PRACTICAl 2

AIM: Develop web service in java that returns complex data types (e.g. as List of friends).

INPUT:

```
//Player.java
package Shiv21.team;
public class Player {
private String name;
private String nickname;
public Player() { }
public Player(String name, String nickname) {
setName(name);
setNickname(nickname);
}
public void setName(String name) { this.name = name; }
public String getName() { return name; }
public void setNickname(String nickname) { this.nickname = nickname; }
public String getNickname() { return nickname; }
}
```

```
//Team.java
package Shiv21.team;
import java.util.List;
public class Team
{
	private List<Player> players;
	private String name;
	public Team() { }
	public Team(String name, List<Player> players)
	{
		setName(name);
		setPlayers(players);
	}
	public void setName(String name)
	{
		this.name = name;
	}
	public String getName()
	{
		return name;
	}
	public void setPlayers(List<Player> players)
	{
		this.players = players;
```

```
	}
	public List<Player> getPlayers()
	{
		return players;
	}
	public void setRosterCount(int n) { }
	public int getRosterCount()
	{
		return (players == null) ? 0 : players.size();
	}
}
```

```
//TeamsPublisher.java
package Shiv21.team;
import javax.xml.ws.Endpoint;
class TeamsPublisher {
public static void main(String[ ] args) {
int port = 8888;
String url = "http://localhost:" + port + "/teams";
System.out.println("Publishing Teams on port " + port);
Endpoint.publish(url, new Teams());
}
}
```

```
//Teams.java
package Shiv21.team;
import java.util.List;
import javax.jws.WebService;
import javax.jws.WebMethod;
@WebService
public class Teams {
private TeamsUtility utils;
public Teams() {
utils = new TeamsUtility();
utils.make_test_teams();
}
@WebMethod
public Team getTeam(String name) { return utils.getTeam(name); }
@WebMethod
public List<Team> getTeams() { return utils.getTeams(); }
}
```

```
//TeamsUtility.java
package Shiv21.team;
import java.util.Set;
import java.util.List;
```

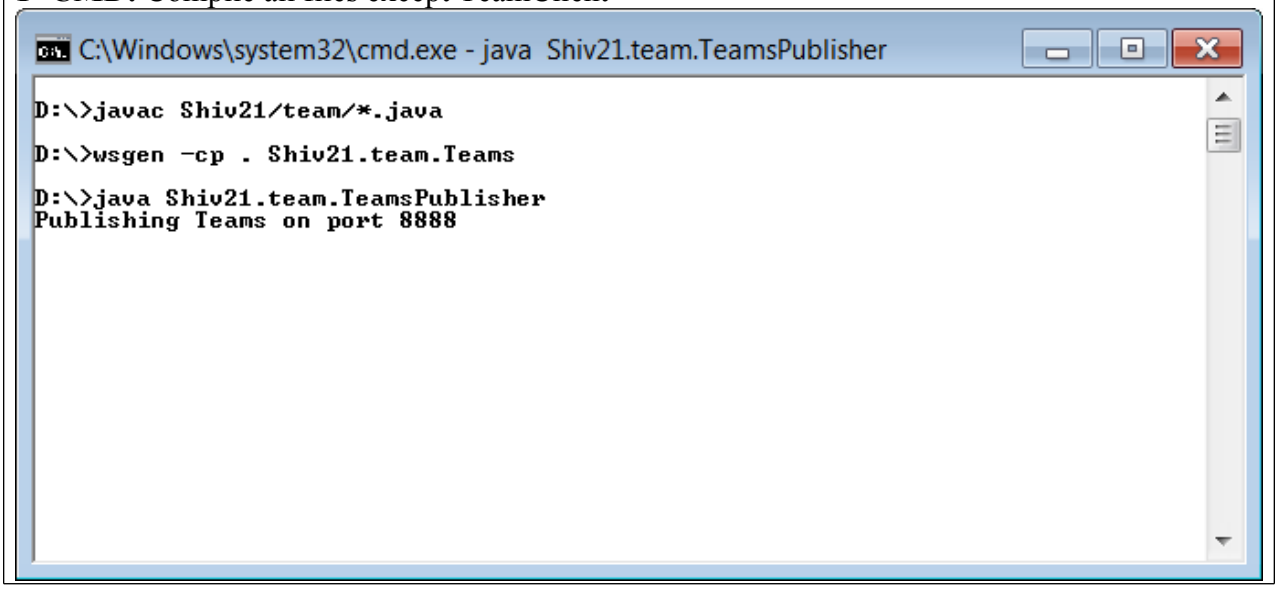
```
import java.util.ArrayList;
import java.util.Map;
import java.util.HashMap;
public class TeamsUtility {
private Map<String, Team> team_map;
public TeamsUtility() {
team_map = new HashMap<String, Team>();
}
public Team getTeam(String name) { return team_map.get(name); }
public List<Team> getTeams() {
List<Team> list = new ArrayList<Team>();
Set<String> keys = team_map.keySet();
for (String key : keys)
list.add(team_map.get(key));
return list;
}
public void make_test_teams() {
List<Team> teams = new ArrayList<Team>();
Player chico = new Player("Leonard Marx", "Chico");
Player groucho = new Player("Julius Marx", "Groucho");
Player harpo = new Player("Adolph Marx", "Harpo");
List<Player> mb = new ArrayList<Player>();
mb.add(chico); mb.add(groucho); mb.add(harpo);
Team marx_brothers = new Team("Marx Brothers", mb);
teams.add(marx_brothers);
store_teams(teams);
}
private void store_teams(List<Team> teams) {
for (Team team : teams)
team_map.put(team.getName(), team);
}
}
```

```
//TeamClient.java
import teamsC.TeamsService;
import teamsC.Teams;
import teamsC.Team;
import teamsC.Player;
import java.util.List;
class TeamClient {
public static void main(String[ ] args) {
TeamsService service = new TeamsService();
Teams port = service.getTeamsPort();
List<Team> teams = port.getTeams();
for (Team team : teams) {
System.out.println("Team name: " + team.getName() +
```

