Sri Lanka Institute of Information Technology

Software Architecture – Assignment 1
Year3, Semester 1 – 2025

Group Id: SE3030_WE.SE.01.02
Details of the Group Members:

Student ID	Student Name	Student Contribution
IT22303684	Abeygunasekara D.T	Test report producer and the technician consumer
IT22251114	Jinad Induwithwa A.G	Appointment producer, patient consumer and main menu consumer
IT22371768	Ranasinghe S.I	Chemical producer, Medical Rep consumer and Login producer
IT22182678	Rashani K.G.M	Lab test producer and Lab assistant consumer

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Description of the scenario

With producer-consumer implementation, we developed a medical laboratory management system based on the OSGi (Open-Source Gateway Initiative) framework. Easy Way is a medical laboratory which patients can test their health and get lab reports. Our medical lab consists of three tiers, a service tier in which bundles act as producers (appointment producer, chemical producer, test report producer lab test producer and login producer), a controller tier where bundles act as both producers and consumers (patient consumer, lab assistant consumer, medical rep consumer and technician consumer) and a presentation tier which act as the main consumer. (Main menu).

To use these functionalities, we must first import and install all the required packages. To begin importing packages, we must first import the OSGi framework package into both the producer and consumer manifests. After that, we must first export producer packages in the producer manifest before we can establish the connection between the producer and the consumer. Then in the consumer manifest, we must import all the producer's exported packages.

1. Main menu

This is the main consumer which connects all the other consumers that act as a consumer. This main menu provides common interfaces for all the consumers.

2. Appointment Producer

Patient, lab assistant and technician can access this server directly. So, patient can add appointment, search appointment, and get appointment bill. Lab assistant can view all appointments and search appointments. Technician can view appointments and search appointments.

3. Chemical Producer

Medical rep can access this server. Medical rep can add new chemicals, view all chemicals, view selected chemicals, update chemical details, and generate chemical bill.

4. Lab Test Producer

This lab test server can be accessed by lab assistant and patient. Lab assistant can add lab tests, view all the lab tests, search for a selected lab test and update lab test. Patient can also view available lab tests.

5. Test Report Producer

Test report producer can be accessed by patient and technician. Patient can view his or her test report. Technician can view all the test reports and search test reports.

Diagrammatic overview
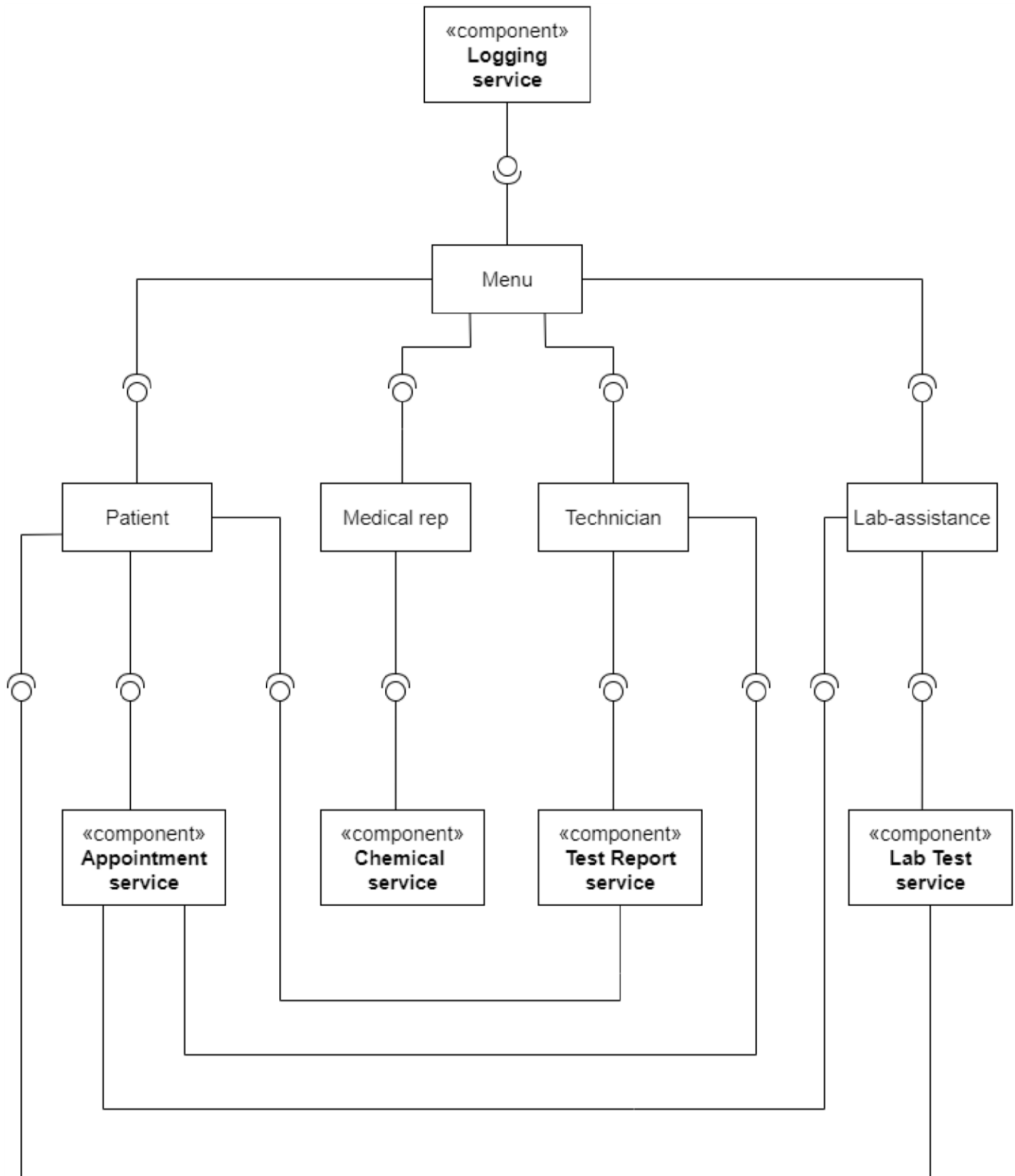
Implementation of bundles in manifest files

