

## PRACTICAL 1

**AIM:** Develop Time Server service that returns current time in JAVA and call it from clients developed in JAVA, PHP, Android and .NET

### INPUT:

```
//TimeServer.java
package MSCCS.Shiv21;
import javax.ws.WebService;
import javax.ws.WebMethod;
import javax.ws.soap.SOAPBinding;
import javax.ws.soap.SOAPBinding.Style;
@WebService
@SOAPBinding(style=Style.RPC)
public interface TimeServer
{
    @WebMethod String getTimeAsString();
    @WebMethod long getTimeAsElapsed();
}
```

```
//TimeServerImpl.java
package MSCCS.Shiv21;
import java.util.Date;
import javax.ws.WebService;
@WebService(endpointInterface="MSCCS.Shiv21.TimeServer")
public class TimeServerImpl
{
    public String getTimeAsString()
    {
        return new Date().toString();
    }
    public long getTimeAsElapsed()
    {
        return new Date().getTime();
    }
}
```

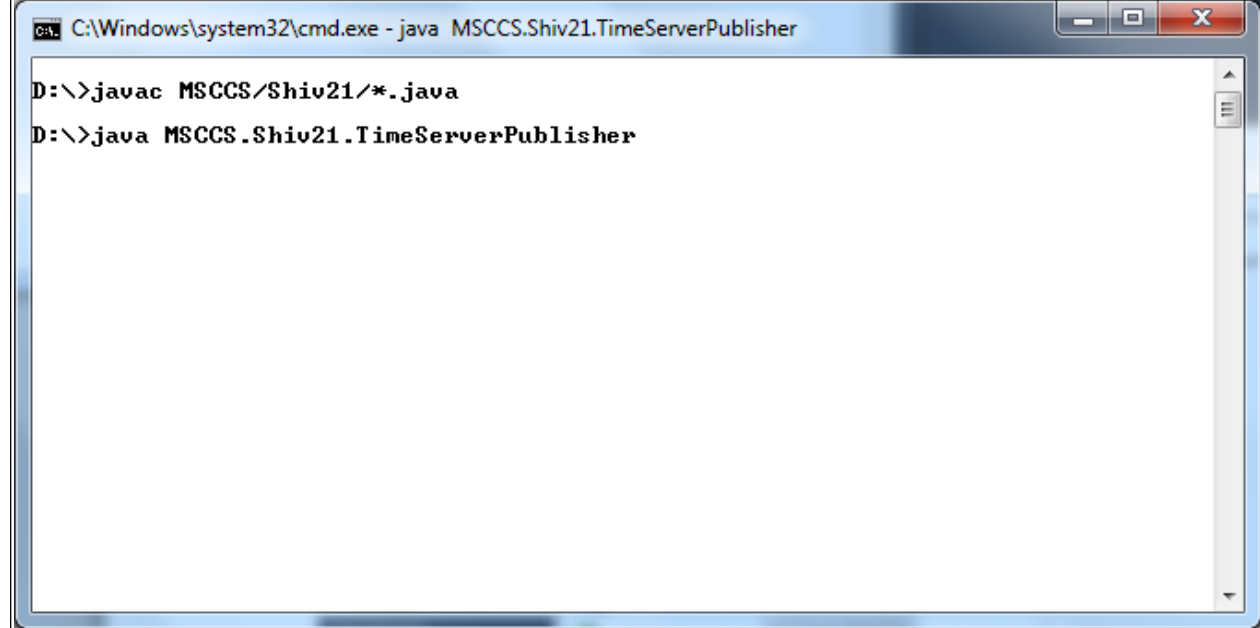
```
//TimeServerPublisher.java
package MSCCS.Shiv21;
import javax.xml.ws.Endpoint;
public class TimeServerPublisher
{
    public static void main(String[] args)
    {
        Endpoint.publish("http://127.0.0.1:9876/one?wsdl",new TimeServerImpl());
    }
}
```

```
//TimeClient.java
package MSCCS.Shiv21;
import javax.xml.namespace.QName;
import javax.xml.ws.Service;
import java.net.URL;
class TimeClient
{
    public static void main(String[] args)throws Exception
```

```
{URL url=new URL("http://127.0.0.1:9876/one?wsdl");
QName qname=new QName("http://Shiv21.MSCCS/", "TimeServerImplService");
Service service=Service.create(url,qname);
TimeServer eif=service.getPort(TimeServer.class);
System.out.println(eif.getTimeAsString());
System.out.println(eif.getTimeAsElapsed());}}
```