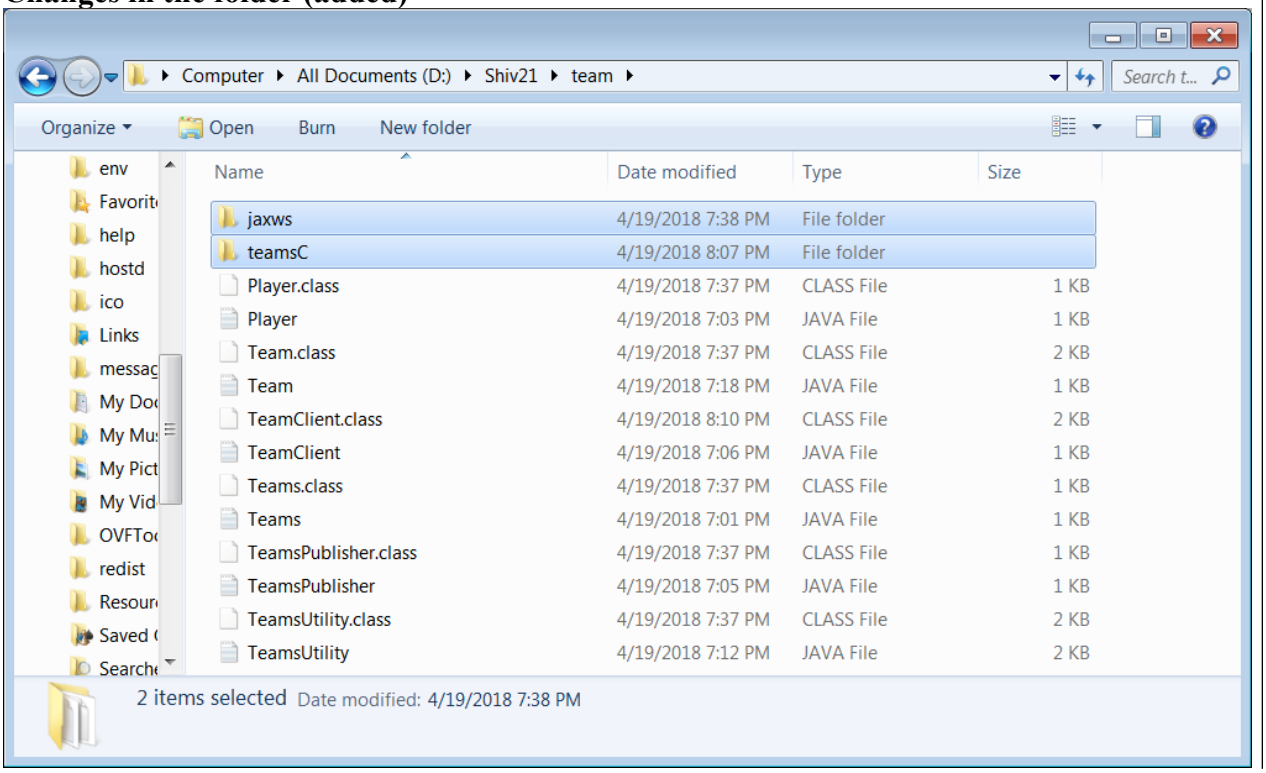
```
" (roster count: " + team.getRosterCount() + ")");
for (Player player : team.getPlayers())
System.out.println(" Player: " + player.getNickname());
}
}
}System.out.println(" Player: " + player.getNickname());     }          }
```

