

Lab 9


Run JAVA application by connecting to RDS Server in cloud


Step 1: Log in to AWS Console and Select RDS(Relational Database Server)


Step 2: In RDS Multiple Database Engines are available we are using Oracle Database Engine
.Select the Oracle Standard Edition


Engine options


Engine type [Info](#)


☐ Amazon Aurora


☐ MySQL


☐ MariaDB


☐ PostgreSQL


☒ Oracle


☐ Microsoft SQL Server


Edition

☐ Oracle Enterprise Edition
Efficient, reliable, and secure database management system that delivers comprehensive high-end capabilities for mission-critical applications and demanding database workloads.

☒ Oracle Standard Edition
Affordable and full-featured database management system supporting up to 32 vCPUs.

☐ Oracle Standard Edition One
Affordable and full-featured database management system supporting up to 16 vCPUs.

☐ Oracle Standard Edition Two
Affordable and full-featured database management system supporting up to 16 vCPUs.
Oracle Database Standard Edition Two is a replacement for Standard Edition and Standard Edition One.

Step 3: Give DB instance identifier and Set Master username and password for oracle database

Settings

DB instance identifier [Info](#)
Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

orcal

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens (1 to 15 for SQL Server). First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ **Credentials Settings**

Master username [Info](#)
Type a login ID for the master user of your DB instance.

admin

1 to 16 alphanumeric characters. First character must be a letter

☐ **Auto generate a password**
Amazon RDS can generate a password for you, or you can specify your own password

Master password [Info](#)

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), ' (single quote), " (double quote) and @ (at sign).

Confirm password [Info](#)

Step 4: Select Default VPC and then enable the Public access for the database.

Connectivity

Virtual private cloud (VPC) [Info](#)
VPC that defines the virtual networking environment for this DB instance.

Default VPC (vpc-94b66be9) ▼

Only VPCs with a corresponding DB subnet group are listed.

After a database is created, you can't change the VPC selection.

Subnet group [Info](#)
DB subnet group that defines which subnets and IP ranges the DB instance can use in the VPC you selected.

default ▼

Public access [Info](#)

☒ Yes
Amazon EC2 instances and devices outside the VPC can connect to your database. Choose one or more VPC security groups that specify which EC2 instances and devices inside the VPC can connect to the database.

☐ No
RDS will not assign a public IP address to the database. Only Amazon EC2 instances and devices inside the VPC can connect to your database.

VPC security group
Choose a VPC security group to allow access to your database. Ensure that the security group rules allow the appropriate incoming traffic.

☒ Choose existing
Choose existing VPC security groups

☐ Create new
Create new VPC security group

Existing VPC security groups

Step 5: Now click on create database (it will take few minutes to create a database)

Deletion protection

☐ Enable deletion protection
Protects the database from being deleted accidentally. While this option is enabled, you can't delete the database.

Estimated monthly costs

The Amazon RDS Free Tier is available to you for 12 months. Each calendar month, the free tier will allow you to use the Amazon RDS resources listed below for free:

- 750 hrs of Amazon RDS in a Single-AZ db.t2.micro Instance.
- 20 GB of General Purpose Storage (SSD).
- 20 GB for automated backup storage and any user-initiated DB Snapshots.

[Learn more about AWS Free Tier.](#)

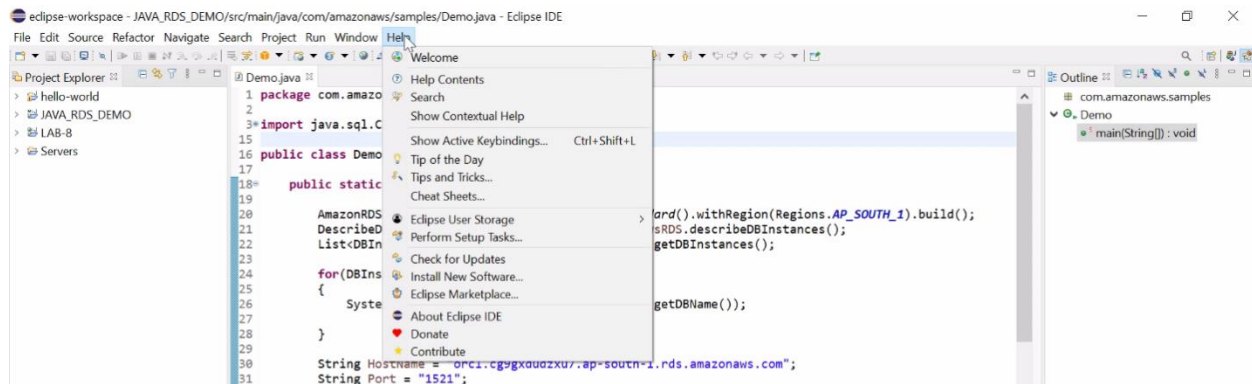
When your free usage expires or if your application use exceeds the free usage tiers, you simply pay standard, pay-as-you-go service rates as described in the [Amazon RDS Pricing page.](#)

