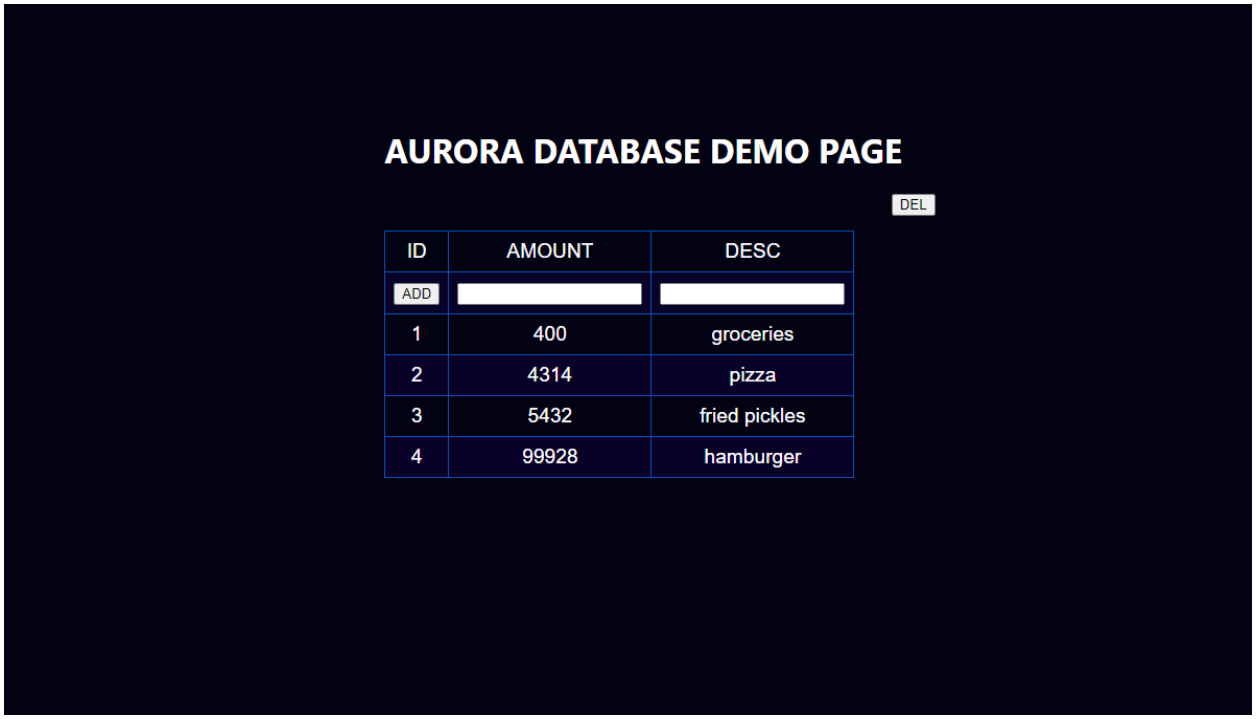
Test the architecture

-next, plug in the web facing LB dns into your browser and press enter. You may have to press enter a few times before the web application shows up, since we only configured one web instance.

Here is what it should look like



Navigate to the DB demo and try adding in values.



You should see them show up as you add them, which shows that the architecture is working as intended.