Appointment Producer

```
AppointmentProducer ×
 1 Manifest-Version: 1.0
 2 Bundle-ManifestVersion: 2
 3 Bundle-Name: AppointmentProducer
 4 Bundle-SymbolicName: AppointmentProducer
 5 Bundle-Version: 1.0.0.qualifier
 6 Bundle-Activator: appointmentproducer.AppointmentProducerActivator
 7 Bundle-RequiredExecutionEnvironment: JavaSE-17
 8 Automatic-Module-Name: AppointmentProducer
 9 Import-Package: org.osgi.framework;version="1.3.0"
10 Bundle-ActivationPolicy: lazy
11 Export-Package: com.lab.AppointmentProducer
12
```

Patient Consumer

```
PatientConsumer ×
 1 Manifest-Version: 1.0
 2 Bundle-ManifestVersion: 2
 3 Bundle-Name: PatientConsumer
 4 Bundle-SymbolicName: PatientConsumer
 5 Bundle-Version: 1.0.0.qualifier
 6 Bundle-Activator: patientConsumer.PatientConsumerActivator
 7 Bundle-RequiredExecutionEnvironment: JavaSE-17
 8 Automatic-Module-Name: PatientConsumer
 9 Import-Package: com.lab.AppointmentProducer,
10  com.lab.LabTestProducer,
11  com.lab.TestReportProducer,
12  org.osgi.framework;version="1.3.0"
13 Bundle-ActivationPolicy: lazy
14 Export-Package: patientConsumer
15
```

Chemical Producer

```
 1  Manifest-Version: 1.0
 2  Bundle-ManifestVersion: 2
 3  Bundle-Name: ChemicalProducer
 4  Bundle-SymbolicName: ChemicalProducer
 5  Bundle-Version: 1.0.0.qualifier
 6  Bundle-Activator: chemicalproducer.ChemicalProducerActivator
 7  Bundle-RequiredExecutionEnvironment: JavaSE-17
 8  Automatic-Module-Name: ChemicalProducer
 9  Import-Package: org.osgi.framework;version="1.3.0"
10  Bundle-ActivationPolicy: lazy
11  Export-Package: com.lab.ChemicalProducer
12
```

Medical Rep Consumer

```
 1  Manifest-Version: 1.0
 2  Bundle-ManifestVersion: 2
 3  Bundle-Name: MedicalRepConsumer
 4  Bundle-SymbolicName: MedicalRepConsumer
 5  Bundle-Version: 1.0.0.qualifier
 6  Bundle-Activator: medicalRep.MedicalRepConsumerActivator
 7  Bundle-RequiredExecutionEnvironment: JavaSE-17
 8  Automatic-Module-Name: MedicalRepConsumer
 9  Import-Package: com.lab.ChemicalProducer,org.osgi.framework;version="1.3.0"
10  Bundle-ActivationPolicy: lazy
11  Export-Package: medicalRep
12
```

Lab Test Producer

```
 1  Manifest-Version: 1.0
 2  Bundle-ManifestVersion: 2
 3  Bundle-Name: LabTestProducer
 4  Bundle-SymbolicName: LabTestProducer
 5  Bundle-Version: 1.0.0.qualifier
 6  Bundle-Activator: labtestproducer.LabTestProducerActivator
 7  Bundle-RequiredExecutionEnvironment: JavaSE-17
 8  Automatic-Module-Name: LabTestProducer
 9  Import-Package: org.osgi.framework;version="1.3.0"
10  Bundle-ActivationPolicy: lazy
11  Export-Package: com.lab.LabTestProducer
12
```