You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

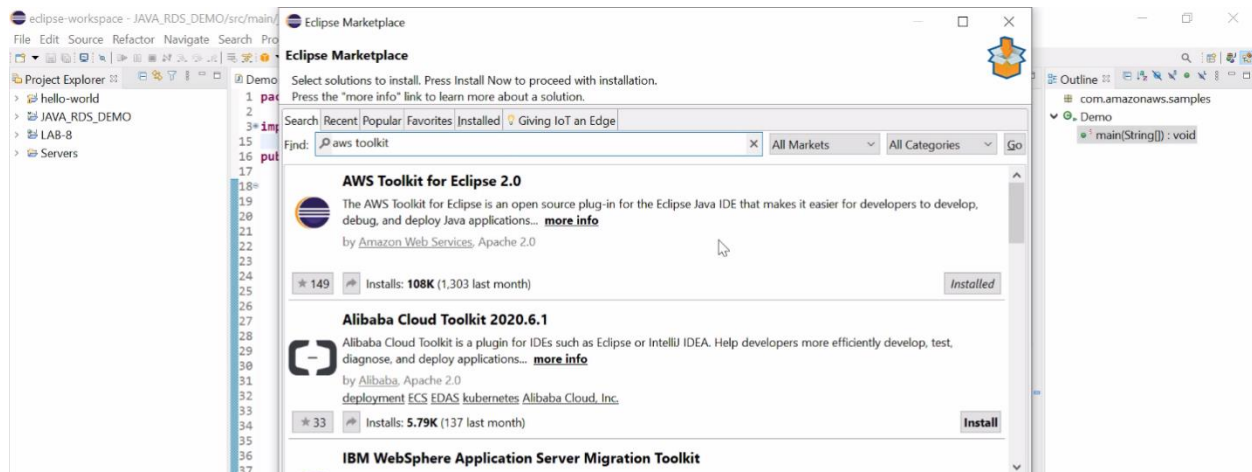
Cancel

Create database

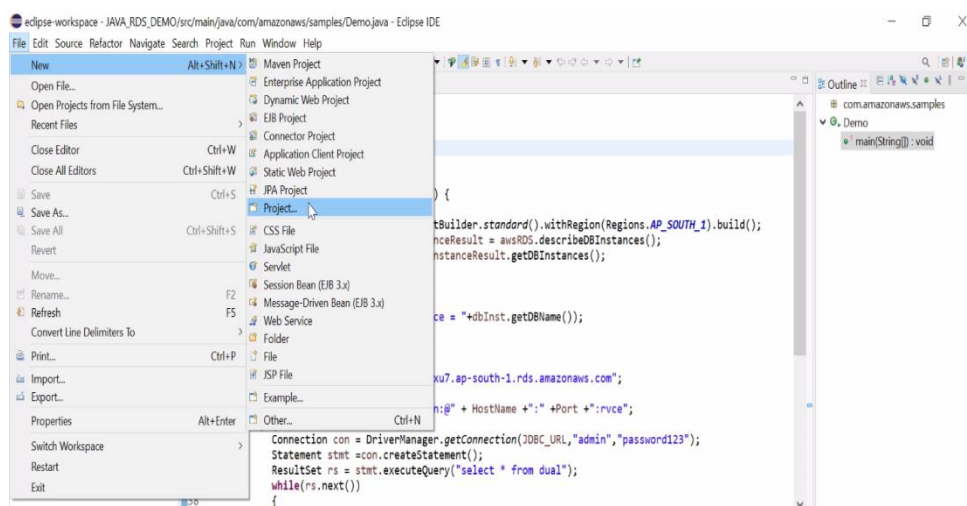
Step 6: Once the create database is clicked it will take some time to create the database. Now open the Eclipse IDE and inside that go to Help section and select Eclipse Marketplace.



