

## **Exp No: 2**

## **IMPLEMENTATIONS OF SOAP AND REST**

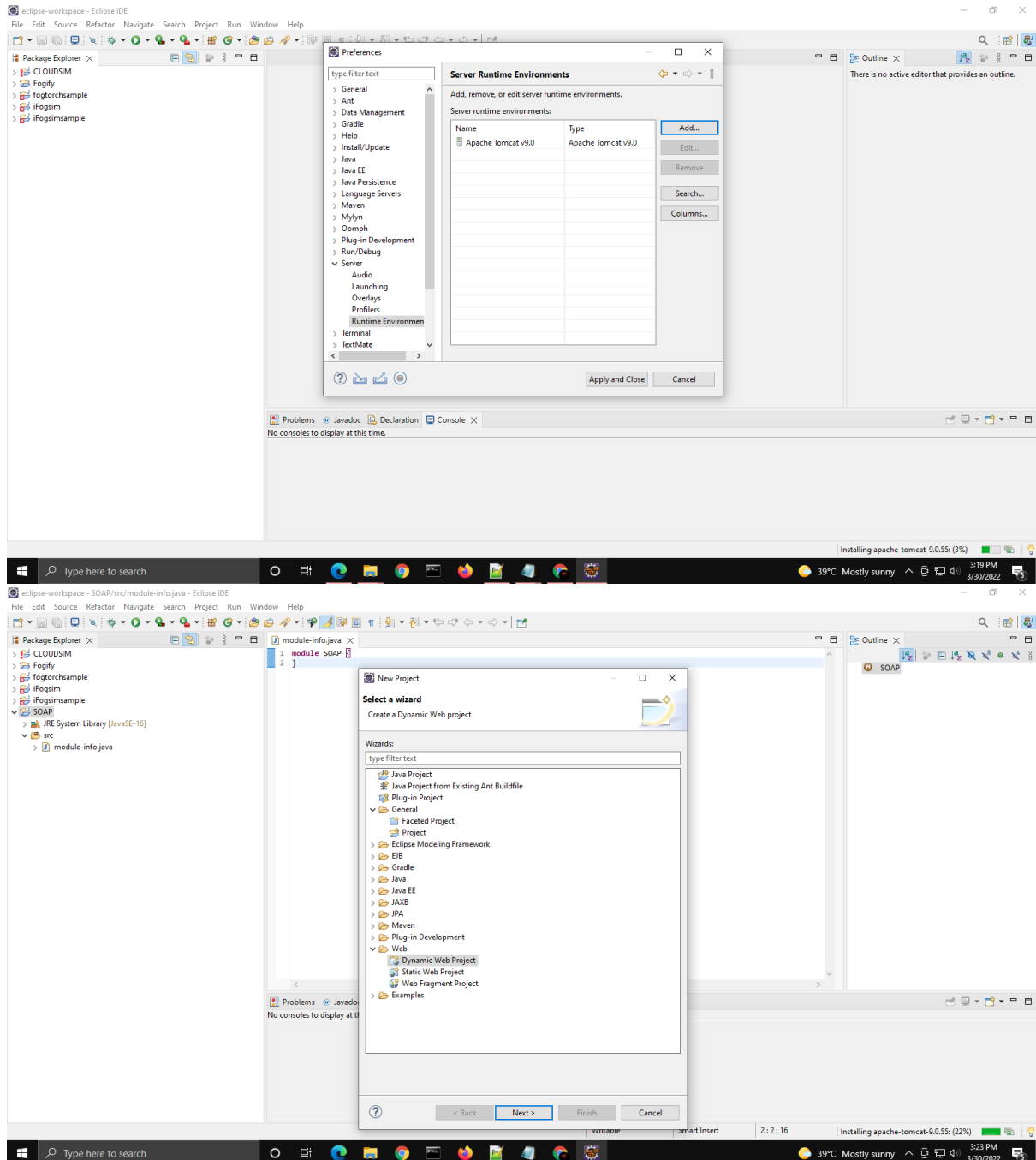
### **Aim:**

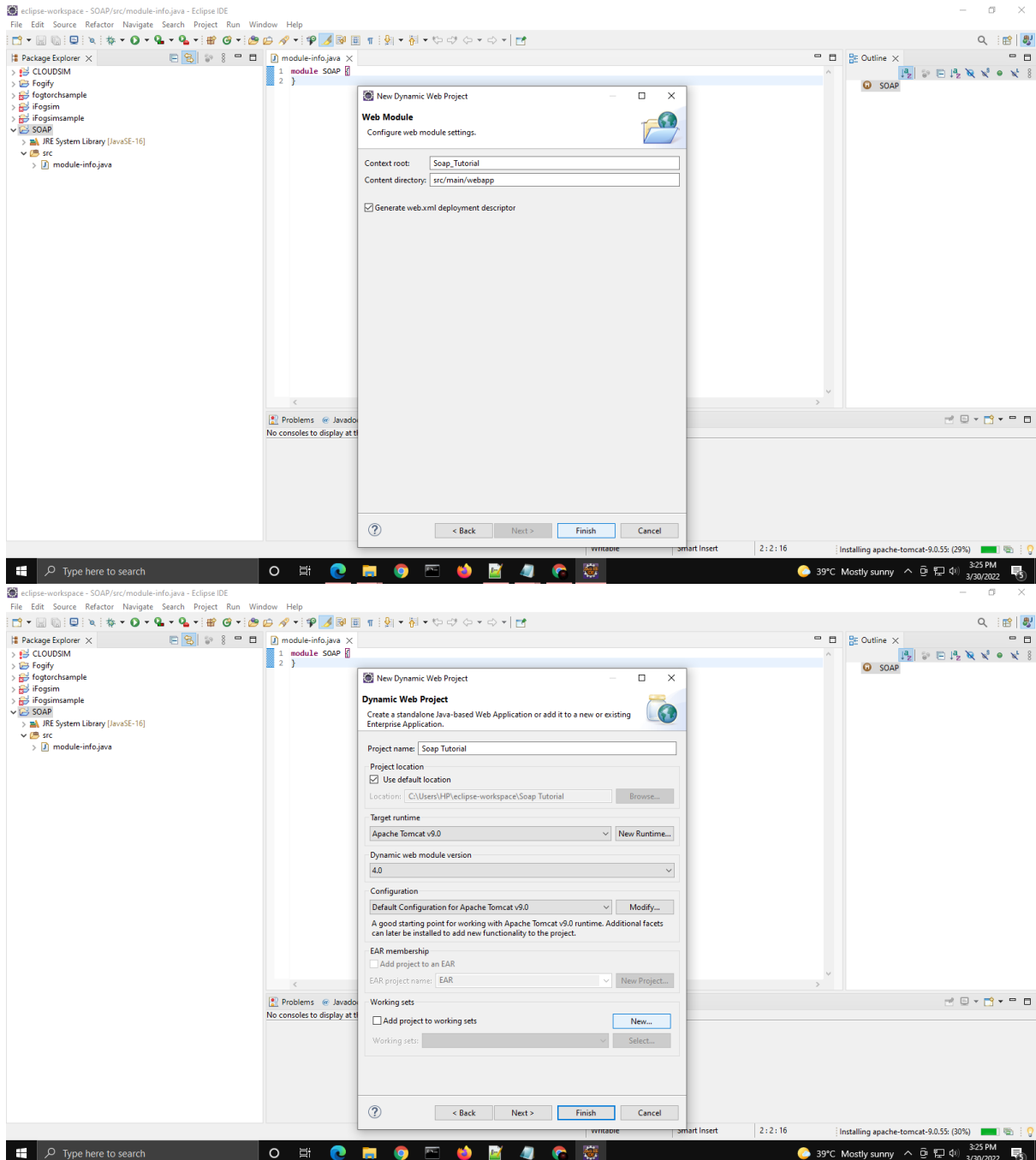
- To implement SOAP and REST using java.

