# README - Cloud and Edge Infrastructures

We propose a solution architecture using the AWS services to support three applications:

1. Client
2. Worker
3. Consolidator

Development steps:

1. Create an EC2 instance to host Worker Java application
2. Create two buckets, one for the client to upload the files to and one for the worker to upload the files to
3. Create SNS and SQS
4. Create a Lambda function on AWS Console and add the created SNS trigger.
5. Uncompress the java files.
6. Build a maven .jar file from the Worker lambda function
7. Upload this file found in the "/target/" folder of the java projectto the Lambda function created in step 4
8. Build the maven .jar file from the worker java application. Upload the .jar file with suffix "*-jar-with-dependencies.jar".
9. Upload this file to the EC2 instance.
10. Connect to the Ec2 instance before running the worker java application file, to run the worker java application via AWS-CLI.

Steps to Run the applications using Worker Java application:-

1. Before running the client application, comment the line No. 62 "`notifyWorker(region, bucketName, fileName, topicARN);`" to only run Worker Java application. Run the Client application and provide arguments – bucket name, file path, file name, topicARN, queueURL.
2. Run the java application hosted on EC2 instance. Using command
   java -jar *-jar-with-dependencies.jar
3. Check the files uploaded in both the buckets.
4. Run Consolidator on eclipse to display the total retailer's profit, total profit by each store, total sold by each product, total quantity sold by each product.

Steps to Run the applications using Worker Lambda function:-

1. Before running the client application, comment the line No. 65 "`sendSQS(region, bucketName, fileName, queueURL);`" to only run Worker Lambda function. Run the Client application and provide arguments – bucket name, file path, file name, topicARN, queueURL.
2. Check the files uploaded in both the buckets.
3. Check the monitor logs on Lambda function console.
4. Run Consolidator on eclipse to display the total retailer's profit, total profit by each store, total sold by each product, total quantity sold by each product.