Lab Assistant Consumer

```
 1  Manifest-Version: 1.0
 2  Bundle-ManifestVersion: 2
 3  Bundle-Name: LabAssistantConsumer
 4  Bundle-SymbolicName: LabAssistantConsumer
 5  Bundle-Version: 1.0.0.qualifier
 6  Bundle-Activator: LabAssistant.LabAssistantConsumerActivator
 7  Bundle-RequiredExecutionEnvironment: JavaSE-17
 8  Automatic-Module-Name: LabAssistantConsumer
 9  Import-Package: com.lab.AppointmentProducer,
10   com.lab.LabTestProducer, org.osgi.framework;version="1.3.0"
11  Bundle-ActivationPolicy: lazy
12  Export-Package: labAssistant
13  
```

Test Report Producer

```
1  Manifest-Version: 1.0
2  Bundle-ManifestVersion: 2
3  Bundle-Name: TestReportProducer
4  Bundle-SymbolicName: TestReportProducer
5  Bundle-Version: 1.0.0.qualifier
6  Bundle-Activator: testreportproducer.TestReportProducerActivator
7  Bundle-RequiredExecutionEnvironment: JavaSE-17
8  Automatic-Module-Name: TestReportProducer
9  Import-Package: org.osgi.framework;version="1.3.0"
10 Bundle-ActivationPolicy: lazy
11 Export-Package: com.lab.TestReportProducer
12
```

Technician Consumer

```
1  Manifest-Version: 1.0
2  Bundle-ManifestVersion: 2
3  Bundle-Name: TechnicianConsumer
4  Bundle-SymbolicName: TechnicianConsumer
5  Bundle-Version: 1.0.0.qualifier
6  Bundle-Activator: technician.TechnicianConsumerActivator
7  Bundle-RequiredExecutionEnvironment: JavaSE-17
8  Automatic-Module-Name: TechnicianConsumer
9  Import-Package: com.lab.AppointmentProducer,
10  com.lab.TestReportProducer,
11  org.osgi.framework;version="1.3.0"
12 Bundle-ActivationPolicy: lazy
13 Export-Package: technician
14
```

Login Producer

```
LoginProducer ×
 1  Manifest-Version: 1.0
 2  Bundle-ManifestVersion: 2
 3  Bundle-Name: LoginProducer
 4  Bundle-SymbolicName: LoginProducer
 5  Bundle-Version: 1.0.0.qualifier
 6  Bundle-Activator: loginproducer.LoginProducerActivator
 7  Bundle-RequiredExecutionEnvironment: JavaSE-17
 8  Automatic-Module-Name: LoginProducer
 9  Import-Package: org.osgi.framework;version="1.3.0"
10  Bundle-ActivationPolicy: lazy
11  Export-Package: com.lab.LoginProducer
12
```

Main Menu Consumer

```
MainMenuConsumer ×
 1  Manifest-Version: 1.0
 2  Bundle-ManifestVersion: 2
 3  Bundle-Name: MainMenuConsumer
 4  Bundle-SymbolicName: MainMenuConsumer
 5  Bundle-Version: 1.0.0.qualifier
 6  Bundle-Activator: mainmenuconsumer.MainMenuConsumerActivator
 7  Bundle-RequiredExecutionEnvironment: JavaSE-17
 8  Automatic-Module-Name: MainMenuConsumer
 9  Import-Package: com.lab.LoginProducer,
10   labAssistant,
11   medicalRep, patientConsumer,
12   technician, org.osgi.framework;version="1.3.0"
13  Bundle-ActivationPolicy: lazy
14
```

Installing bundles

Appointment Producer and Patient Consumer

1)install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/AppointmentProducer.jar

2)install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/PatientConsumer.jar

Chemical Producer and Medical Rep Consumer

1)install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/ChemicalProducer.jar

2)install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/MedicalRepConsumer.jar

Lab Test Producer and Lab Assistant Consumer

1)install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/LabTestProducer.jar

2)install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/LabAssistantConsumer.jar

Test Report Producer and Technician Consumer

1)install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/TestReportProducer.jar

2)install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/TechnicianConsumer.jar