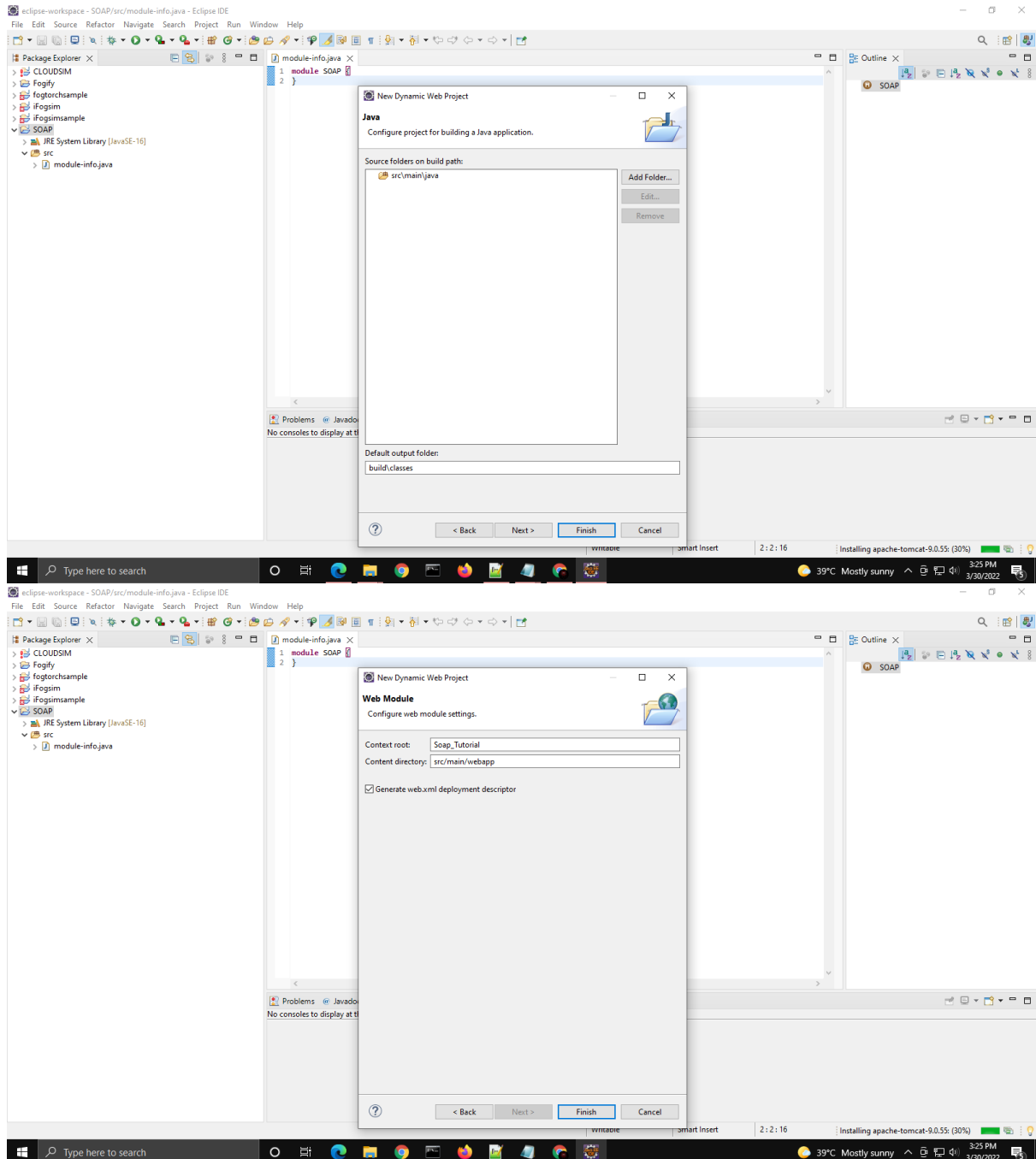
### **SOAP:**

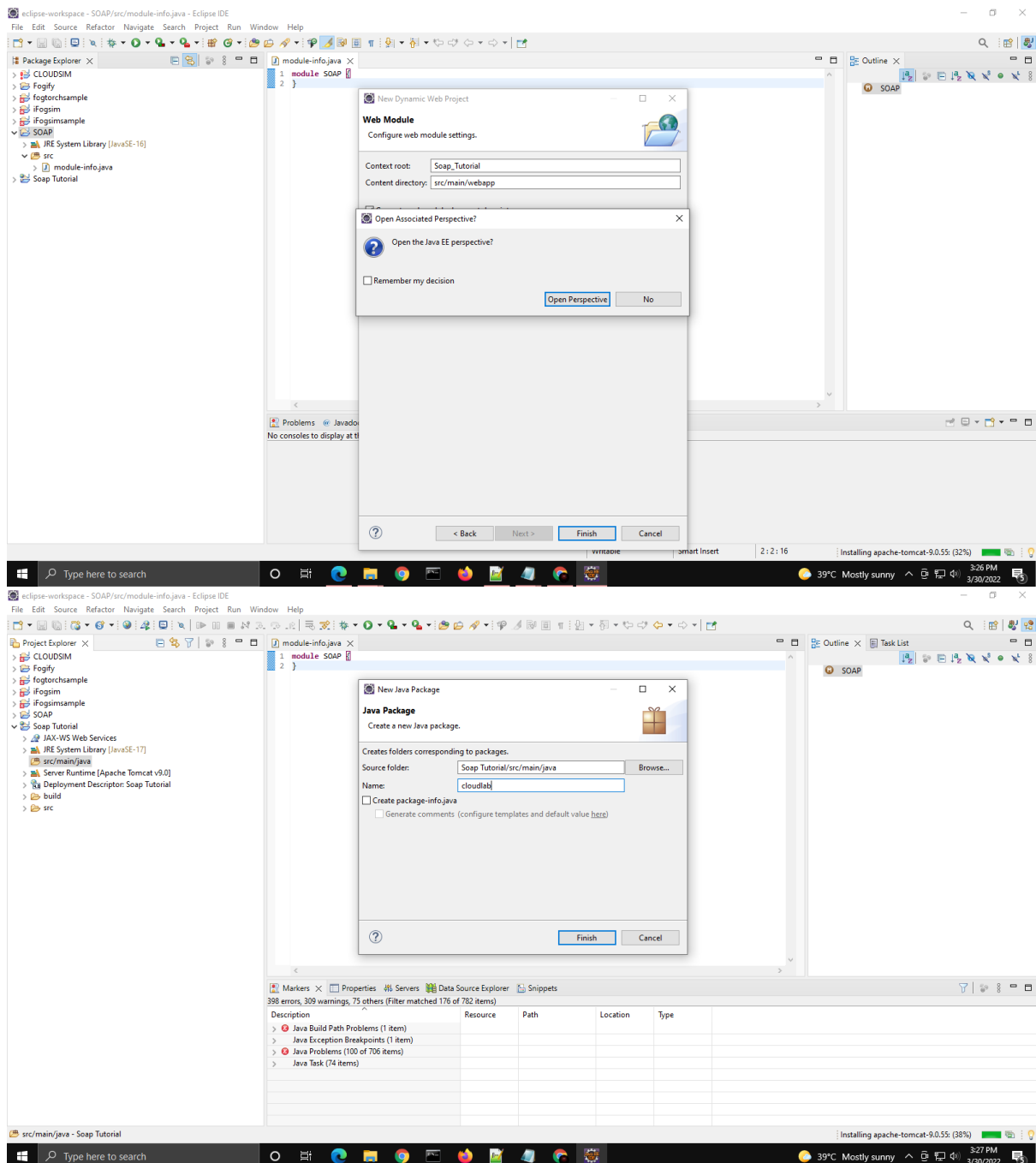
1. Create a new dynamic web project in eclipse ide.
2. Write a project name and check the server and the runtime configurations.
3. Click next
4. Click start server.
5. After server is started, click finish.
6. If the server is started successfully, the required message is displayed and a wsdl file will be displayed and web server will host the web page in the address.
7. That can be invoked via a service file and will be created as a separate project.
8. In command prompt, use 'wsimport -keep URL'.
9. Get the output of the request from the client.