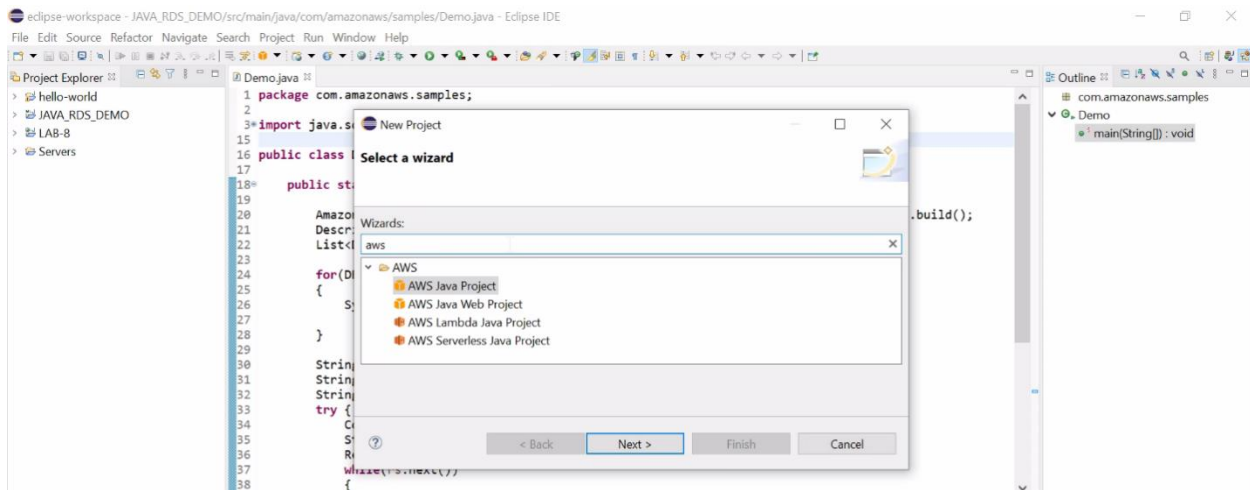
Step 8: Now search for the AWS Tool kit application inside Eclipse Marketplace and install it.