Login Producer and Main menu Consumer

1)install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/LoginProducer.jar

2)install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/MainMenuConsumer.jar

```
C:\Windows\System32\cmd.exe - java -jar bin/felix.jar                                    —    □    ×

Welcome to Apache Felix Gogo

g! lb
START LEVEL 1
   ID|State     |Level|Name
    0|Active    |    0|System Bundle (4.0.3)
    1|Active    |    1|Apache Felix Bundle Repository (1.6.6)
    2|Active    |    1|Apache Felix Gogo Command (0.12.0)
    3|Active    |    1|Apache Felix Gogo Runtime (0.10.0)
    4|Active    |    1|Apache Felix Gogo Shell (0.10.0)
g! install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/AppointmentProducer.jar
Bundle ID: 168
g! install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/ChemicalProducer.jar
Bundle ID: 169
g! install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/LabAssistantConsumer.jar
Bundle ID: 170
g! install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/LabTestProducer.jar
Bundle ID: 171
g! install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/LoginProducer.jar
Bundle ID: 172
g! install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/MainMenuConsumer.jar
Bundle ID: 173
g! install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/MedicalRepConsumer.jar
Bundle ID: 174
g! install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/PatientConsumer.jar
Bundle ID: 175
g! install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/TechnicianConsumer.jar
Bundle ID: 176
g! install file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/TestReportProducer.jar
Bundle ID: 177
g! lb
START LEVEL 1
   ID|State     |Level|Name
    0|Active    |    0|System Bundle (4.0.3)
    1|Active    |    1|Apache Felix Bundle Repository (1.6.6)
    2|Active    |    1|Apache Felix Gogo Command (0.12.0)
    3|Active    |    1|Apache Felix Gogo Runtime (0.10.0)
    4|Active    |    1|Apache Felix Gogo Shell (0.10.0)
  168|Installed |    1|AppointmentProducer (1.0.0.qualifier)
  169|Installed |    1|ChemicalProducer (1.0.0.qualifier)
  170|Installed |    1|LabAssistantConsumer (1.0.0.qualifier)
  171|Installed |    1|LabTestProducer (1.0.0.qualifier)
  172|Installed |    1|LoginProducer (1.0.0.qualifier)
  173|Installed |    1|MainMenuConsumer (1.0.0.qualifier)
  174|Installed |    1|MedicalRepConsumer (1.0.0.qualifier)
  175|Installed |    1|PatientConsumer (1.0.0.qualifier)
  176|Installed |    1|TechnicianConsumer (1.0.0.qualifier)
  177|Installed |    1|TestReportProducer (1.0.0.qualifier)
g!
```

Running bundles

1) start file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/AppointmentProducer.jar

2) start file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/PatientConsumer.jar

3) start file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/ChemicalProducer.jar

4) start file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/MedicalRepConsumer.jar

5) start file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/LabAssistantConsumer.jar

6) start file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/TechnicianConsumer.jar

7) start file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/LabTestProducer.jar

8) start file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/TestReportProducer.jar

9) start file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/LoginProducer.jar

10) start file:C:/Users/jinad/OneDrive/Desktop/SA/Jar_File/MainMenuConsumer.jar

We can use bundle ID to start the bindles also (e.g.: start <bundle_id>)

```
g! start 170
Lab Assistant Consumer Started
g! start 174
Medical Rep Consumer Started
g! start 175
Patient Consumer Started
g! start 176
Technicial Consumer Started
g! lb
START LEVEL 1
   ID|State      |Level|Name
    0|Active      |    0|System Bundle (4.0.3)
    1|Active      |    1|Apache Felix Bundle Repository (1.6.6)
    2|Active      |    1|Apache Felix Gogo Command (0.12.0)
    3|Active      |    1|Apache Felix Gogo Runtime (0.10.0)
    4|Active      |    1|Apache Felix Gogo Shell (0.10.0)
  168|Active      |    1|AppointmentProducer (1.0.0.qualifier)
  169|Active      |    1|ChemicalProducer (1.0.0.qualifier)
  170|Active      |    1|LabAssistantConsumer (1.0.0.qualifier)
  171|Active      |    1|LabTestProducer (1.0.0.qualifier)
  172|Active      |    1|LoginProducer (1.0.0.qualifier)
  173|Installed   |    1|MainMenuConsumer (1.0.0.qualifier)
  174|Active      |    1|MedicalRepConsumer (1.0.0.qualifier)
  175|Active      |    1|PatientConsumer (1.0.0.qualifier)
  176|Active      |    1|TechnicianConsumer (1.0.0.qualifier)
  177|Active      |    1|TestReportProducer (1.0.0.qualifier)
g! start 173


================================

  EasyWay Lab


================================

You are a,

1.Patient
2.Employee

--------------------

3.Exit from the system

Select An Option :
```