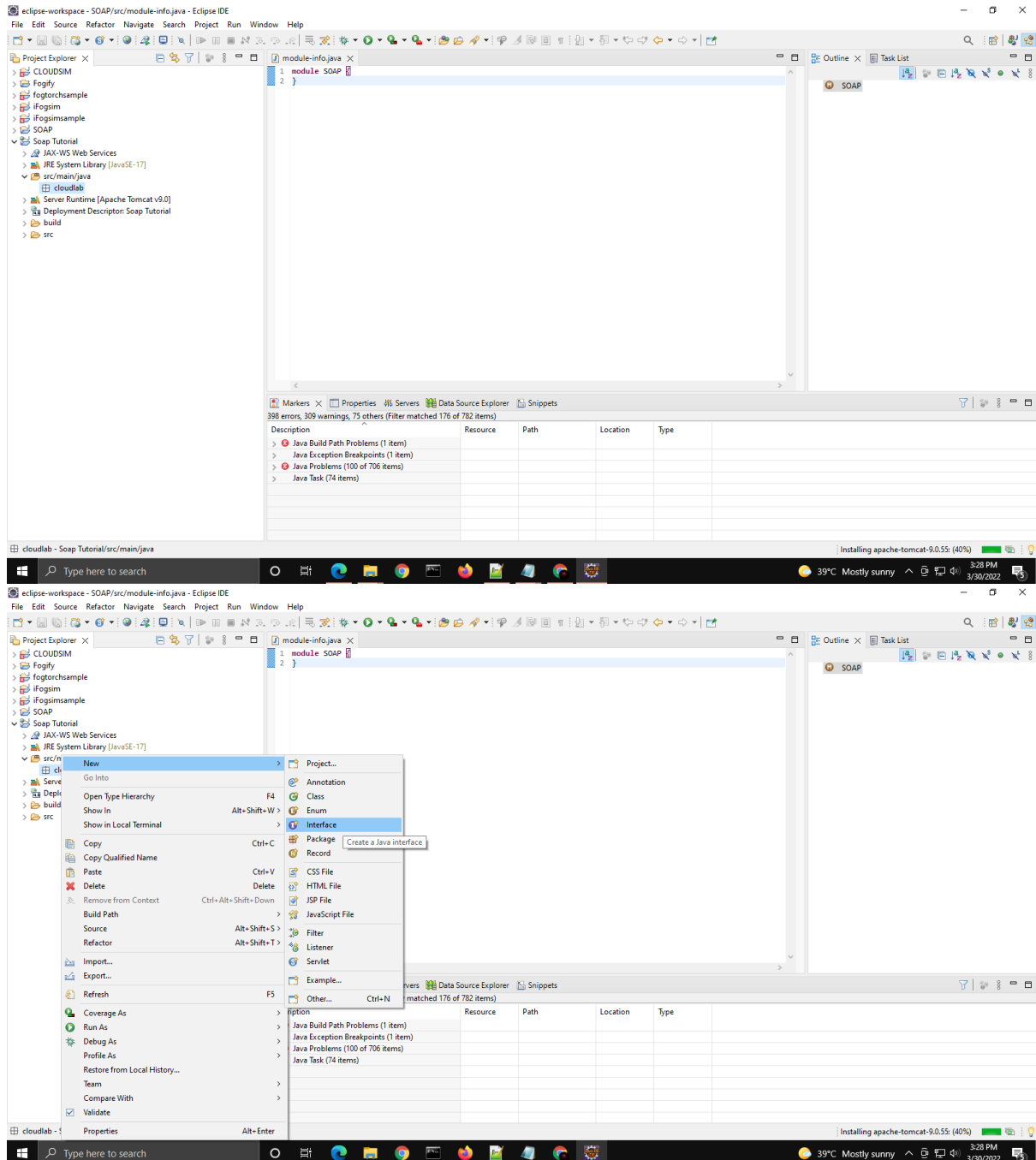
### **Screenshots:**

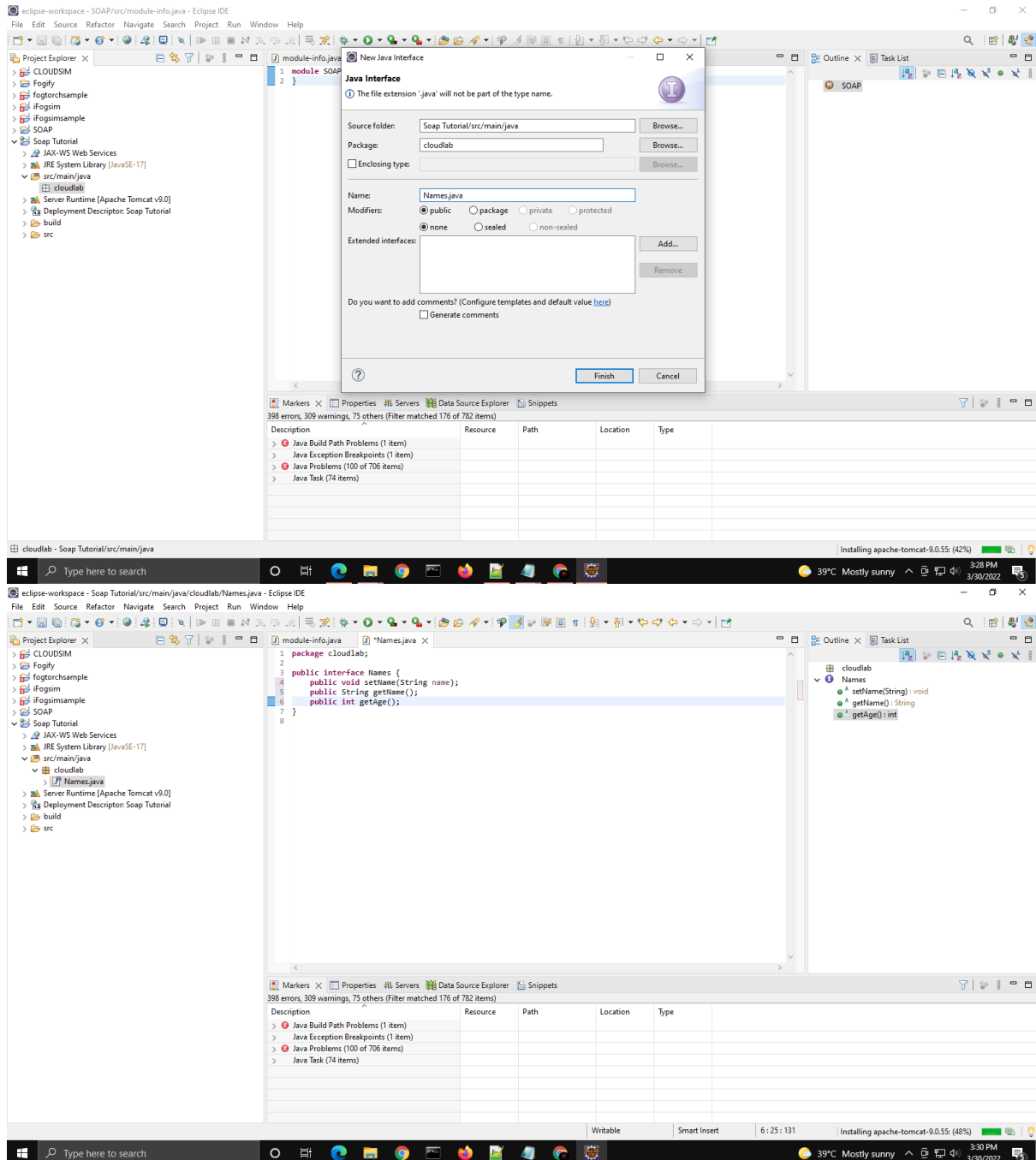


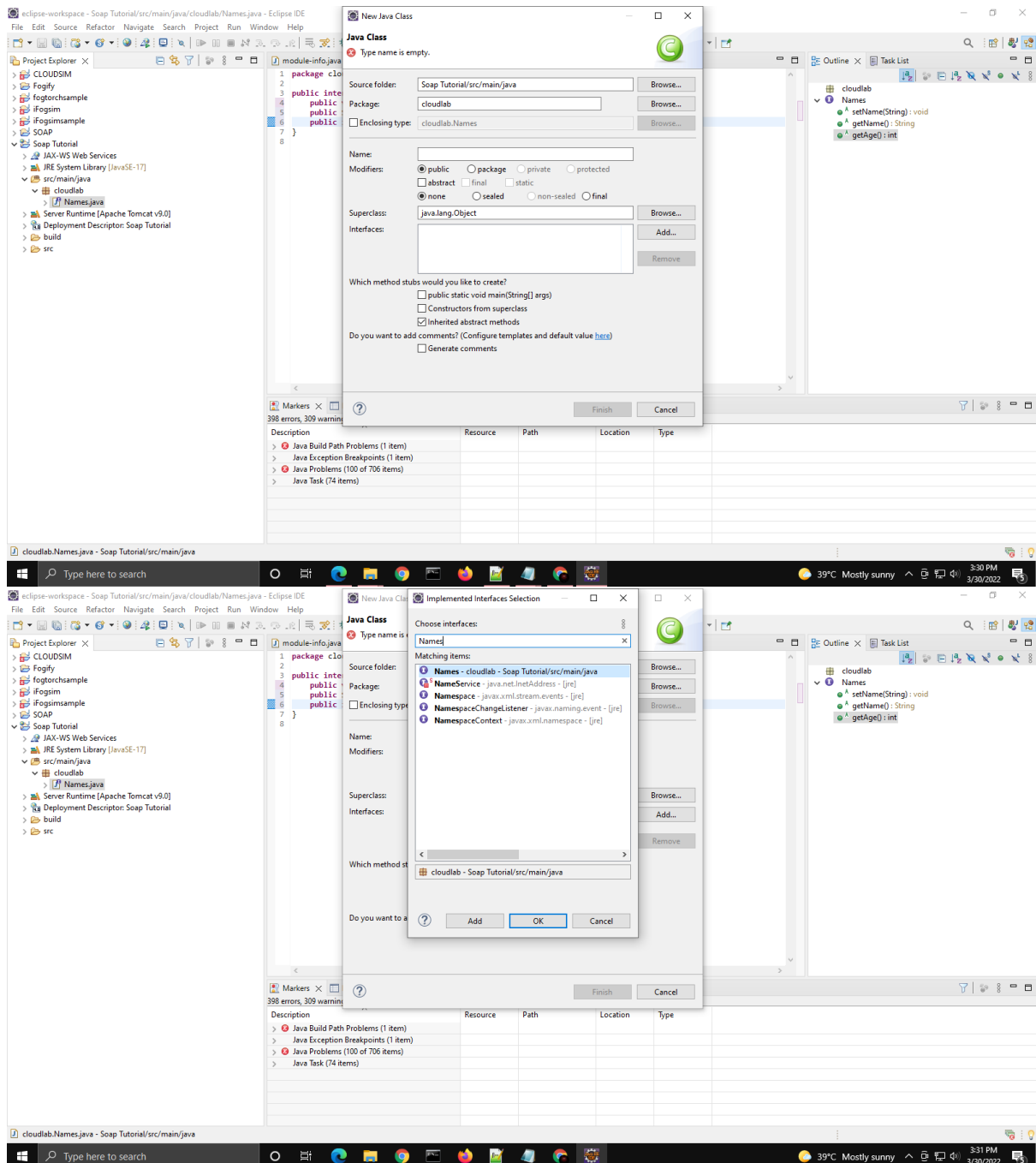