## OUTPUT:

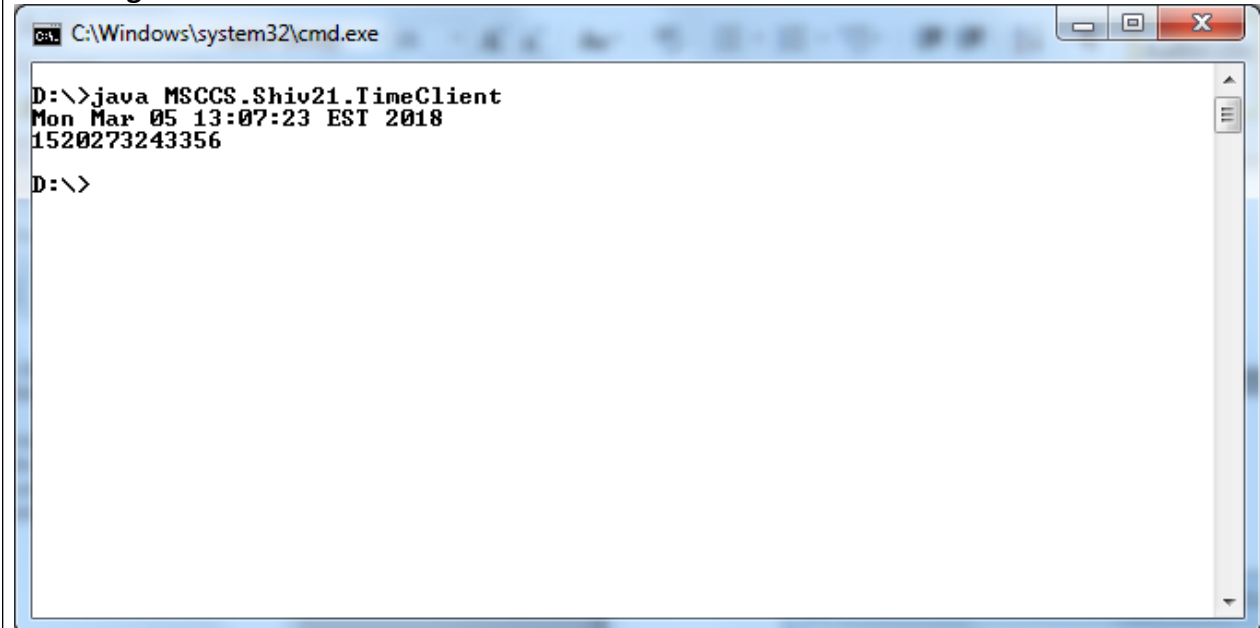
### Publishing Time Server:



```
C:\Windows\system32\cmd.exe - java MSCCS.Shiv21.TimeServerPublisher

D:\>javac MSCCS/Shiv21/*.java
D:\>java MSCCS.Shiv21.TimeServerPublisher
```

### Executing Time Client:

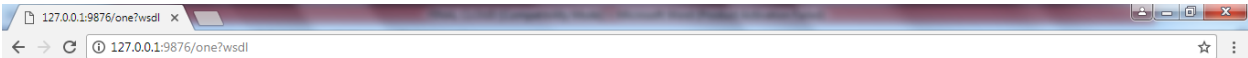


```
C:\Windows\system32\cmd.exe

D:\>java MSCCS.Shiv21.TimeClient
Mon Mar 05 13:07:23 EST 2018
1520273243356
D:\>
```

