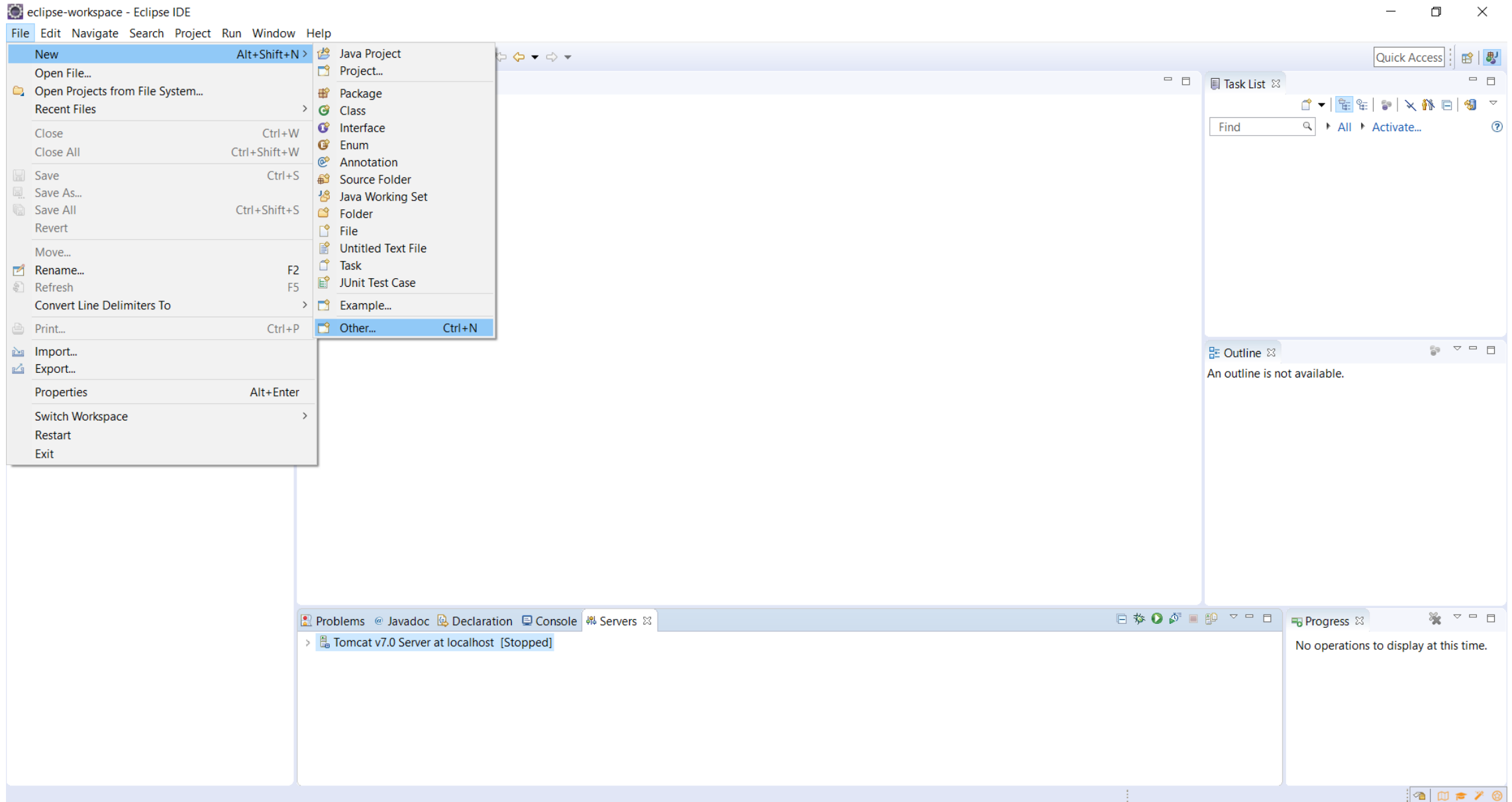


Create an Microservice on Eclipse IDE
and deploy it on IBM Bluemix

Step 1 : Open an eclipse EE workspace

Step 2: Create a new Dynamic web project



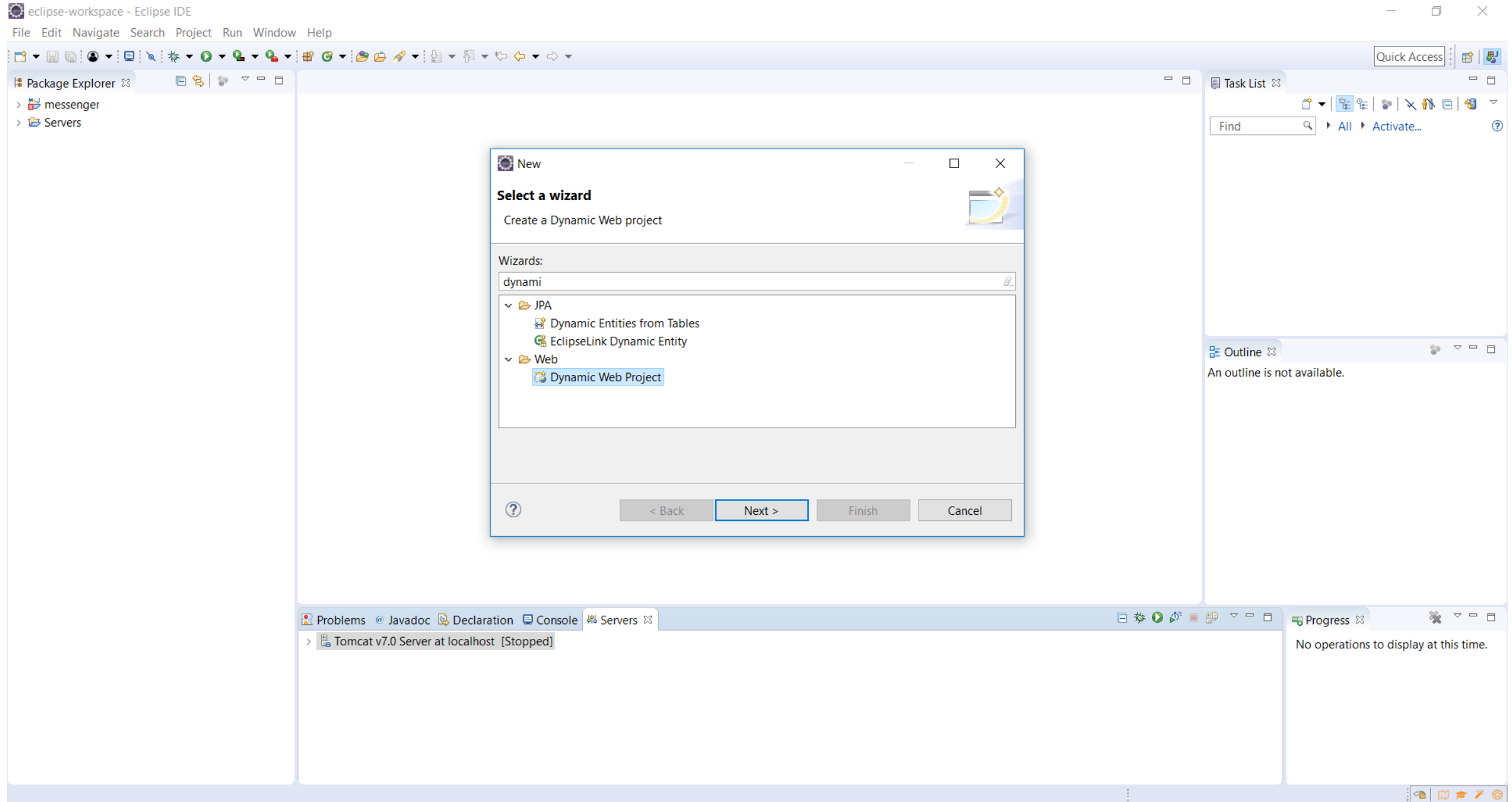
Step 3: Search IBM Bluemix in target runtime

The screenshot shows the Eclipse IDE interface with the 'New Dynamic Web Project' wizard open. The wizard is configured with the following settings:

- Project name:** Microservices
- Project location:** ☒ Use default location
Location: C:\Users\ArpitJainMr\eclipse-workspace\Microservices
- Target runtime:** Apache Tomcat v7.0 (selected from a dropdown menu)
- Configuration:** Default Configuration for Apache Tomcat v7.0
- EAR membership:** ☐ Add project to an EAR
EAR project name: EAR
- Working sets:** ☐ Add project to working sets

The 'Finish' button is highlighted, indicating the next step in the wizard. The background shows the Package Explorer with 'messenger' and 'Servers' folders, and the Task List, Outline, and Progress views.