Step 9: Now Create new Project in Eclipse File->New->Project



Step 10: Select AWS Java Project



Change pom.xml file

Step 11: Write the following java code to connection database

```
package
com.amazonaws.sample
s;

import java.sql.*;
import java.util.List;

import com.amazonaws.regions.Regions;
import com.amazonaws.services.rds.AmazonRDS;
import com.amazonaws.services.rds.AmazonRDSClientBuilder;
import com.amazonaws.services.rds.model.DBInstance;
import com.amazonaws.services.rds.model.DescribeDBInstancesResult;

public class LabCC {

    public static void main(String[] args) {
        AmazonRDS awsRDS =
        AmazonRDSClientBuilder.standard().withRegion(Regions.AP_SOUTH_1).bui
ld();
```

```

        DescribeDBInstancesResult dbInstancesResult =
awsRDS.describeDBInstances();

        List<DBInstance> dbInstance =
dbInstancesResult.getDBInstances();

        for(DBInstance dbInst: dbInstance) {
            System.out.println("DB Instances: " +
dbInst.getDBInstanceIdentifier());
        }

        String hostName = "db.c9thzloiayz8.ap-south-
1.rds.amazonaws.com";
        String port = "3308";
        String JDBC_URL = "jdbc:mysql://" + hostName + ":" +
port + "/emp";

        try {
            Connection con =
DriverManager.getConnection(JDBC_URL, "root", "root1234");
            Statement stmt = con.createStatement();

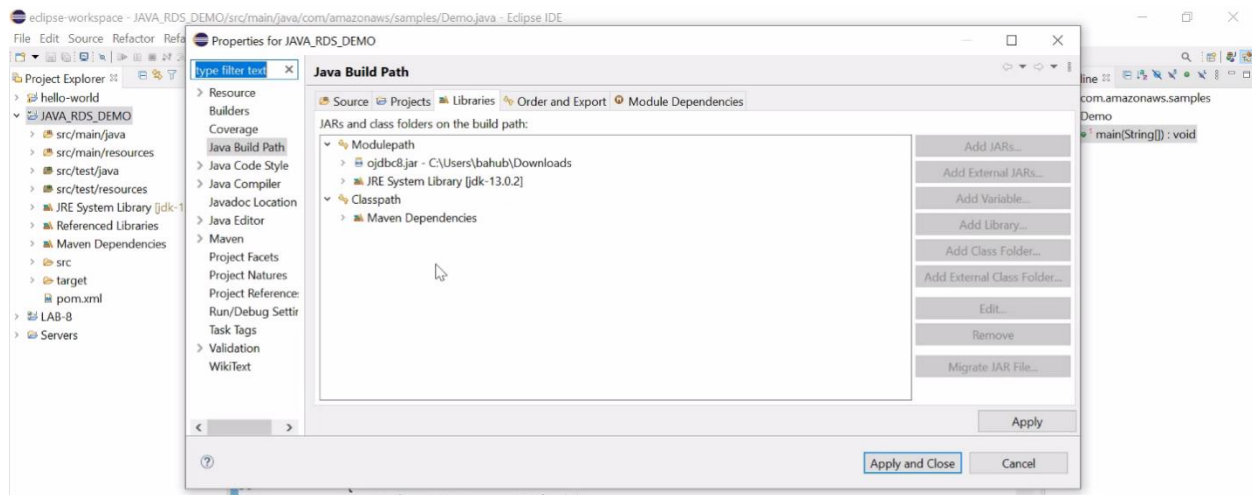
            ResultSet rs = stmt.executeQuery("select *
from employee");

            while(rs.next()) {
                String id = rs.getString(1);
                String name = rs.getString(2);

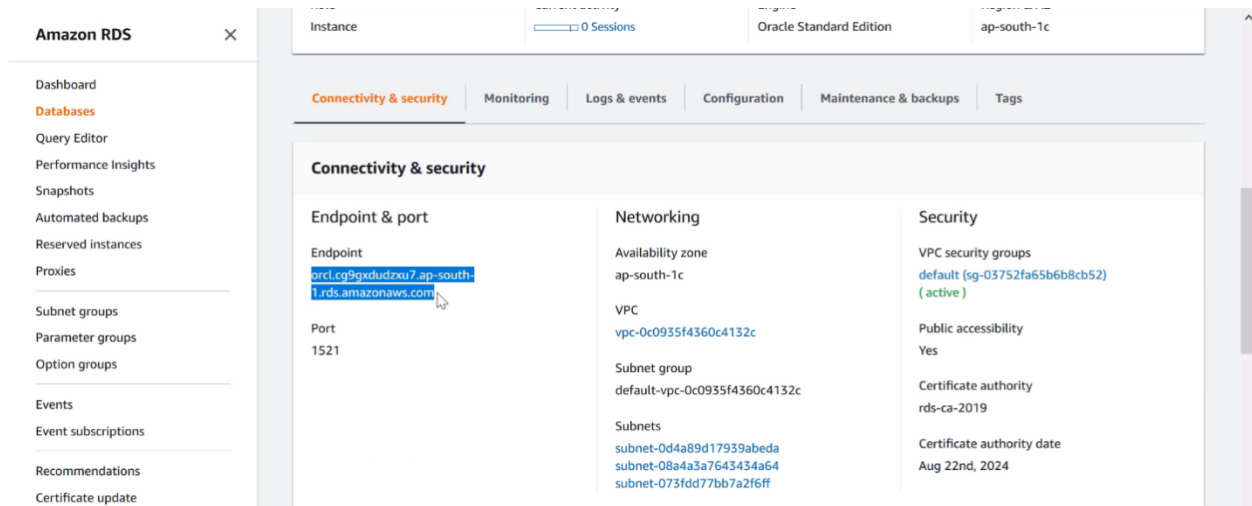
                System.out.println("ID is : " + id);
                System.out.println("Name is : "+
name);
            }
        } catch (SQLException e) {
            e.printStackTrace();
        }
    }
}

```

Step 12: Right Click on Project then go to Configure Build Path and then add the Downloaded external jar file(we need to download odbc8.jar)