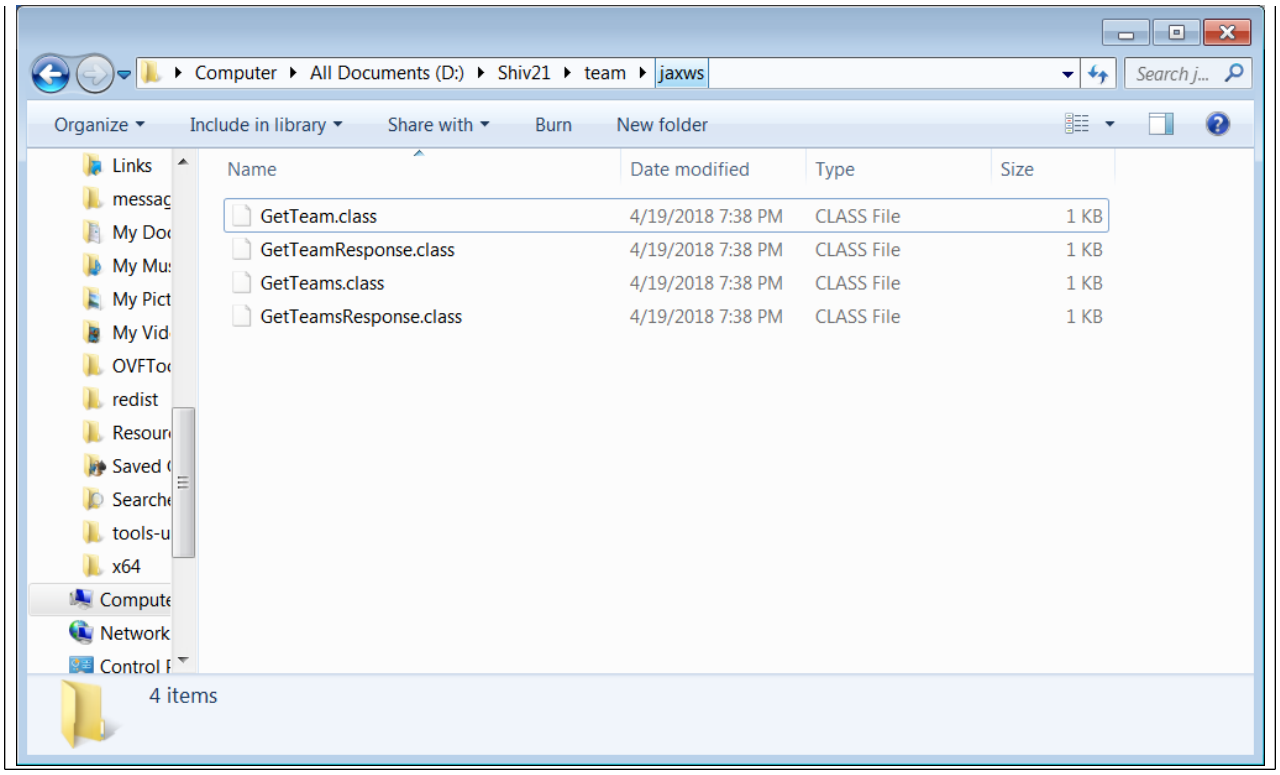
OUTPUT:

1st CMD: Compile all files except TeamClient

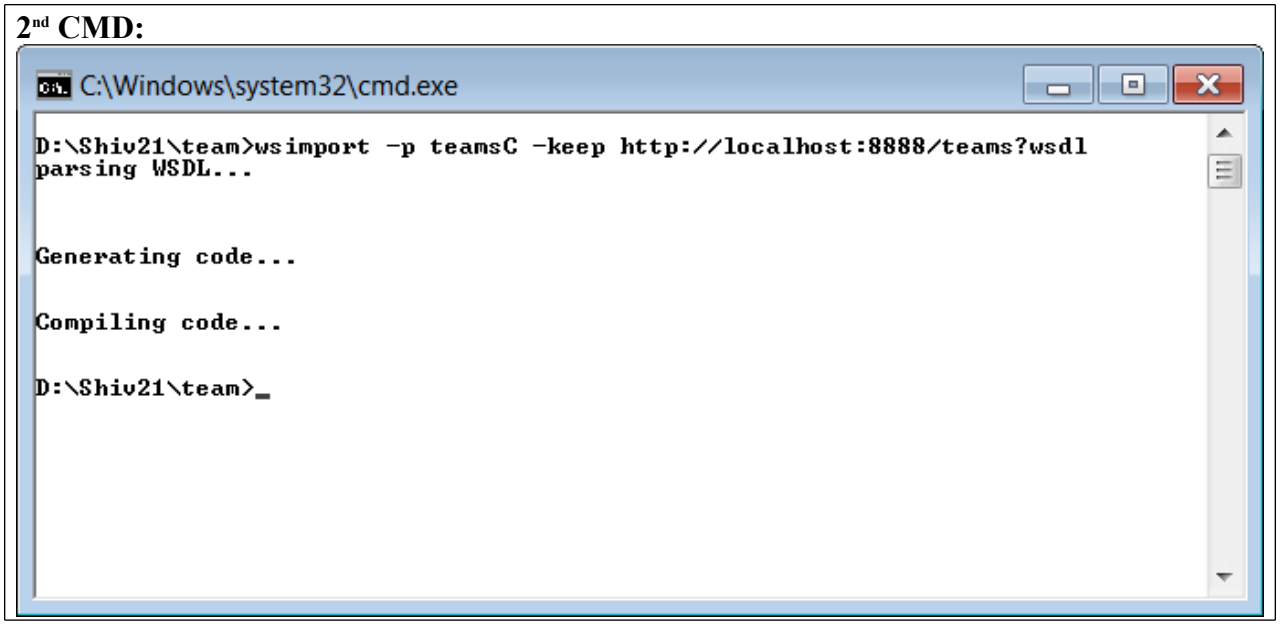


Changes in the folder (added)

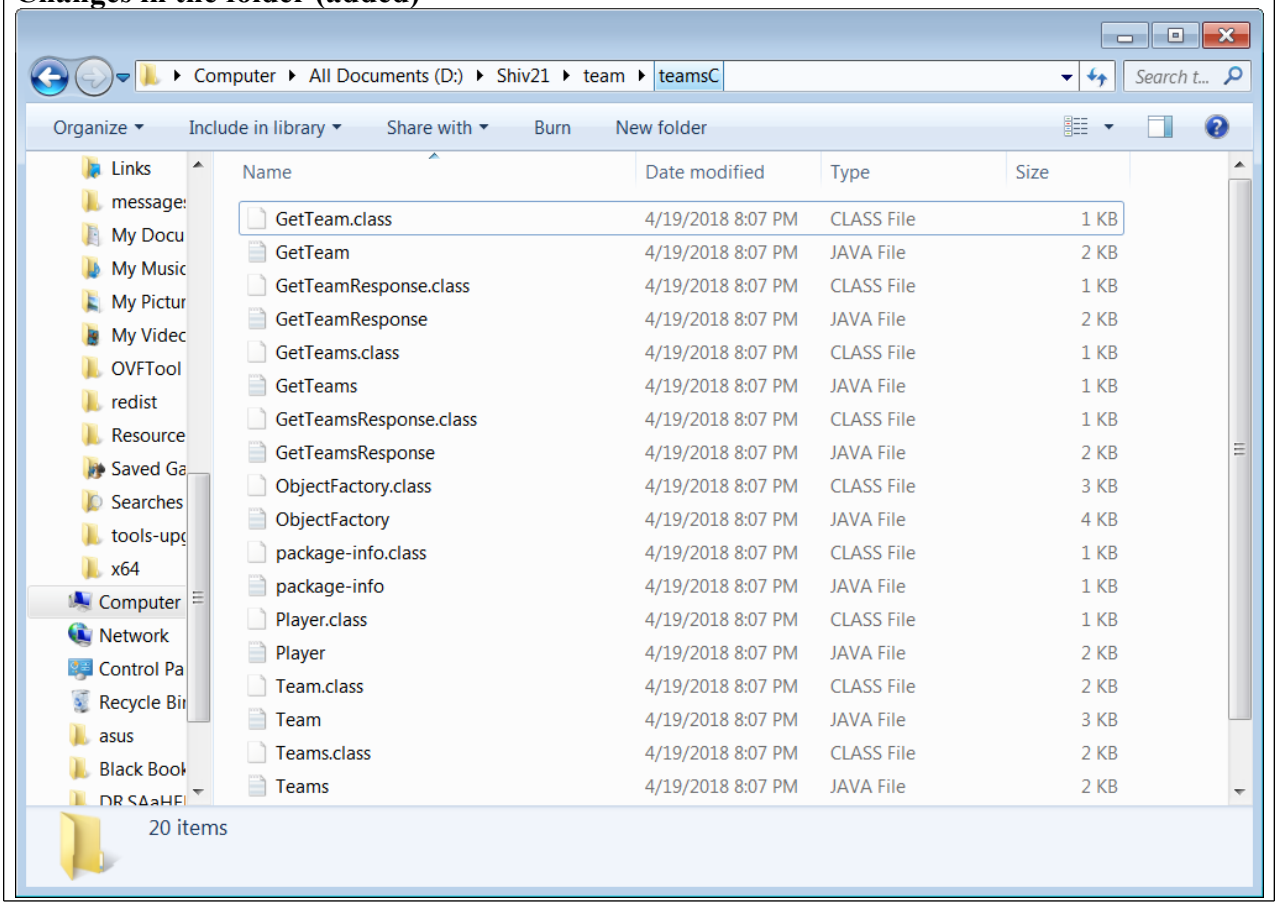



Computer ▸ All Documents (D:) ▸ Shiv21 ▸ team ▸ jaxws
Search j...
Organize
Include in library
Share with
Burn
New folder
Links
messag
My Doc
My Mus
My Pict
My Vid
OVFTo
redist
Resour
Saved
Search
tools-u
x64
Compute
Network
Control
Name
Date modified
Type
Size
GetTeam.class 4/19/2018 7:38 PM CLASS File 1 KB
GetTeamResponse.class 4/19/2018 7:38 PM CLASS File 1 KB
GetTeams.class 4/19/2018 7:38 PM CLASS File 1 KB
GetTeamsResponse.class 4/19/2018 7:38 PM CLASS File 1 KB
4 items