Steps to run the project in eclipse environment

Select run as run configurations
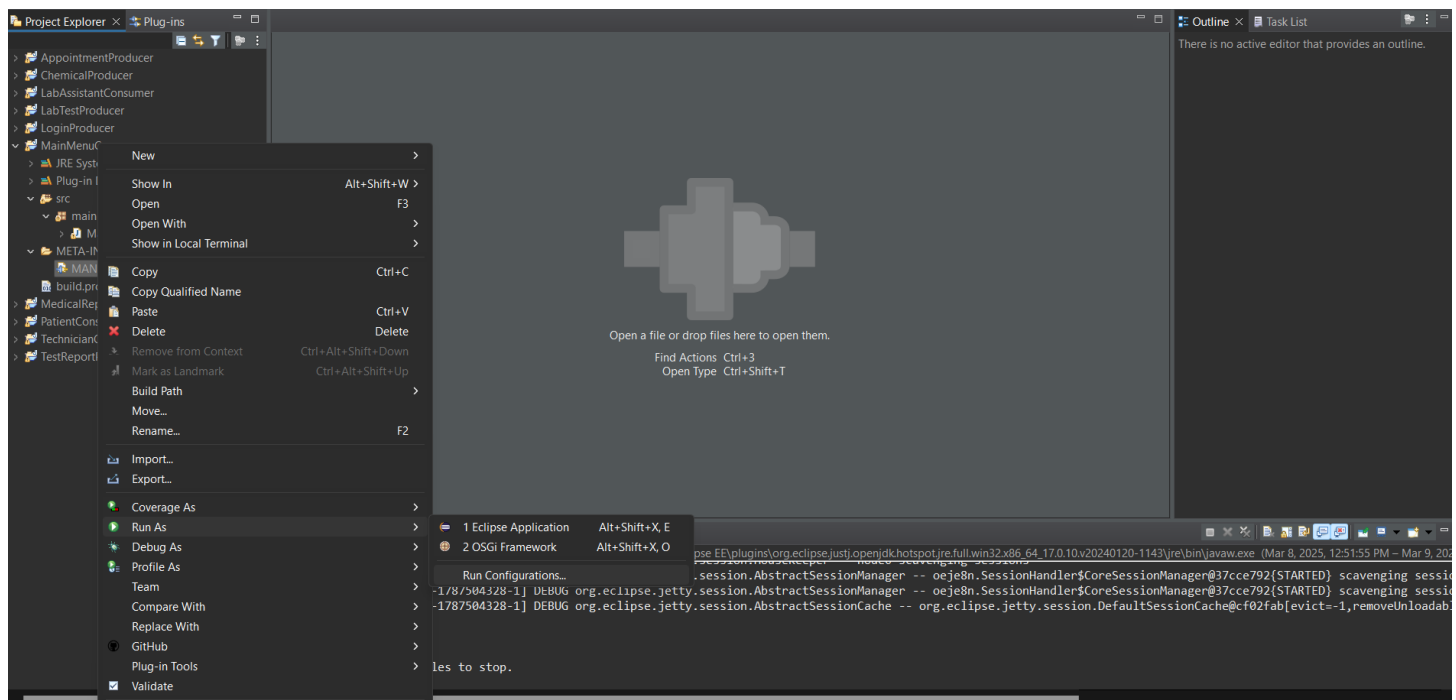
Then create a new configuration from OSGI framework
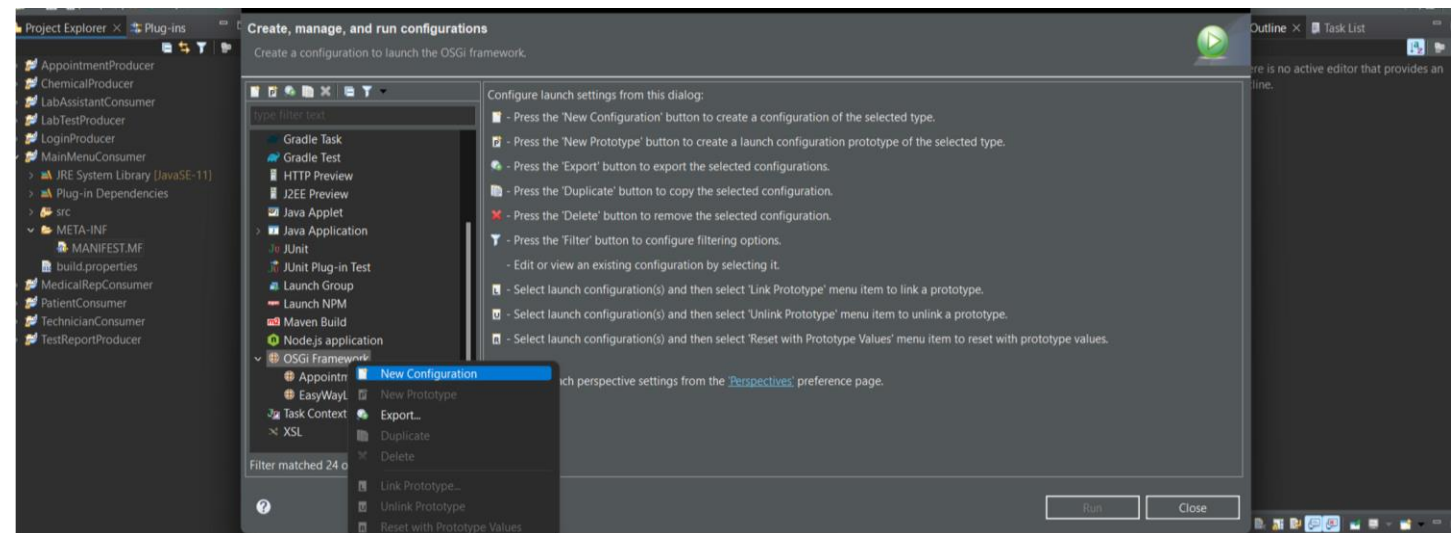
Select all the producer consumer bundles and Run.