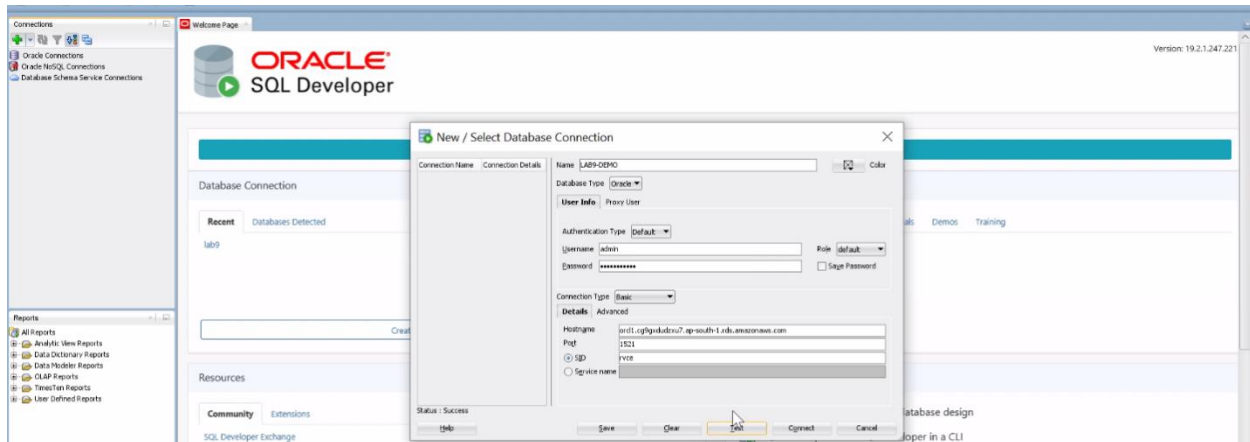
Step 13: Copy the Endpoint of RDS Database



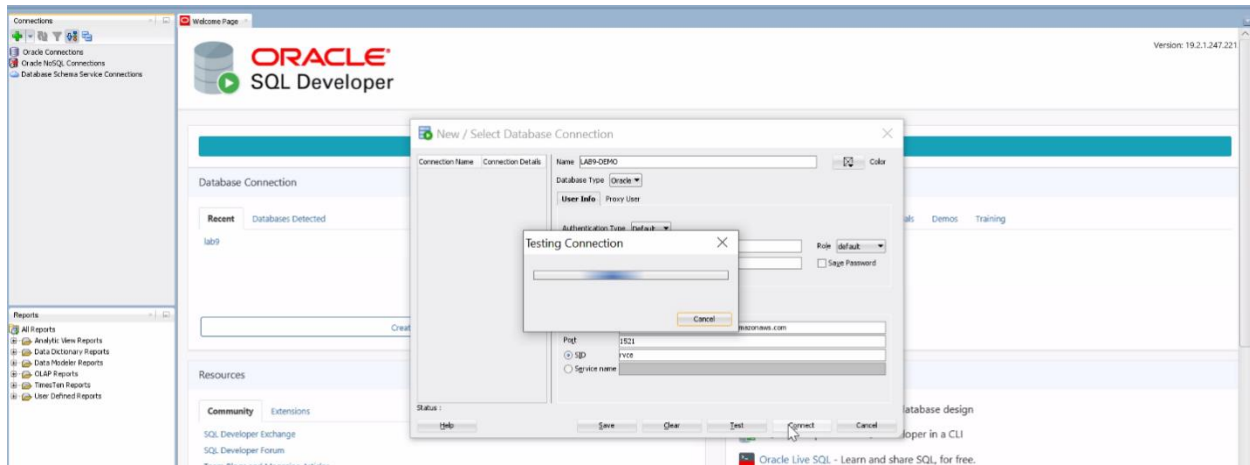
Step 14: Now we need to install ORACLE SQL Developer application

