

Aim: Design a distributed application using MapReduce which processes a log file of a system.

Program:

SalesMapper.java

```
import java.io.IOException;
import org.apache.hadoop.io.IntWritable;
import org.apache.hadoop.io.LongWritable;
import org.apache.hadoop.io.Text;
import org.apache.hadoop.mapred.*;

public class SalesMapper extends MapReduceBase implements Mapper<LongWritable, Text,
Text, IntWritable>{

    private final static IntWritable one = new IntWritable(1);

    public void map(LongWritable key, Text value, OutputCollector<Text, IntWritable> output,
Reporter reporter) throws IOException{

        String valueString = value.toString();

        String[] SingleCountryData = valueString.split("-");

        output.collect(new Text(SingleCountryData[0]), one);

    }
}
```

SalesCountryReducer.java

```
import java.io.IOException;
import java.util.*;
import org.apache.hadoop.io.IntWritable;
import org.apache.hadoop.io.Text;
import org.apache.hadoop.mapred.*;

public class SalesCountryReducer extends MapReduceBase implements Reducer<Text,
IntWritable, Text, IntWritable>{

    public void reduce(Text t_key, Iterator<IntWritable> values, OutputCollector<Text,
IntWritable> output, Reporter reporter) throws IOException{

        Text key = t_key;

        int frequencyForCountry = 0;

        while(values.hasNext()){

            IntWritable value = (IntWritable) values.next();
```

```

        frequencyForCountry += value.get();
    }
    output.collect(key, new IntWritable(frequencyForCountry));
}
}

```

SalesCountryDriver.java

```

import org.apache.hadoop.fs.Path;
import org.apache.hadoop.io.*;
import org.apache.hadoop.mapred.*;
public class SalesCountryDriver {
    public static void main(String[] args){
        JobClient my_client = new JobClient();
        JobConf job_conf = new JobConf(SalesCountryDriver.class);
        job_conf.setJobName("SalesPerCountry");
        job_conf.setOutputKeyClass(Text.class);
        job_conf.setOutputValuesClass(IntWritable.class);
        job_conf.setMapperClass(SalesCountry.SalesMapper.class);
        job_conf.setReducerClass(SalesCountry.SalesCountryReducer.class);
        job_conf.setInputFormat(TextInputFormat.class);
        job_conf.setOutputFormat(TextOutputFormat.class);
        FileInputFormat.setInputPaths(job_conf, new Path(args[0]));
        FileOutputFormat.setOutputPaths(job_conf, new Path(args[1]));
        my_client.setConf(job_conf);
        try{
            JobClient.runJob(job_conf);
        } catch (Exception e){
            e.printStackTrace();
        }
    }
}

```