Step 4: Select Dynamic web project and hit next.



Step 5: Click on New Runtime button to install IBM Bluemix runtime if you don't have Bluemix

eclipse-workspace - Eclipse IDE

File Edit Navigate Search Project Run Window Help

Package Explorer

- messenger
- Servers

Task List

Find

Outline

An outline is not available.

Progress

No operations to display at this time.

Problems

Tomcat v7.0 Server at localhost

New Dynamic Web Project

Create a standalone Dynamic Web project or add it to a new or existing Enterprise Application.

Project name:

Project location

☒ Use default location

Location: [Browse...](#)

Target runtime

Apache Tomcat v7.0 [New Runtime...](#)

Dynamic web module version

3.0

Configuration

Default Configuration for Apache Tomcat v7.0 [Modify...](#)

A good starting point for working with Apache Tomcat v7.0 runtime. Additional facets can later be installed to add new functionality to the project.

EAR membership

☐ Add project to an EAR

EAR project name: [New Project...](#)

Working sets

☐ Add project to working sets [New...](#)

Working sets: [Select...](#)

[? < Back](#) [Next >](#) [Finish](#) [Cancel](#)

Step 6: Search IBM Bluemix runtime and select IBM Bluemix tool adapter

The screenshot shows the Eclipse IDE interface with the 'New Server Runtime Environment' wizard open. The wizard is titled 'New Dynamic Web Project' and 'New Server Runtime Environment'. It prompts the user to 'Click Next to download and install'. The 'Select the type of runtime environment:' section shows a search for 'ibm blu' and a list of results under the 'IBM' category, with 'IBM Bluemix Tools Server Adapter' selected. The 'Cloud Tools for IBM Bluemix' section is empty. The 'Next >' button is highlighted. The 'Add project to working sets' section is also visible at the bottom of the wizard.

New Dynamic Web Project
New Server Runtime Environment

Click Next to download and install

Select the type of runtime environment:

ibm blu

- IBM
 - IBM Bluemix Tools Server Adapter
 - WebSphere® Application Server Liberty Extended Tools

Cloud Tools for IBM Bluemix

< Back **Next >** Finish Cancel

☐ Add project to working sets New...
Working sets: Select...

< Back Next > **Finish** Cancel

Task List
Find All Activate...

Outline
An outline is not available.

Progress
No operations to display at this time.

Step 7: Select IBM Bluemix Runtime and hit Finish.

The screenshot shows the Eclipse IDE interface with the 'New Server Runtime Environment' wizard open. The wizard is titled 'New Server Runtime Environment' and has a subtitle 'Define a new server runtime environment'. It contains a section 'Select the type of runtime environment:' with a text field containing 'ibm blu'. Below this, a list of runtime environments is shown, with 'IBM Bluemix Runtime' selected. The list also includes 'WebSphere Application Server Liberty'. Below the list, there is a checkbox labeled 'Create a new local server' which is unchecked. At the bottom of the wizard, there are buttons for '< Back', 'Next >', 'Finish', and 'Cancel'. The 'Finish' button is highlighted. In the background, the Package Explorer on the left shows a project named 'messenger' and a 'Servers' folder. The Task List on the right is empty. The Outline on the right shows 'An outline is not available.' The Progress bar at the bottom right shows 'Building workspace (Finished at 16:00)'. An 'Eclipse Error Reporting' dialog is open in the bottom right corner, asking if the user wants to help Eclipse by enabling error reporting. The dialog includes a welcome message and a link to 'Enable...'.

eclipse-workspace - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Package Explorer

- messenger
- Servers

Task List

Find

Outline

An outline is not available.