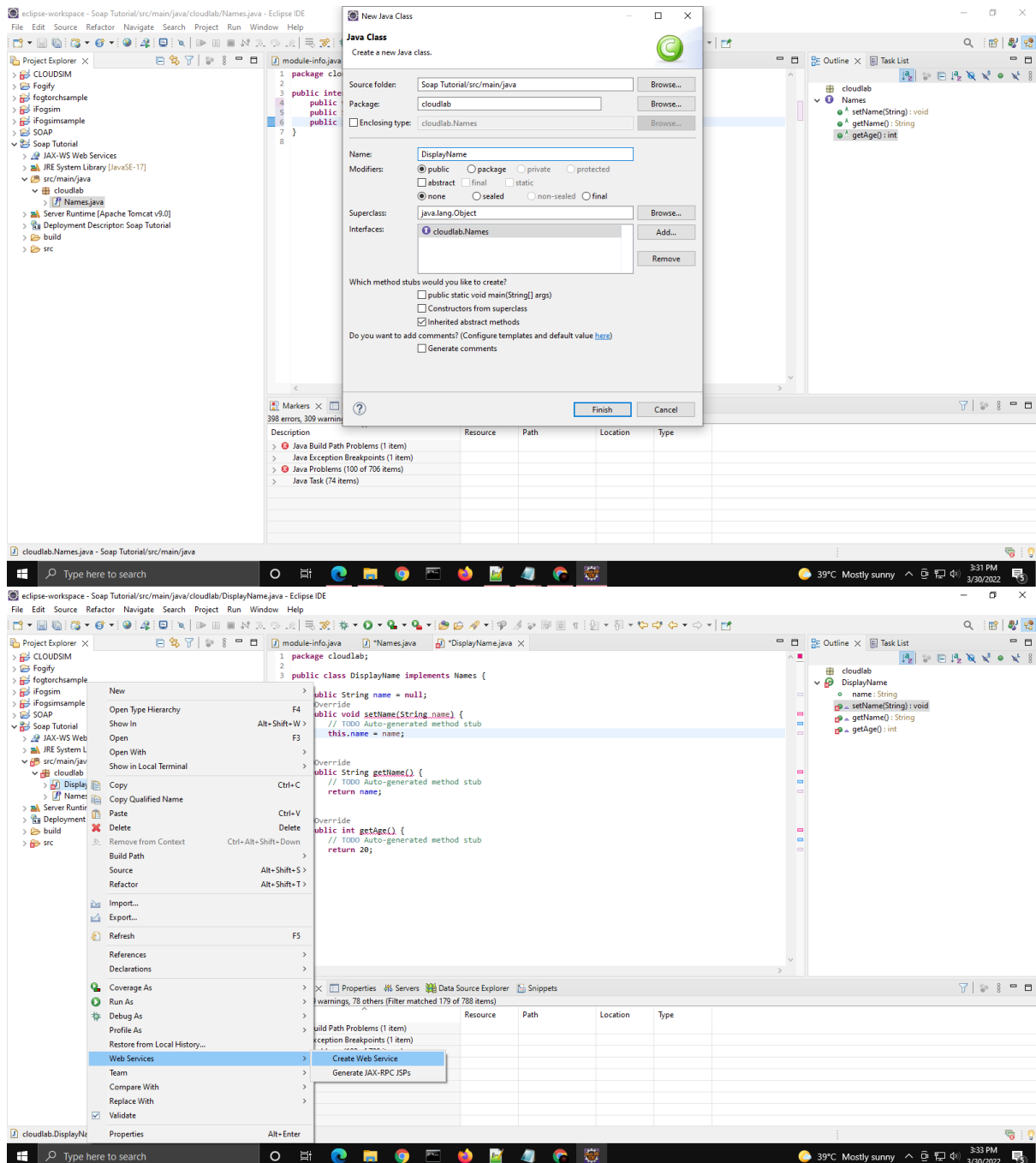


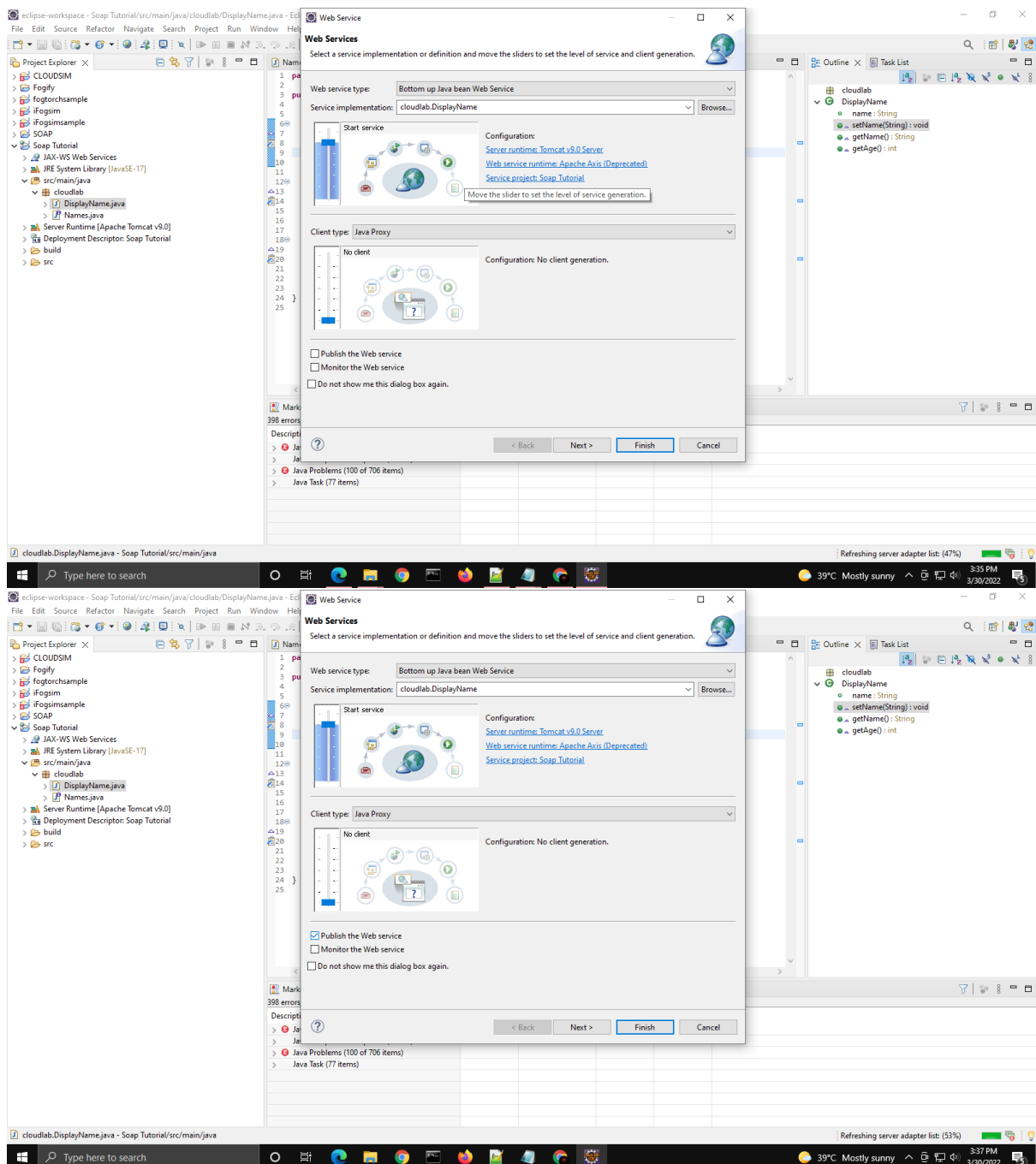