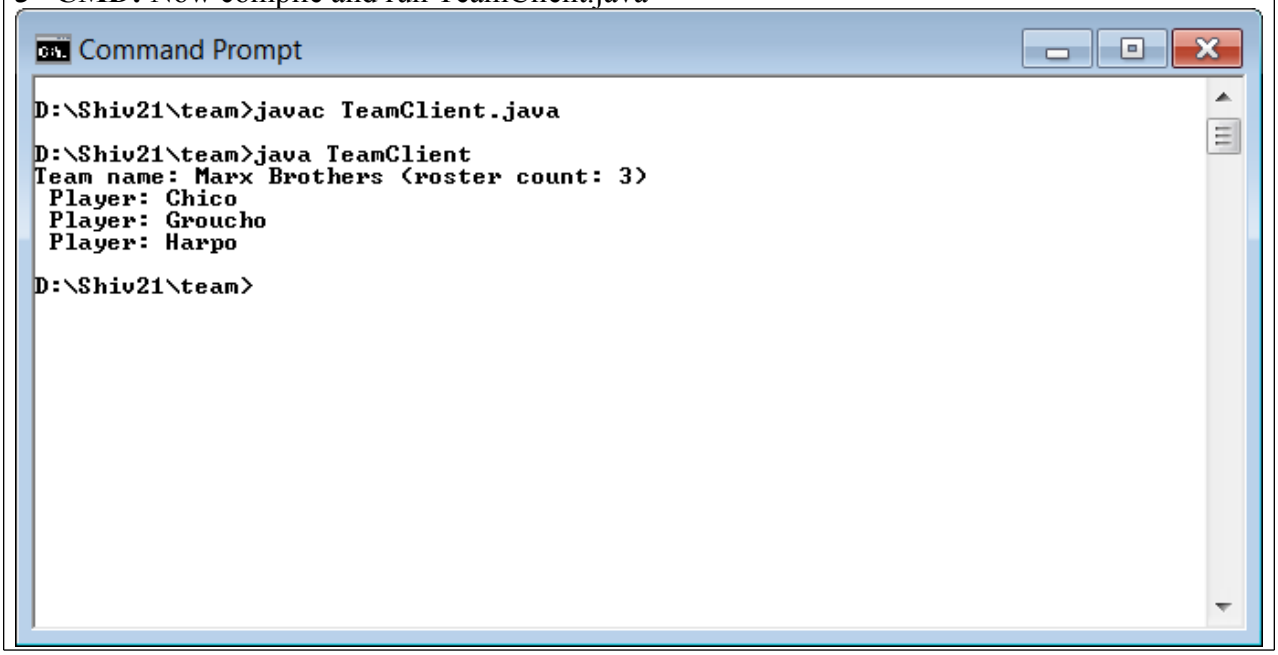
2nd CMD:


C:\Windows\system32\cmd.exe
D:\Shiv21\team>wsimport -p teamsC -keep http://localhost:8888/teams?wsdl
parsing WSDL...
Generating code...
Compiling code...
D:\Shiv21\team>_