Progress

Building workspace (Finished at 16:00)

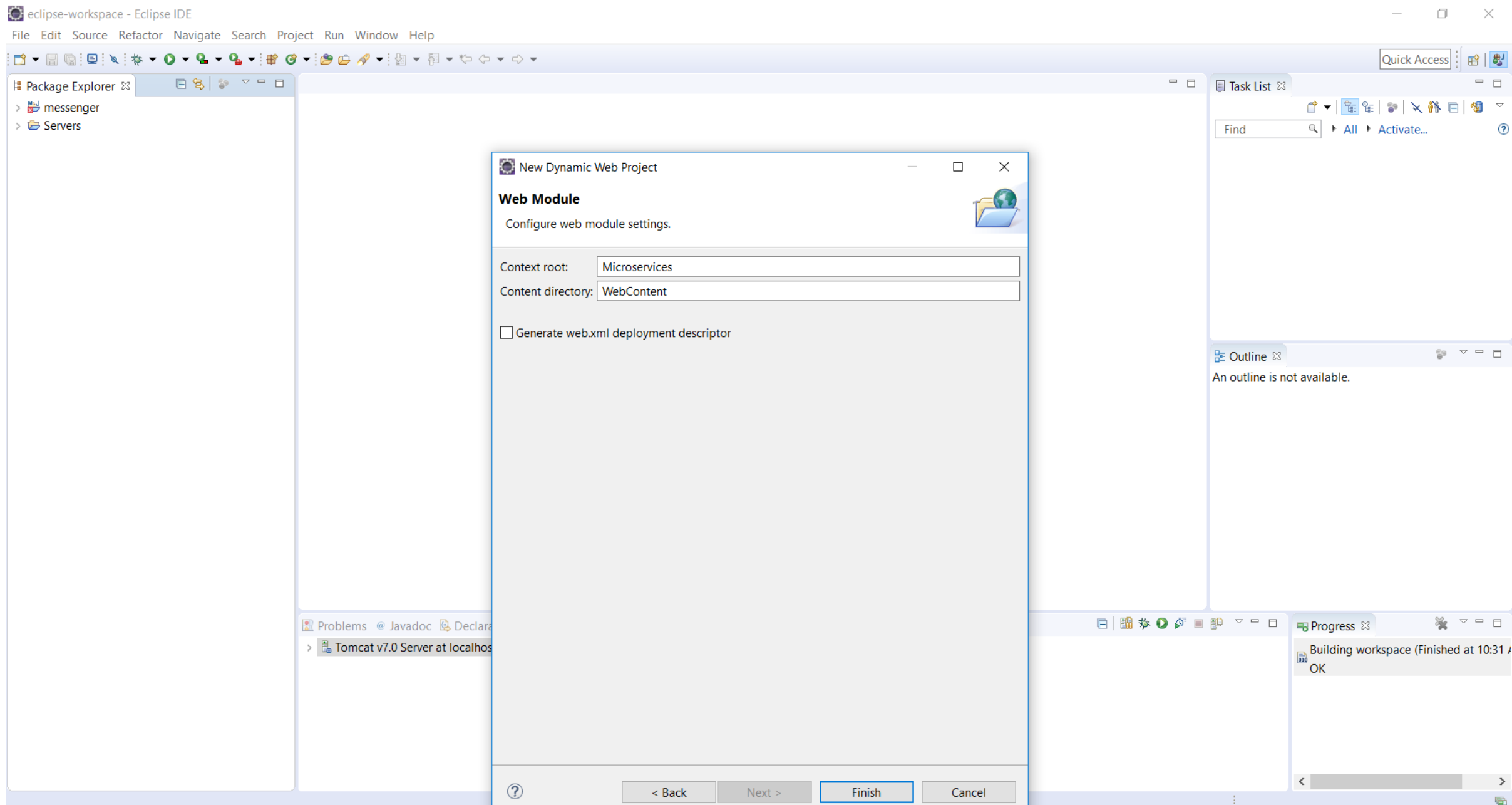
Eclipse Error Reporting

Welcome to the Eclipse Error Reporting Service.
Do you want to help Eclipse?

With your permission Eclipse can inspect any errors logged inside the IDE and inform the affected projects about the issues you experienced. Do you want to help out by enabling Error Reporting?

Enable... Disable

Step 8: Select the check box.



Step 9: Create a new HTML file in Web Content folder

The screenshot shows the Eclipse IDE interface. The 'Project Explorer' on the left displays the project structure, with 'WebContent' selected under 'Microservices'. A right-click context menu is open over 'WebContent', and the 'New' option is selected, opening a sub-menu. In this sub-menu, 'HTML File' is highlighted. The 'Outline' view on the right shows 'An outline is not available.' The bottom status bar indicates 'WebContent - Microservices'.