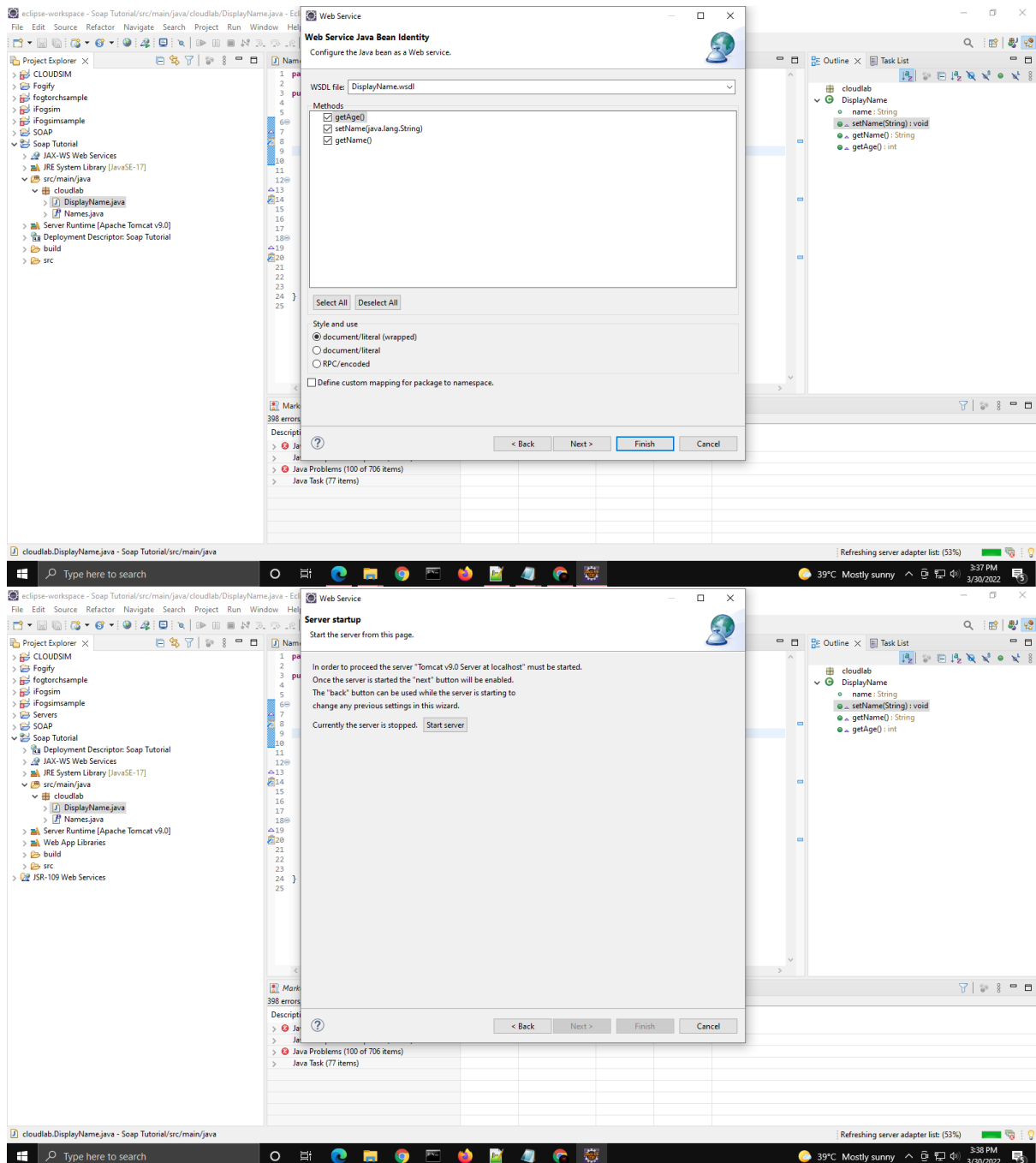


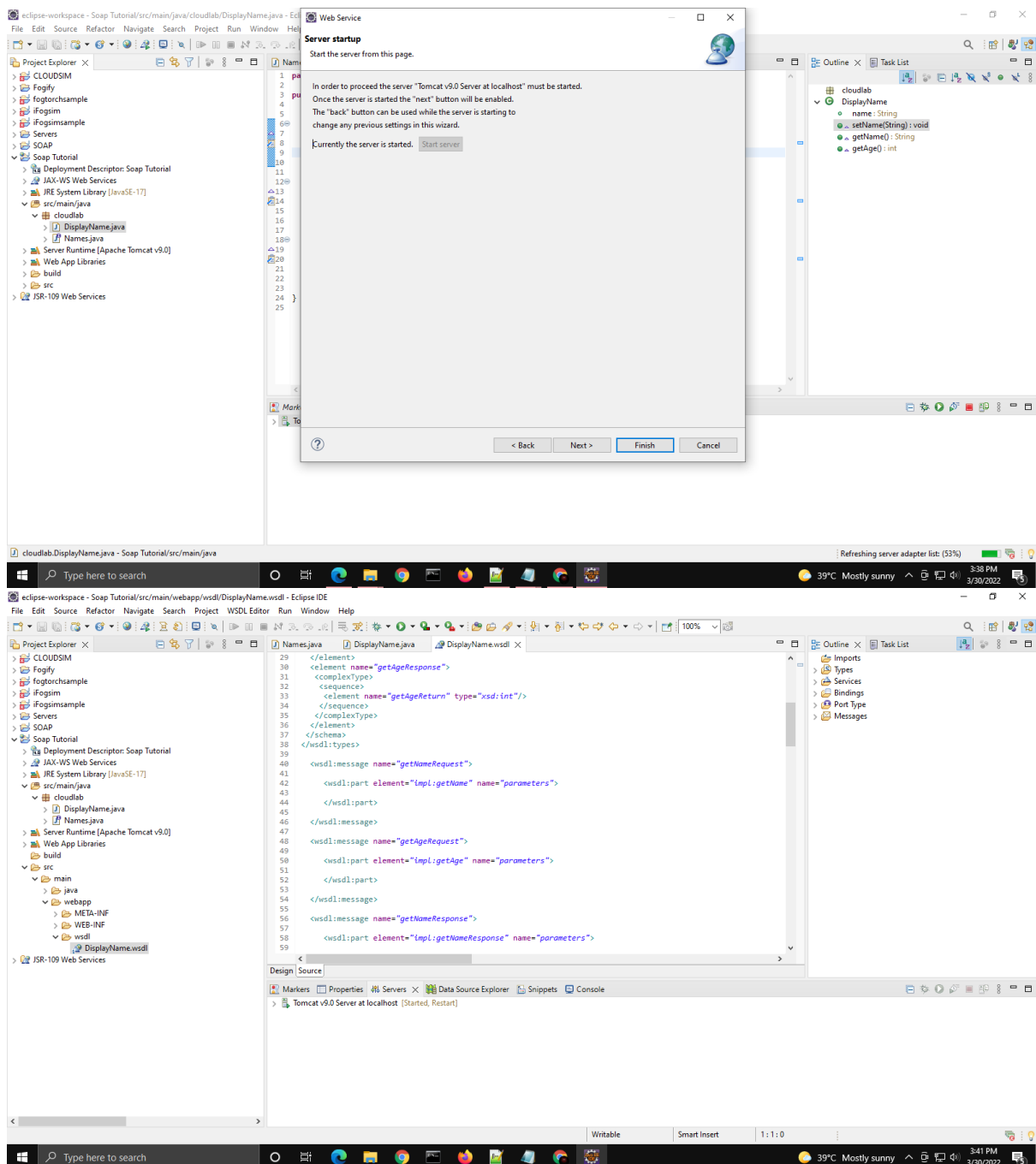












## DisplayName

Hi there, this is an AXIS service!