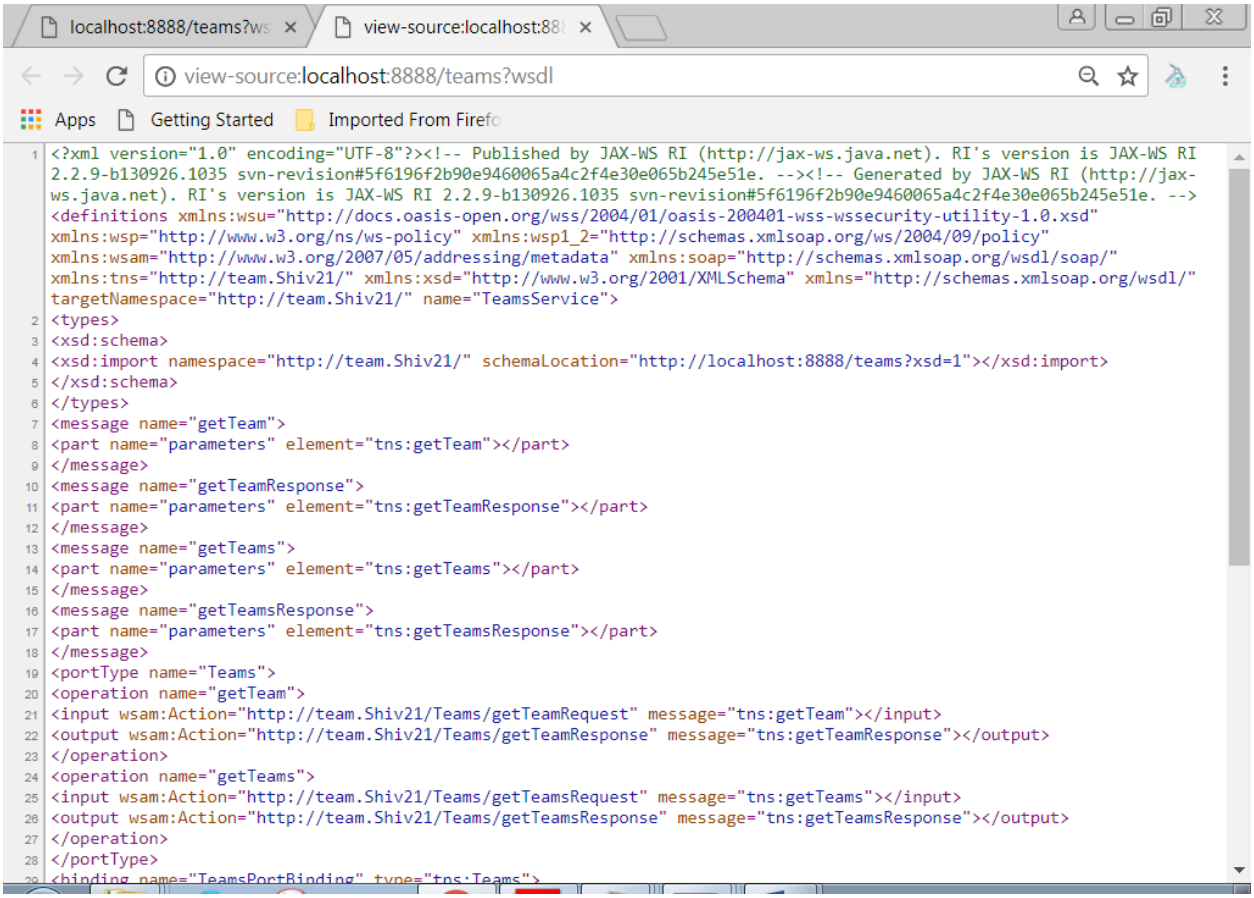
Changes in the folder (added)



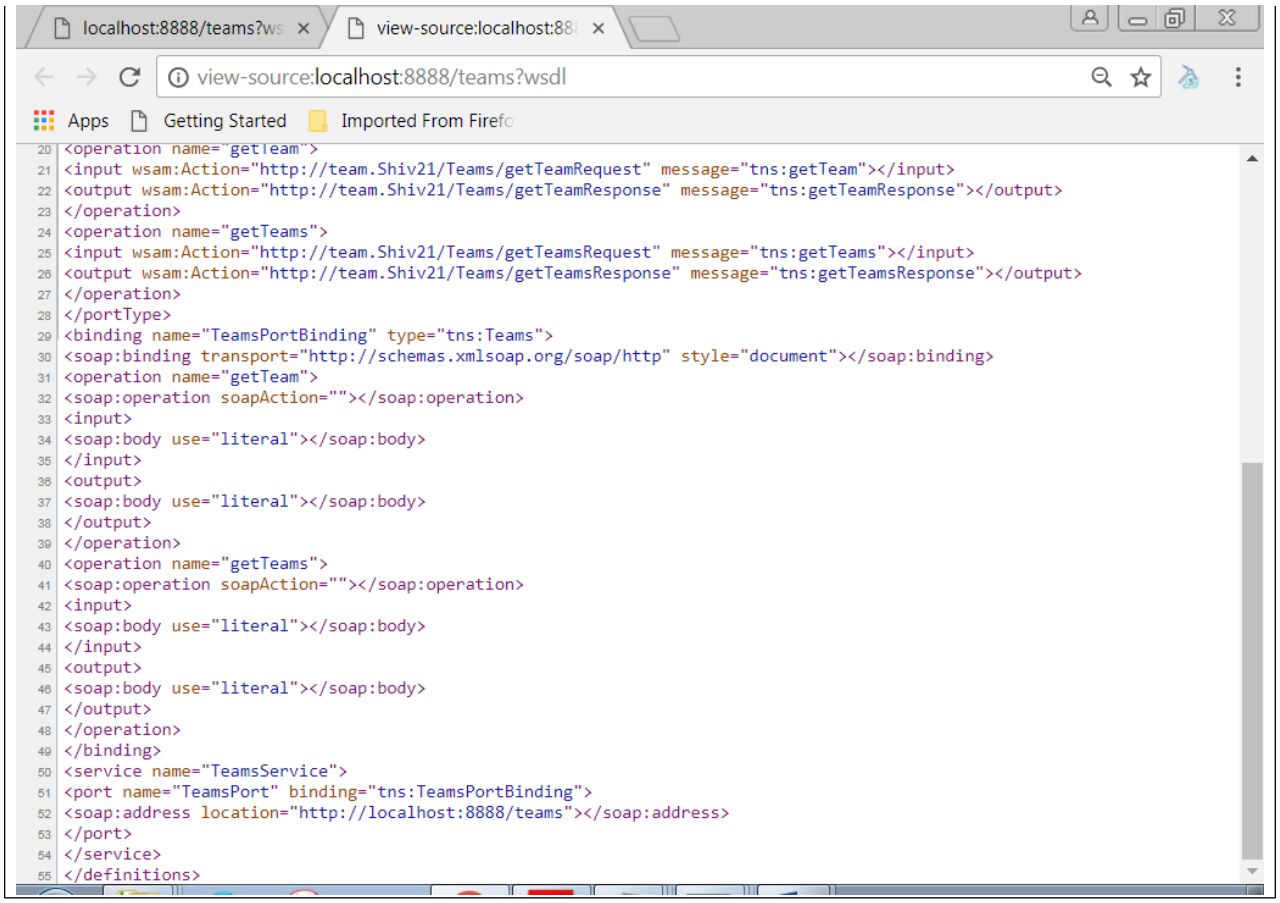
3rd CMD: Now compile and run TeamClient.java