Step 15: Open the ORACLE SQL Application and create new connection

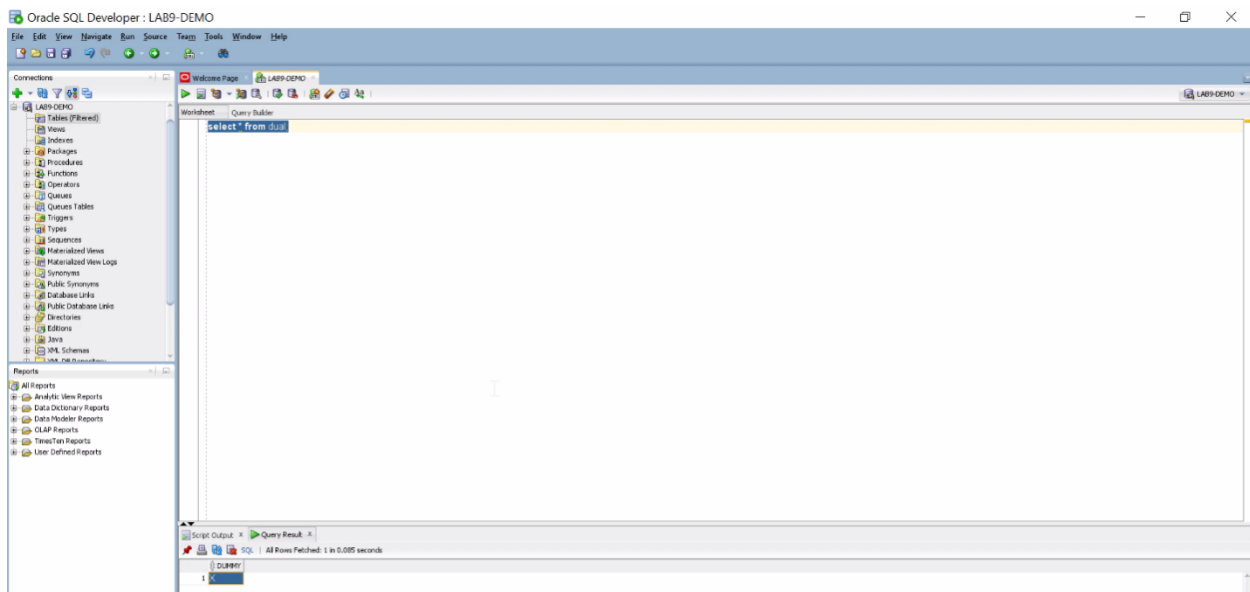
- Enter the name
- Enter username
- Enter the password
- Enter the hostname and database endpoint



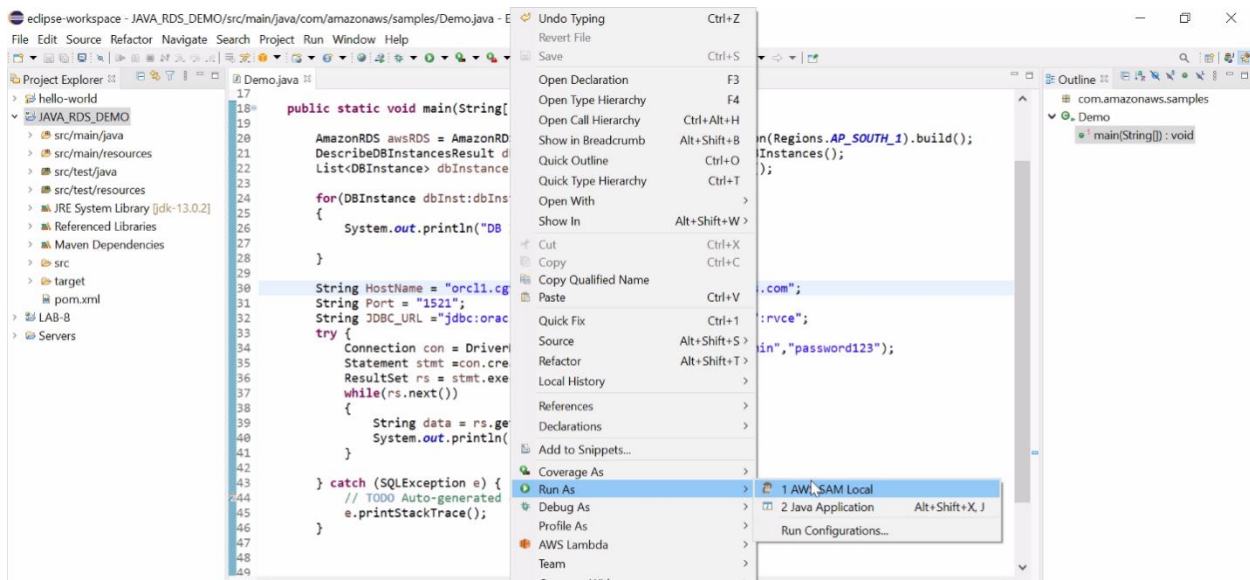
Step 16: Now click on the test connection button



Step 17: Now we established connection with database



Step 18: Right click and Select Run as Java Application



Step 19: Now we retrieved data from ORACLE Database. And it is displayed in Eclipse Console.