Sample Screenshots

Main Menu

```
================================

  E-Lab


================================

You are a,

1.Patient
2.Employee


--------------------

3.Exit from the system

Select An Option :2
Enter Username: jinad
Enter Password: jinad@123


================================



Please Select An Option !

1.Technician
2.LabAssistant
3.MedicalRep
4.Exit


Select An Option :2
================================
1. Add lab test
2. update for lab test
```

Patient Consumer:

Add appointments


```
Problems   Target Platform State   Console ×

main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win3

1.Patient
2.Employee


--------------------

3.Exit from the system

Select An Option :1


========================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit


Please Select An Option :1

 Please Enter Your Name :  Dasun

 Please Enter Description about appointment :  check-up blood test

 Please Enter Your Age :  25
-------------
 1: Male
 2:Female
-------------
 Please Select Gender Type :1


----------------
 1:Sugar Test
 2:Lipid Test
 3:creatinine Test
 4:urine Test
```

```
----------------
 1:Sugar Test
 2:Lipid Test
 3:creatinine Test
 4:urine Test
 5:Antigen Test
 6:dengue Test
 Please Select the test Type :1


----------------


----------------
 1:- 10.00 A.M.
 2:- 3.00 P.M.
 3:- 5.00 P.M.
 4:- Request for different time for appointment
------------------
 Please Select the option  :2



====================================

 Appointment Added successfully



====================================

======================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit


Please Select An Option :
```

Search appointments

```
========================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit


Please Select An Option :2
1: Search by name
2: Search by TestType
select an option  :1
Enter Appointer's  name: dasun



---Appointment---
------------------------------------
CodeNumber : Dasun_13:47:58
Name : Dasun
Description : check-up blood test
Age : 25
Gender : Male
Date :2025/03/10
Test Type : Sugar
Time 3.00 A.M.
------------------------------------

========================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit
```

Get appointment Bill.

```
Problems   Target Platform State   Console ×
main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86

=======================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit


Please Select An Option :3
Enter the Code Number : Dasun_13:47:58


------ Price List ------
 Sugar Test : Rs.250.00
 Lipid Test : Rs.850.00
 creatinine Test : Rs.1250.00
 urine Test : Rs.280.00
 Antigen Test : Rs.1890.00
 dengue Test : Rs.2000.00
========================================

 Appointment Bill for : Dasun_13:47:58

========================================
 Booking Price : 110.0
 Sugar Test Price : 250.0
==============
 Total Bill : 360.0
==============

=======================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
```

View available lab tests

```
  Problems    Target Platform State    Console ×
main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win

=======================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit


Please Select An Option :5
========All details of lab tests========
-----------------------------------------
       LAB TEST NAME:-sugar
       LAB TEST DESCRIPTION:-This test check the suger percentage
       LAB TEST PRICE:-Rs.250.00
-----------------------------------------
-----------------------------------------
       LAB TEST NAME:-cholestrolr
       LAB TEST DESCRIPTION:-This test check the cholestrolr percentage
       LAB TEST PRICE:-Rs.800.00
-----------------------------------------
-----------------------------------------
       LAB TEST NAME:-Antigen
       LAB TEST DESCRIPTION:-This test check the covid-19 positive or not
       LAB TEST PRICE:-Rs.18900.00
-----------------------------------------
-----------------------------------------
       LAB TEST NAME:-creatinine
       LAB TEST DESCRIPTION:-This test check the suger percentage
       LAB TEST PRICE:-Rs.12500.00
-----------------------------------------
=========================================


=======================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
```

View Test Report

```
=======================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit


Please Select An Option :4
1.View selected test report
2.View all test reports
Select option :
2
All the test reports
==============================

Test ID          : 1
Test Name        : Sugar Test
Patient Name     : Kasun Tharaka
Test Status      : 6.8%
Description      : You have Diabetes
Test Date        : 11/03/2022
==============================

Test ID          : 2
Test Name        : Lipid Test
Patient Name     : Bimal Kavinda
Test Status      : 150 mg/dL
Description      : Your test result is normal
Test Date        : 15/02/2022
==============================

Test ID          : 3
Test Name        : Creatinine Test
Patient Name     : Mahinda Peries
Test Status      : 1.85 mg/dL
```

```
Test Date        : 15/02/2022
==============================

Test ID          : 3
Test Name        : Creatinine Test
Patient Name     : Mahinda Peries
Test Status      : 1.85 mg/dL
Description      : You have to take prevoius medicine
Test Date        : 07/01/2022
==============================

Test ID          : 4
Test Name        : Urine Test
Patient Name     : Namal Mihiran
Test Status      : 4.1 hpf
Description      : You have to drink more water
Test Date        : 18/01/2022
==============================

Test ID          : 5
Test Name        : Antigen Test
Patient Name     : Ranil Chaminda
Test Status      : Positive
Description      : You have to self quarantine immediately
Test Date        : 25/02/2022
==============================


======================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit
```