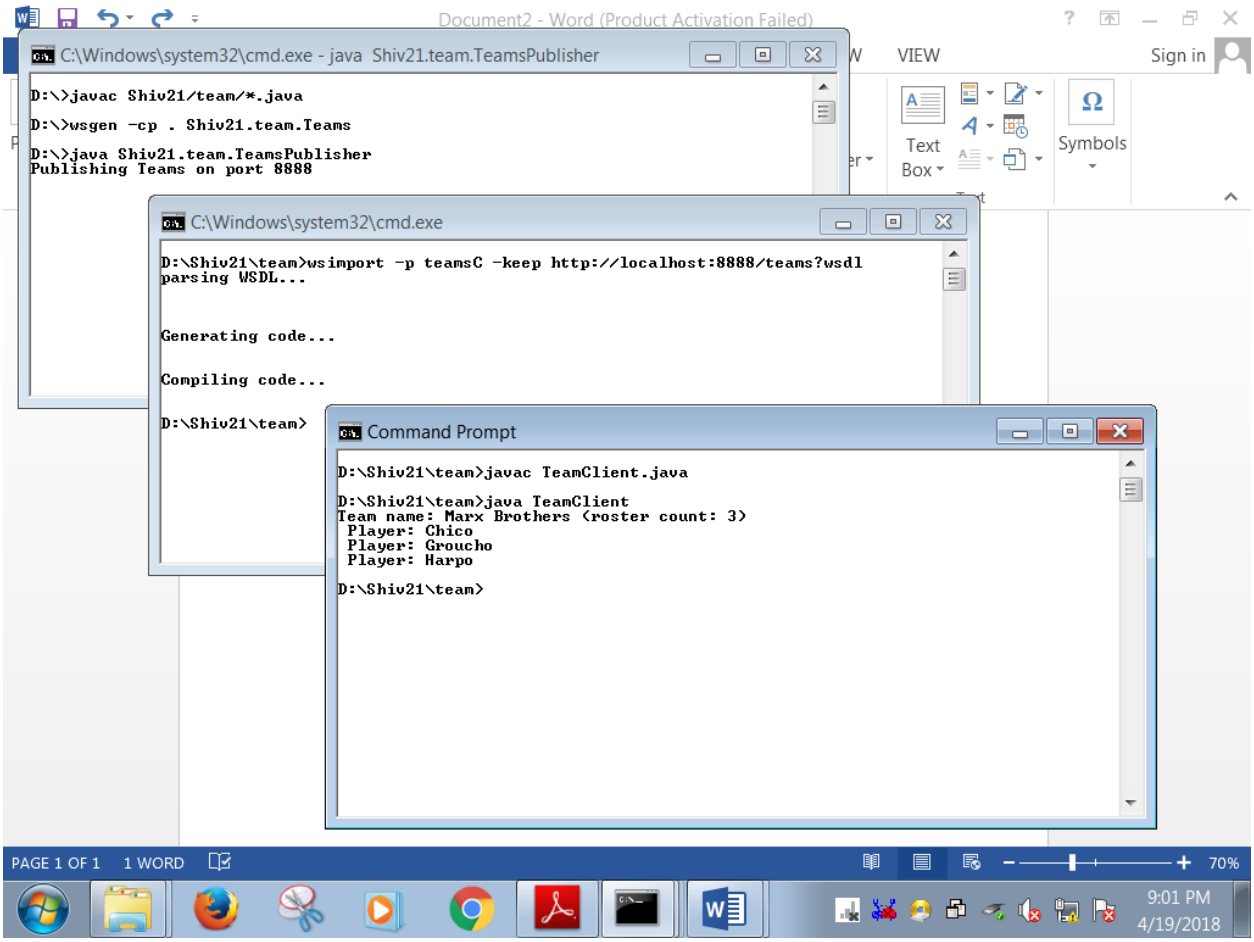


WSDL:




```
<?xml version="1.0" encoding="UTF-8"?><!-- Published by JAX-WS RI (http://jax-ws.java.net). RI's version is JAX-WS RI
2.2.9-b130926.1035 svn-revision#5f6196f2b90e9460065a4c2f4e30e065b245e51e. --><!-- Generated by JAX-WS RI (http://jax-
ws.java.net). RI's version is JAX-WS RI 2.2.9-b130926.1035 svn-revision#5f6196f2b90e9460065a4c2f4e30e065b245e51e. -->
<definitions xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd"
xmlns:wsp="http://www.w3.org/ns/ws-policy" xmlns:wsp1_2="http://schemas.xmlsoap.org/ws/2004/09/policy"
xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tns="http://team.Shiv21/" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/"
targetNamespace="http://team.Shiv21/" name="TeamsService">
<types>
<xsd:schema>
<xsd:import namespace="http://team.Shiv21/" schemaLocation="http://localhost:8888/teams?xsd=1"></xsd:import>
</xsd:schema>
</types>
<message name="getTeam">
<part name="parameters" element="tns:getTeam"></part>
</message>
<message name="getTeamResponse">
<part name="parameters" element="tns:getTeamResponse"></part>
</message>
<message name="getTeams">
<part name="parameters" element="tns:getTeams"></part>
</message>
<message name="getTeamsResponse">
<part name="parameters" element="tns:getTeamsResponse"></part>
</message>
<portType name="Teams">
<operation name="getTeam">
<input wsam:Action="http://team.Shiv21/Teams/getTeamRequest" message="tns:getTeam"></input>
<output wsam:Action="http://team.Shiv21/Teams/getTeamResponse" message="tns:getTeamResponse"></output>
</operation>
<operation name="getTeams">
<input wsam:Action="http://team.Shiv21/Teams/getTeamsRequest" message="tns:getTeams"></input>
<output wsam:Action="http://team.Shiv21/Teams/getTeamsResponse" message="tns:getTeamsResponse"></output>
</operation>
</portType>
<binding name="TeamsPortBinding" type="tns:Teams">
```


localhost:8888/teams?ws
view-source:localhost:88