Perhaps there will be a form for invoking the service here...

The screenshot displays a web browser window at the top and an Eclipse IDE window at the bottom.

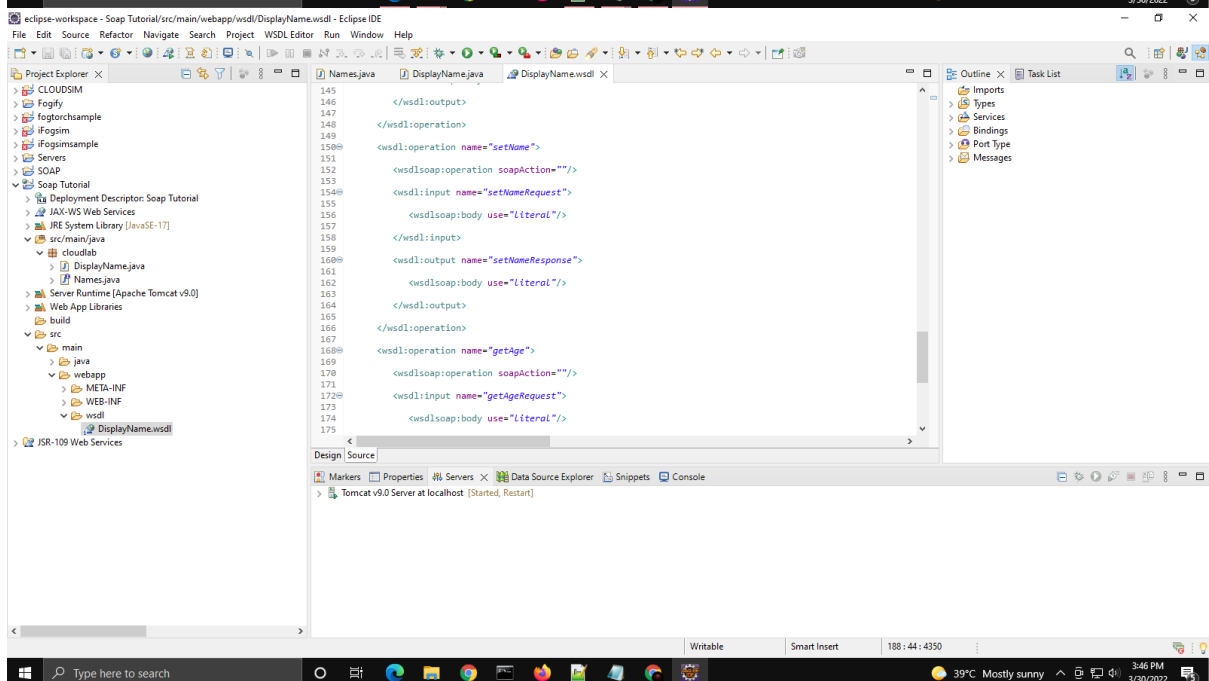
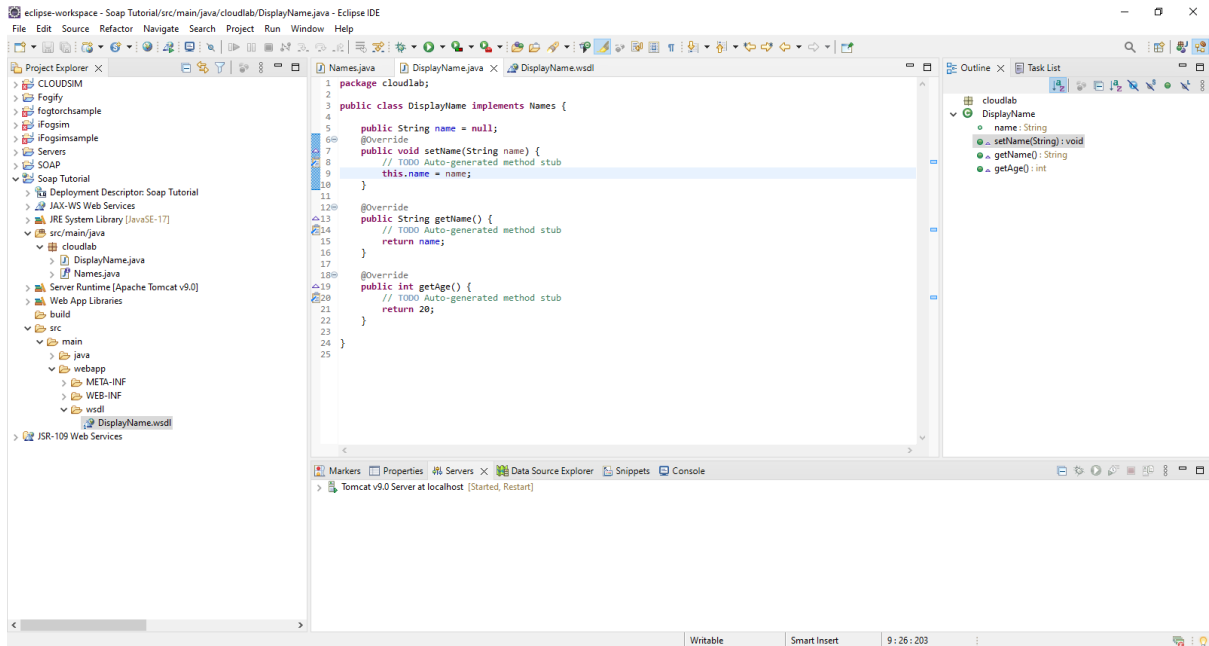
**Browser Window:** The address bar shows `localhost:8080/Soap_Tutorial/services/DisplayName?wsdl`. The main content area shows the XML document tree for the WSDL file. The XML is as follows:

```
<?xml version='1.0' encoding='UTF-8'?>
<definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:impl="http://cloudlab" xmlns:intf="http://cloudlab" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:wsdlsoap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:xsd="http://www.w3.org/2001/XMLSchema" targetNamespace="http://cloudlab">
  <!-- WSDL created by Apache Axis version: 1.4
  Build on Mar 22, 2006 (06:35:48 PDT) -->
  <wsdl:types>
    <xsd:schema xmlns="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" targetNamespace="http://cloudlab">
      <element name="getName">
        <complexType>
          <sequence>
            <element name="getNameResponse">
              <complexType>
                <sequence>
                  <element name="getNameReturn" type="xsd:string"/>
                </sequence>
              </complexType>
            </element>
          </sequence>
        </complexType>
      <element name="setName">
        <complexType>
          <sequence>
            <element name="name" type="xsd:string"/>
          </sequence>
        </complexType>
      <element name="setNameResponse">
        <complexType>
          <sequence>
            <element name="setNameReturn" type="xsd:string"/>
          </sequence>
        </complexType>
      <element name="getAge">
        <complexType>
          <sequence>
            <element name="getAgeResponse">
              <complexType>
                <sequence>
                  <element name="getAgeReturn" type="xsd:int"/>
                </sequence>
              </complexType>
            </element>
          </sequence>
        </complexType>
      </schema>
    </wsdl:types>
    <wsdl:message name="getNameRequest">
      <wsdl:part element="impl:getName" name="parameters"/>
    </wsdl:message>
    <wsdl:message name="getNameResponse">
      <wsdl:part element="impl:getNameResponse" name="parameters"/>
    </wsdl:message>
    <wsdl:message name="setNameRequest">
      <wsdl:part element="impl:setName" name="parameters"/>
    </wsdl:message>
    <wsdl:message name="setNameResponse">
      <wsdl:part element="impl:setNameResponse" name="parameters"/>
    </wsdl:message>
    <wsdl:message name="getAgeRequest">
      <wsdl:part element="impl:getAge" name="parameters"/>
    </wsdl:message>
    <wsdl:message name="getAgeResponse">
      <wsdl:part element="impl:getAgeResponse" name="parameters"/>
    </wsdl:message>
  </definitions>
```