Technician Consumer:

Add test reports

```
main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64

Please Select An Option !

1.Technician
2.LabAssistant
3.MedicalRep
4.Exit


Select An Option :1
=============================

1. Add Test Reports
2. View Test Reports
3. View Appointments
4. Search Appointments
5. Exit from the programe

Select an option(1-4):
1
======= Generate Test Report =======
Enter the name of the test that have been done : Lipid
Enter Patient name : dasun
Enter the final output of the test : 170mg
Enter a description about the test result: Your Test Normal
Do you want to create another test report?(Y/N)
n
=============================

1. Add Test Reports
2. View Test Reports
3. View Appointments
4. Search Appointments
5. Exit from the programe

Select an option(1-4):
```

Search appointments

```
========================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit


Please Select An Option :2
1: Search by name
2: Search by TestType
select an option  :1
Enter Appointer's  name: dasun



---Appointment---
----------------------------------
CodeNumber : Dasun_13:47:58
Name : Dasun
Description : check-up blood test
Age : 25
Gender : Male
Date :2025/03/10
Test Type : Sugar
Time 3.00 A.M.
----------------------------------


========================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit
```

View appointments

```
Problems  Target Platform State  Console ✕

main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.open


==============================

1. Add Test Reports
2. View Test Reports
3. View Appointments
4. Search Appointments
5. Exit from the programe

Select an option(1-4):
3
------ All Appointments ------
===================================



CodeNumber : Keshan_12:38:05
Name : Keshan_Madushanka
Description : I want to check sugar level
Age : 22
Gender : Male
Date :2025/03/01
Test Type : sugar
Time 2.00 P.M.
===================================



CodeNumber : Sarithmal_9:38:05
Name : Sarithmal_Silva
Description : I want to check cholesterol
Age : 23
Gender : Male
Date :2025/03/02
Test Type : cholestrolr
Time 3.00 P.M.
===================================
```

View test reports


```
Problems   Target Platform State   Console  ×

main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.hotspot
Select An Option :1
==============================


1. Add Test Reports
2. View Test Reports
3. View Appointments
4. Search Appointments
5. Exit from the programe

Select an option(1-4):
2
1.View selected test report
2.View all test reports
Select option :
2
All the test reports
===============================

Test ID          : 1
Test Name        : Sugar Test
Patient Name     : Kasun Tharaka
Test Status      : 6.8%
Description      : You have Diabetes
Test Date        : 11/03/2025
===============================

Test ID          : 2
Test Name        : Lipid Test
Patient Name     : Bimal Kavinda
Test Status      : 150 mg/dL
Description      : Your test result is normal
Test Date        : 15/02/2025
===============================

Test ID          : 3
Test Name        : Creatinine Test
Patient Name     : Mahinda Peries
```

Lab Assistant:

Add lab test

```
Problems    Target Platform State    Console  ×
main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.

Please Select An Option !

1.Technician
2.LabAssistant
3.MedicalRep
4.Exit


Select An Option :2
=================================
1. Add lab test
2. update for lab test
3. Search for lab test
4. View all lab test
5. Search for appointment
6. View all appointment
7. exit
Please Select An Option :1
Enter lab test name:
dengue
Enter lab test description:
dengue antigen test
Enter lab test price:
2000
**Test Added**
Add another lab test?(Y/N)
n
=================================
```

Search appointment

```
========================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit


Please Select An Option :2
1: Search by name
2: Search by TestType
select an option  :1
Enter Appointer's  name: dasun




---Appointment---
----------------------------------
CodeNumber : Dasun_13:47:58
Name : Dasun
Description : check-up blood test
Age : 25
Gender : Male
Date :2025/03/10
Test Type : Sugar
Time 3.00 A.M.
----------------------------------


========================
1 : Add Appointment
2 : Search Appointments
3 : Get Appointment Bill
4 : View Test Report
5 : View Available Lab Tests
6 : Exit
```

Update lab test

```
Problems   Target Platform State   Console  ✕
main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.hotspot.jre

==================================
1. Add lab test
2. update for lab test
3. Search for lab test
4. View all lab test
5. Search for appointment
6. View all appointment
7. exit
Please Select An Option :2
====================Update Lab Test Details====================

1.Update test name
2.Update test description
3.Update test price *(Select 1-3)*
1
Enter Lab test name to update
dengue
Enter new test name:
dengue test

**Details Updated**

==================================
1. Add lab test
2. update for lab test
3. Search for lab test
4. View all lab test
5. Search for appointment
6. View all appointment
7. exit
Please Select An Option :
```