Project Explorer

- messenger
 - Microservices
 - Deployment Descriptor: Microservices
 - JAX-WS Web Services
 - Java Resources
 - JavaScript Resources
 - build
 - WebContent
 - Server

Context Menu (New):

- Project...
- File
- Folder
- SQL File
- HTML File
- JSP File
- Example...
- Other... Ctrl+N

Outline: An outline is not available.

WebContent - Microservices

Step 10: Create a new server i.e. IBM Bluemix

eclipse-workspace - Microservices/WebContent/index.html - Eclipse IDE

File Edit Navigate Search Project Run Window Help

Project Explorer

- messenger
- Microservices
 - Deployment Descriptor: Microservices
 - JAX-WS Web Services
 - Java Resources
 - JavaScript Resources
 - build
 - WebContent
 - Servers

index.html

```
1 <!DOCTYPE
2 <html>
3 <head>
4 <meta char
5 <title>Ins
6 </head>
7 <body>
8
9 </body>
10 </html>
```

New Server

Define a New Server

Choose the type of server to create

Select the server type:

type filter text

- Tomcat v6.0 Server
- Tomcat v7.0 Server
- Tomcat v8.0 Server

Publishes and runs J2EE and Java EE Web projects and server configurations to a local Tomcat server.

Server's host name: localhost

Server name: Tomcat v7.0 Server at localhost

Server runtime environment: Apache Tomcat v7.0 [Add...](#)

[Configure runtime environments...](#)

[?](#) < Back Next > Finish Cancel

Outline

- DOCTYPE:html
- html

Markers Properties Servers Data Source Explorer Snippets

No servers are available. [Click this link to create a new server...](#)

0 items selected

Step 11: Select IBM Bluemix as server.

eclipse-workspace - Microservices/WebContent/index.html - Eclipse IDE

File Edit Navigate Search Project Run Window Help

Project Explorer

- messenger
- Microservices
 - Deployment Descriptor: Microservices
 - JAX-WS Web Services
 - Java Resources
 - JavaScript Resources
 - build
 - WebContent
- Servers

index.html

```
1 <!DOCTYPE
2 <html>
3 <head>
4 <meta char
5 <title>Ins
6 </head>
7 <body>
8
9 </body>
10 </html>
```

New Server

Define a New Server

Choose the type of server to create

Select the server type:

ibm bluemix

IBM

- IBM Bluemix
- WebSphere Application Server Liberty

Publishes and runs Java EE modules, JavaScript modules and packaged servers of Liberty Profile to IBM Bluemix.

Server's host name: Cloud

Server name: IBM Bluemix

Server runtime environment: IBM Bluemix Runtime [Add...](#)

[Configure runtime environments...](#)

< Back Next > Finish Cancel

Markers Properties Servers Data Source Explorer Snippets

No servers are available. [Click this link to create a new server...](#)

0 items selected

Step 12: Enter IBM Bluemix Account credentials.

eclipse-workspace - Microservices/WebContent/index.html - Eclipse IDE

File Edit Navigate Search Project Run Window Help

Project Explorer

- messenger
- Microservices
 - Deployment Descriptor: Microservices
 - JAX-WS Web Services
 - Java Resources
 - JavaScript Resources
 - build
 - WebContent
- Servers

index.html

```
1 <!DOCTYPE
2 <html>
3 <head>
4 <meta char
5 <title>Ins
6 </head>
7 <body>
8
9 </body>
10 </html>
```

New Server

IBM Bluemix Account

Press 'Validate Account', 'Next', 'Finish' to validate credentials.