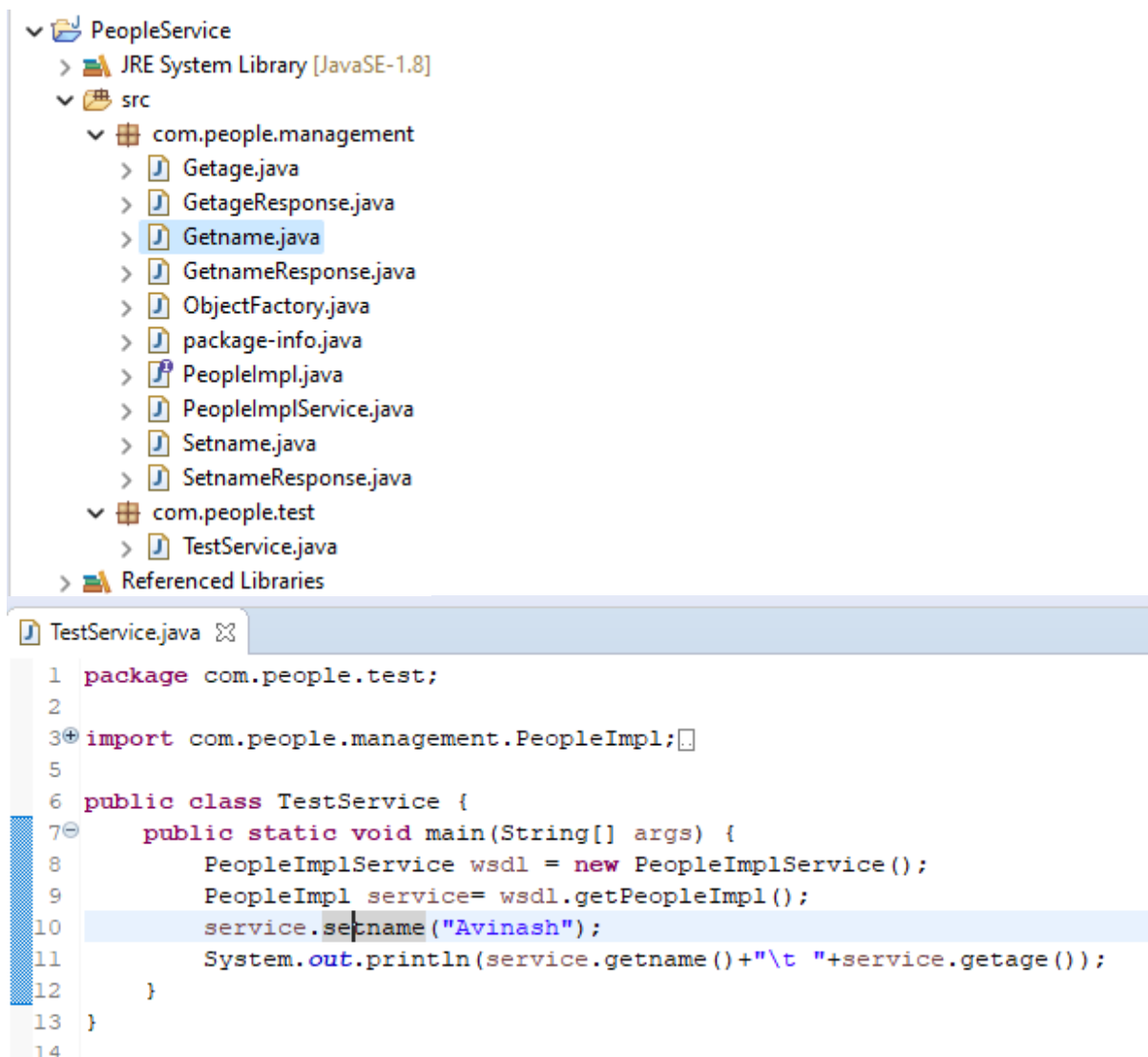
**Eclipse IDE:** The IDE shows the project structure on the left, including `cloudlab` and `Names.java`. The `Names.java` file is open in the editor, showing the following code:

```
1 package cloudlab;
2
3 public interface Names {
4     public void setName(String name);
5     public String getName();
6     public int getAge();
7 }
8
```

The `Outline` view on the right shows the `Names` interface with methods `setName(String)`, `getName()`, and `getAge()`. The `Task List` view is also visible.



- ▼ PeopleService
  - > JRE System Library [JavaSE-1.8]
  - > src
  - > Referenced Libraries



**REST:**

**index.js file:**

```
const express = require('express');
```

```
const app = express();
```

```
app.use(express.json());
```

```
const books = [
```

```
  {title: 'Harry Potter', id: 1},
```

```
  {title: 'Twilight', id: 2},
```

```
  {title: 'Lorien Legacies', id: 3}
```

```
]
```

```
//READ Request Handlers
```



```
app.get('/', (req, res) => {
  res.send('Welcome to Edurekas REST API with Node.js Tutorial!!');
});

app.get('/api/books', (req,res)=> {
  res.send(books);
});

app.get('/api/books/:id', (req, res) => {
  const book = books.find(c => c.id === parseInt(req.params.id));
  if (!book) res.status(404).send('<h2 style="font-family: Malgun Gothic; color:darkred;">Oops... Cant find what you are looking for!</h2>');
  res.send(book);
});

//CREATE Request Handler
app.post('/api/books', (req, res)=> {
  const { error } = validateBook(req.body);
  if (error){
    res.status(400).send(error.details[0].message)
    return;
  }

  const book = {
    id: books.length + 1,
    title: req.body.title
  };
  books.push(book);
  res.send(book);
});
```

```
//UPDATE Request Handler
```

```
app.put('/api/books/:id', (req, res) => {
  const book = books.find(c=> c.id === parseInt(req.params.id));
  if (!book) res.status(404).send('<h2 style="font-family: Malgun Gothic; color:darkred;">Not Found!! </h2>');
  const { error } = validateBook(req.body);
  if (error){
    res.status(400).send(error.details[0].message);
    return;
  }

```

```
  book.title = req.body.title;
  res.send(book);
});
```

```
//DELETE Request Handler
```

```
app.delete('/api/books/:id', (req, res) => {
  const book = books.find( c=> c.id === parseInt(req.params.id));
  if(!book) res.status(404).send('<h2 style="font-family: Malgun Gothic; color: darkred;">Not Found!! </h2>');
  const index = books.indexOf(book);
  books.splice(index,1);
  res.send(book);
});
```

```
function validateBook(book) {
  const schema = {
    title: Joi.string().min(3).required();
  }
  return Joi.validate(book, schema);
}
```