Search lab test

```
main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.hotspot.jr

====================================
1. Add lab test
2. update for lab test
3. Search for lab test
4. View all lab test
5. Search for appointment
6. View all appointment
7. exit
Please Select An Option :3
Enter lab test name to find details: sugar
========Details of entered lab test========
------------------------------------------
        LAB TEST NAME:-sugar
        LAB TEST DESCRIPTION:-This test check the suger percentage
        LAB TEST PRICE:-Rs.250.00
------------------------------------------
======================================
====================================
1. Add lab test
2. update for lab test
3. Search for lab test
4. View all lab test
5. Search for appointment
6. View all appointment
7. exit
Please Select An Option :
```

View all lab tests

```
main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x
================================
1. Add lab test
2. update for lab test
3. Search for lab test
4. View all lab test
5. Search for appointment
6. View all appointment
7. exit
Please Select An Option :4
========All details of lab tests========
-----------------------------------------
        LAB TEST NAME:-sugar
        LAB TEST DESCRIPTION:-This test check the suger percentage
        LAB TEST PRICE:-Rs.250.00
-----------------------------------------
-----------------------------------------
        LAB TEST NAME:-cholestrolr
        LAB TEST DESCRIPTION:-This test check the cholestrolr percentage
        LAB TEST PRICE:-Rs.800.00
-----------------------------------------
-----------------------------------------
        LAB TEST NAME:-Antigen
        LAB TEST DESCRIPTION:-This test check the covid-19 positive or not
        LAB TEST PRICE:-Rs.18900.00
-----------------------------------------
-----------------------------------------
        LAB TEST NAME:-creatinine
        LAB TEST DESCRIPTION:-This test check the suger percentage
        LAB TEST PRICE:-Rs.12500.00
-----------------------------------------
-----------------------------------------
        LAB TEST NAME:-dengue test
        LAB TEST DESCRIPTION:-dengue antigen test
        LAB TEST PRICE:-2000
-----------------------------------------
========================================
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```

Medical Rep:

Add chemicals

```
=================================




Please Select An Option !

1.Technician
2.LabAssistant
3.MedicalRep
4.Exit


Select An Option :3
=============================

1. Add Chemicals
2. View Chemicals
3. Update Chemicals
4. Generate Chemical Bill
5. Exit


=============================

Select an option(1-5):1
Enter the name of chemical : hydrogen_peroxide
Enter the brnad name of the selected chemical : newAx
Enter the quantity of the chemical added : 5
Enter the manufacutred date(DD/MM/YYYY) : 2025/03/04
Enter the expired date(DD/MM/YYYY) : 2026/03/01
Enter the price of the selected chemical : 26000

Chemical Added Successfully.

Do you want to add another chemical?(Y/N)
```

Generate Chemical bill

```
Problems   Target Platform State   Console ✕
main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.hotspot.j

Do you want to add another chemical?(Y/N)n
==============================

1. Add Chemicals
2. View Chemicals
3. Update Chemicals
4. Generate Chemical Bill
5. Exit


==============================

Select an option(1-5):4
Enter the chemical name : hydrogen_peroxide
====== Chemical-Bill ======

Name               :hydrogen_peroxide
Qunatity           :5
Unit Price         :26000.0
Total Price        :130000.0


=========== **** ===========
==============================

1. Add Chemicals
2. View Chemicals
3. Update Chemicals
4. Generate Chemical Bill
5. Exit


==============================

Select an option(1-5):
```

Update chemical


```
Problems    Target Platform State   Console ×
main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openjdk.hotspot.jre
=========== **** ===========
============================

1. Add Chemicals
2. View Chemicals
3. Update Chemicals
4. Generate Chemical Bill
5. Exit


============================

Select an option(1-5):3
========= Update Chemical Details ========

1.Update Chemical Quantity
2.Update Chemical Brand
3.Update Chemical Unnit Price
1
Enter chemical name to update :
hydrogen_peroxide
Enter the new chemical quantity :
10

Chemical Name Updated Successfully

========= Update Chemical Details ========

1.Update Chemical Quantity
```

View all chemicals

main_configuration [OSGi Framework] C:\Program Files\eclipse EE\plugins\org.eclipse.justj.openj

```
================================

Select an option(1-5):2
1.View selected chemical detail
2.View all chemical details

Select option : 2
Details of all the chemicals in the Laboratory
================================

Chemical Name : CREATININE
Chemical Brand : BASF
Qunatity of the chemical : 20
Manufactured Date : 04/01/2025
Expire Date : 04/01/2026
Chemical Price : 2500
================================

Chemical Name : HYDROCHLORIC_ACID
Chemical Brand : DowDuPont
Qunatity of the chemical : 30
Manufactured Date : 04/02/2025
Expire Date : 04/01/2026
Chemical Price : 5000
================================

Chemical Name : NITRIC_ACID
Chemical Brand : Sinopec
Qunatity of the chemical : 50
Manufactured Date : 02/03/2025
Expire Date : 02/04/2026
Chemical Price : 2000
================================

Chemical Name : SULPHURIC_ACID
Chemical Brand : SABIC
```