Account Information

☐ Use a one-time password to login (SSO)

Email:

Password:

URL:
IBM Bluemix (US South) - <https://api.ng.bluemix.net> [Manage Cloud...](#)

[Validate Account](#) [Sign Up](#)

[?< Back](#) [Next >](#) [Finish](#) [Cancel](#)

Outline

- DOCTYPE:html
- html

Markers Properties Servers Data Source Explorer Snippets

[No servers are available. Click this link to create a new server...](#)

0 items selected

Step 13: Right click on application them select Run as- Run on server.

eclipse-workspace - Microservices/WebContent/index.html - Eclipse IDE

File Edit Navigate Search Project Run Window Help

The screenshot shows the Eclipse IDE interface. The Project Explorer on the left shows the 'Microservices' project. The main editor displays the 'index.html' file with the following content:

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset="ISO-8859-1">
5   <title>Microservices</title>
6 </head>
7 <body>
8   <h1>Welcome to the presentation of Microservices</h1>
9 </body>
10 </html>
```

The 'Run As' context menu is open, showing the following options:

- New
- Go Into
- Show In (Alt+Shift+W)
- Show in Local Terminal
- Copy (Ctrl+C)
- Copy Qualified Name
- Paste (Ctrl+V)
- Delete (Delete)
- Remove from Context (Ctrl+Alt+Shift+Down)
- Build Path
- Refactor (Alt+Shift+T)
- Import
- Export
- Refresh (F5)
- Close Project
- Close Unrelated Projects
- Show in Remote Systems view
- Validate
- Coverage As
- Run As** (Alt+Shift+X, R)
- Debug As (Alt+Shift+X, J)
- Profile As
- Restore from Local History...
- Java EE Tools
- Team
- Compare With
- Configure
- Source
- Properties (Alt+Enter)

The 'Run As' option is highlighted, and a submenu is visible with the following options:

- 1 Run on Server (Alt+Shift+X, R)
- 2 Java Application (Alt+Shift+X, J)
- Run Configurations...

The Outline view on the right shows the document structure:

- DOCTYPE:html
- html
 - head
 - meta charset=ISO-8859-1
 - title
 - body
 - h1

The Servers view at the bottom shows a configured server: 'M Bluemix - arpit.jain@iiitdmj.ac.in - US South - https://api.ng.bluemix.net [Started, Synchronized]'.



Overview

Public

Enterprise

Quick Start

Environments

Cloud Foundry

REGION

X US South

CLOUD FOUNDRY ORG

All Organizations

CLOUD FOUNDRY SPACE

All Spaces

Filter by resource name...

Create resource

Cloud Foundry Applications

Name	Region	CF Org	CF Space	Memory (MB)	Status	
Microservices-861648	US South	arpit.jain@iiitdmj.ac.	US South	512	Running	
catalog-api-microservices-toolchain-2018052816550556	US South	arpit.jain@iiitdmj.ac.	prod	128	Running	
fibonacci-service	US South	arpit.jain@iiitdmj.ac.	dev	256	Running	
node-helloworld-20180529064638573	US South	arpit.jain@iiitdmj.ac.	dev	128	Running	
orders-api-microservices-toolchain-20180528165505565	US South	arpit.jain@iiitdmj.ac.	prod	96	Running	
staging-catalog-api-microservices-toolchain-2018052815	US South	arpit.jain@iiitdmj.ac.	staging	128	Running	
staging-catalog-api-microservices-toolchain-2018052816	US South	arpit.jain@iiitdmj.ac.	staging	128	Running	
staging-catalog-api-microservices_toolchain	US South	arpit.jain@iiitdmj.ac.	staging	128	Stopped	
staging-orders-api-microservices-toolchain-20180528154	US South	arpit.jain@iiitdmj.ac.	staging	96	Running	
staging-orders-api-microservices-toolchain-20180528165	US South	arpit.jain@iiitdmj.ac.	staging	96	Running	

FEEDBACK

☰

IBM Cloud

[Catalog](#)[Docs](#)[Support](#)[Manage](#)

Getting started

Overview

Runtime

Connections

Logs

Monitoring

API Management

Cloud Foundry apps /

Microservices-861648

●

Running

[Visit App URL](#)

Org: arpit.jain@iiitdmj.ac.in

Location: US South

Space: US South

Routes

⋮

Runtime

BUILDPACK

Liberty for Java™

-

1

+

INSTANCES

All instances are running

Health is 100%

-

512

+

MB MEMORY PER INSTANCE

512

TOTAL MB ALLOCATION

288 MB still available ?

Connections

No services are connected to this app

You can bind a service:

Create connection

Runtime cost

\$0.00

Current charges for billing period

\$0.00

Estimated total for billing period

(May 1, 2018 - May 31, 2018)

Current and estimated cost excludes [connected services](#).

Application is deployed and running on browser.



Welcome to the presentation of Microservices