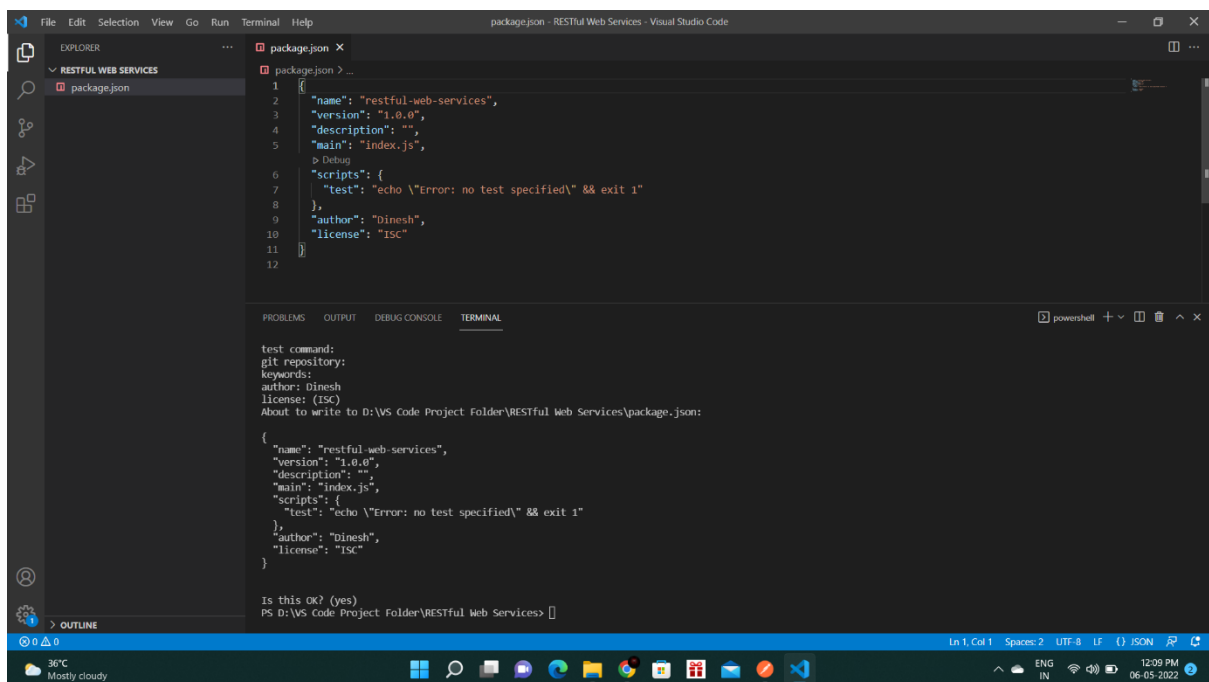
```
}
```

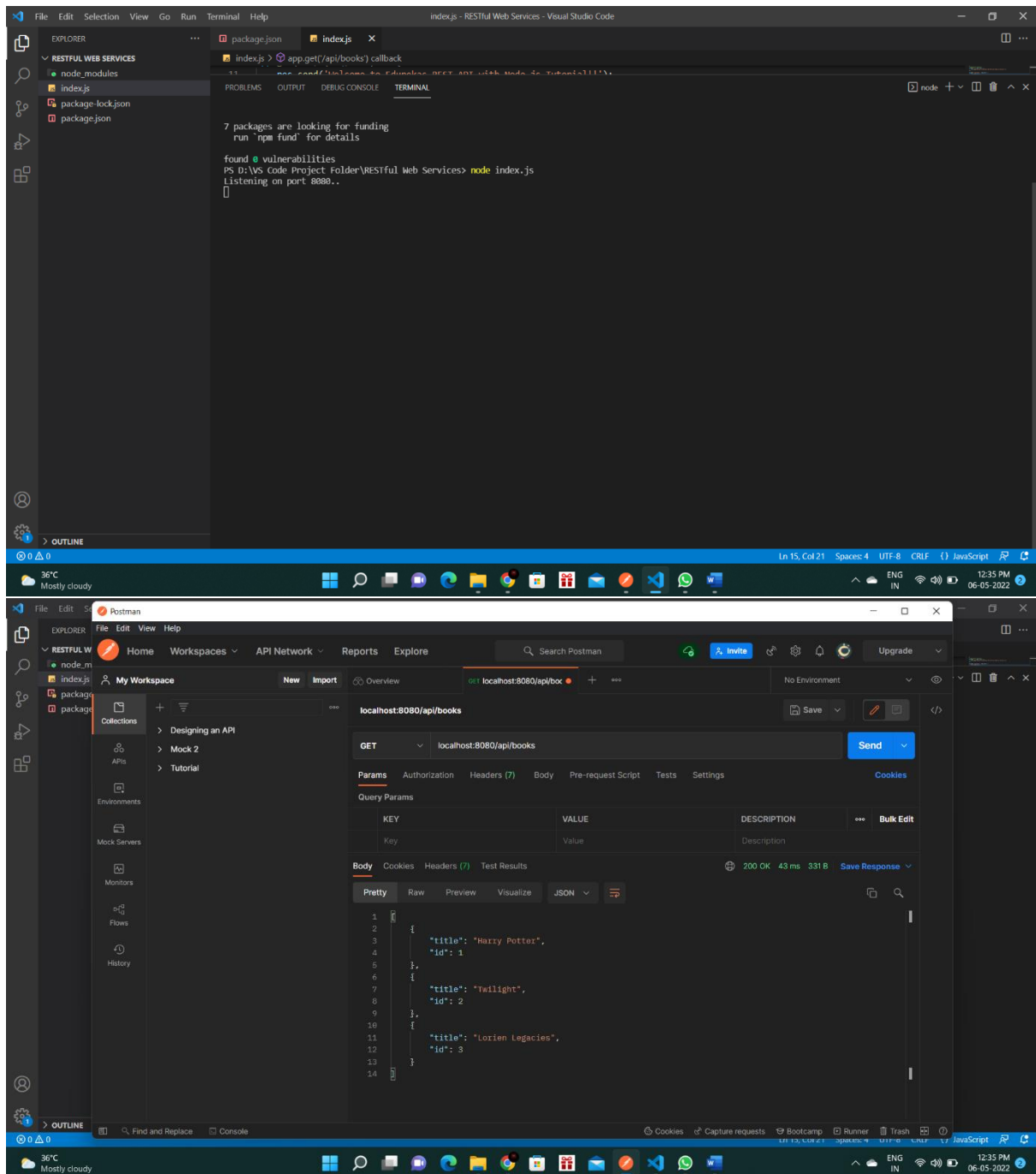
```
//PORT ENVIRONMENT VARIABLE
```

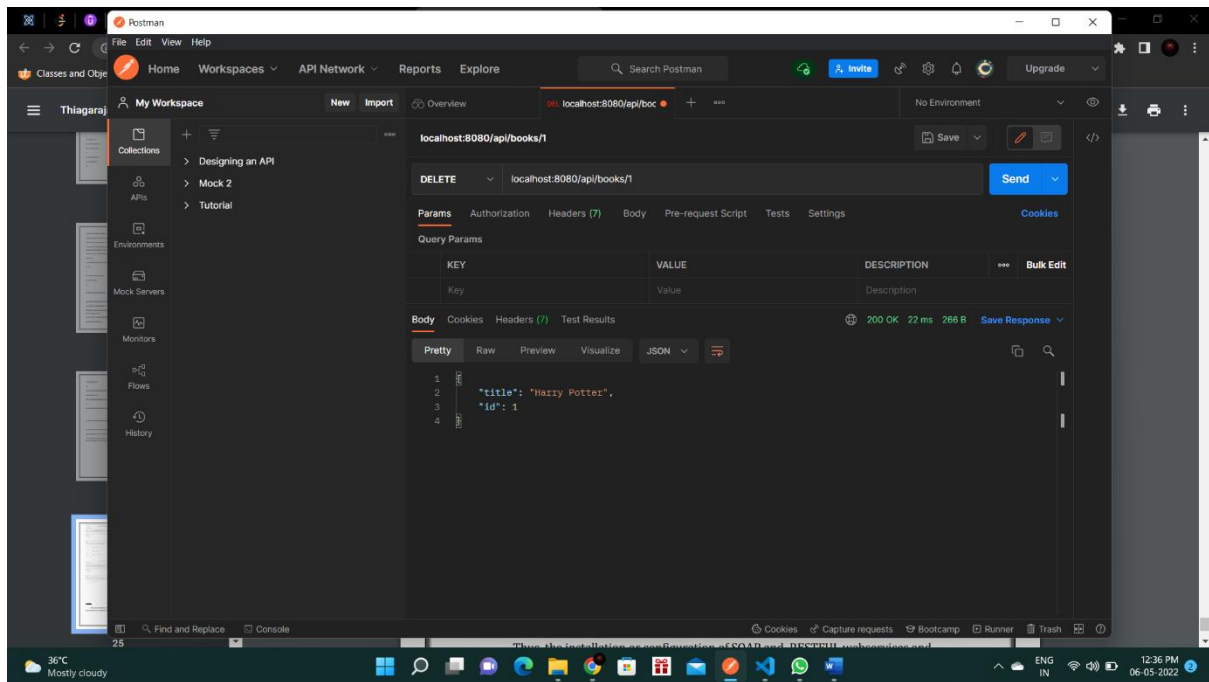
```
const port = process.env.PORT || 8080;
```

```
app.listen(port, () => console.log(`Listening on port ${port}..`));
```

### Screenshots:





**Result:**

- Thus, the implementation or configuration of SOAP and RESTful services are done successfully.