view-source:localhost:8888/teams?wsdl
Apps
Getting Started
Imported From Firefo
<operation name="getTeam">
<input wsam:Action="http://team.Shiv21/Teams/getTeamRequest" message="tns:getTeam"></input>
<output wsam:Action="http://team.Shiv21/Teams/getTeamResponse" message="tns:getTeamResponse"></output>
</operation>
<operation name="getTeams">
<input wsam:Action="http://team.Shiv21/Teams/getTeamsRequest" message="tns:getTeams"></input>
<output wsam:Action="http://team.Shiv21/Teams/getTeamsResponse" message="tns:getTeamsResponse"></output>
</operation>
</portType>
<binding name="TeamsPortBinding" type="tns:Teams">
<soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document"></soap:binding>
<operation name="getTeam">
<soap:operation soapAction=""></soap:operation>
<input>
<soap:body use="literal"></soap:body>
</input>
<output>
<soap:body use="literal"></soap:body>
</output>
</operation>
<operation name="getTeams">
<soap:operation soapAction=""></soap:operation>
<input>
<soap:body use="literal"></soap:body>
</input>
<output>
<soap:body use="literal"></soap:body>
</output>
</operation>
</binding>
<service name="TeamsService">
<port name="TeamsPort" binding="tns:TeamsPortBinding">
<soap:address location="http://localhost:8888/teams"></soap:address>
</port>
</service>
</definitions>


Document2 - Word (Product Activation Failed)
C:\Windows\system32\cmd.exe - java Shiv21.team.TeamsPublisher
D:\>javac Shiv21/team/*.java
D:\>wsgen -cp . Shiv21.team.Teams
D:\>java Shiv21.team.TeamsPublisher
Publishing Teams on port 8888
C:\Windows\system32\cmd.exe
D:\Shiv21\team>wsimport -p teamsC -keep http://localhost:8888/teams?wsdl
parsing WSDL...
Generating code...
Compiling code...
D:\Shiv21\team>
Command Prompt
D:\Shiv21\team>javac TeamClient.java
D:\Shiv21\team>java TeamClient
Team name: Marx Brothers (roster count: 3)
Player: Chico
Player: Groucho
Player: Harpo
D:\Shiv21\team>
VIEW
Sign in
Text Box
Symbols
PAGE 1 OF 1
1 WORD
70%
9:01 PM
4/19/2018