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<!--
  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.
-->
<?xml version='1.0' encoding='UTF-8'?>
<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/wsp/2004/09/policy"
  xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:tns="http://Shiv21.MSCCS/" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/"
  targetNamespace="http://Shiv21.MSCCS/" name="TimeServerImplService">
  <types/>
  <message name="getTimeAsString"/>
  <message name="getTimeAsStringResponse">
    <part name="return" type="xsd:string"/>
  </message>
  <message name="getTimeAsElapsed"/>
  <message name="getTimeAsElapsedResponse">
    <part name="return" type="xsd:long"/>
  </message>
  <portType name="TimeServer">
    <operation name="getTimeAsString">
      <input wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsStringRequest" message="tns:getTimeAsString"/>
      <output wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsStringResponse" message="tns:getTimeAsStringResponse"/>
    </operation>
    <operation name="getTimeAsElapsed">
      <input wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsElapsedRequest" message="tns:getTimeAsElapsed"/>
      <output wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsElapsedResponse" message="tns:getTimeAsElapsedResponse"/>
    </operation>
  </portType>
  <binding name="TimeServerImplPortBinding" type="tns:TimeServer">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="rpc"/>
    <operation name="getTimeAsString">
      <soap:operation soapAction=""/>
      <input>
        <soap:body use="literal" namespace="http://Shiv21.MSCCS/" />
      </input>
      <output>
        <soap:body use="literal" namespace="http://Shiv21.MSCCS/" />
      </output>
    </operation>
    <operation name="getTimeAsElapsed">
      <soap:operation soapAction=""/>
      <input>
        <soap:body use="literal" namespace="http://Shiv21.MSCCS/" />
      </input>
      <output>
        <soap:body use="literal" namespace="http://Shiv21.MSCCS/" />
      </output>
    </operation>
  </binding>
  <service name="TimeServerImplService">
    <port name="TimeServerImplPort" binding="tns:TimeServerImplPortBinding">
      <soap:address location="http://127.0.0.1:9876/one"/>
    </port>
  </service>
</definitions>
```



This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<!--
  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.
-->
<?xml version='1.0' encoding='UTF-8'?>
<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/wsp/2004/09/policy" xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:tns="http://Shiv21.MSCCS/" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/" targetNamespace="http://Shiv21.MSCCS/"
  name="TimeServerImplService">
  <types/>
  <message name="getTimeAsString"/>
  <message name="getTimeAsStringResponse">
    <part name="return" type="xsd:string"/>
  </message>
  <message name="getTimeAsElapsed"/>
  <message name="getTimeAsElapsedResponse">
    <part name="return" type="xsd:long"/>
  </message>
  <portType name="TimeServer">
    <operation name="getTimeAsString">
      <input wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsStringRequest" message="tns:getTimeAsString"/>
      <output wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsStringResponse" message="tns:getTimeAsStringResponse"/>
    </operation>
    <operation name="getTimeAsElapsed">
      <input wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsElapsedRequest" message="tns:getTimeAsElapsed"/>
      <output wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsElapsedResponse" message="tns:getTimeAsElapsedResponse"/>
    </operation>
  </portType>
  <binding name="TimeServerImplPortBinding" type="tns:TimeServer">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="rpc"/>
    <operation name="getTimeAsString">
      <soap:operation soapAction=""/>
      <input>
        <soap:body use="literal" namespace="http://Shiv21.MSCCS/" />
      </input>
      <output>
        <soap:body use="literal" namespace="http://Shiv21.MSCCS/" />
      </output>
    </operation>
    <operation name="getTimeAsElapsed">
      <soap:operation soapAction=""/>
      <input>
        <soap:body use="literal" namespace="http://Shiv21.MSCCS/" />
      </input>
      <output>
        <soap:body use="literal" namespace="http://Shiv21.MSCCS/" />
      </output>
    </operation>
  </binding>
  <service name="TimeServerImplService">
    <port name="TimeServerImplPort" binding="tns:TimeServerImplPortBinding">
      <soap:address location="http://127.0.0.1:9876/one"/>
    </port>
  </service>
</definitions>
```

```
127.0.0.1:9876/one?wsdl
127.0.0.1:9876/one?wsdl

<?xml version="1.0"?>
<definitions name="TimeServer" target="tns">
  <message name="getTimeAsStringResponse">
    <part name="return" type="xsd:string"/>
  </message>
  <message name="getTimeAsStringRequest">
    <part name="return" type="xsd:string"/>
  </message>
  <message name="getTimeAsElapsedResponse">
    <part name="return" type="xsd:long"/>
  </message>
  <message name="getTimeAsElapsedRequest">
    <part name="return" type="xsd:long"/>
  </message>
  <portType name="TimeServer">
    <operation name="getTimeAsString">
      <input wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsStringRequest" message="tns:getTimeAsString"/>
      <output wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsStringResponse" message="tns:getTimeAsStringResponse"/>
    </operation>
    <operation name="getTimeAsElapsed">
      <input wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsElapsedRequest" message="tns:getTimeAsElapsed"/>
      <output wsam:Action="http://Shiv21.MSCCS/TimeServer/getTimeAsElapsedResponse" message="tns:getTimeAsElapsedResponse"/>
    </operation>
  </portType>
  <binding name="TimeServerImplPortBinding" type="tns:TimeServer">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="rpc"/>
    <operation name="getTimeAsString">
      <soap:operation soapAction="">
        <input>
          <soap:body use="literal" namespace="http://Shiv21.MSCCS/">
        </input>
        <output>
          <soap:body use="literal" namespace="http://Shiv21.MSCCS/">
        </output>
      </operation>
    <operation name="getTimeAsElapsed">
      <soap:operation soapAction="">
        <input>
          <soap:body use="literal" namespace="http://Shiv21.MSCCS/">
        </input>
        <output>
          <soap:body use="literal" namespace="http://Shiv21.MSCCS/">
        </output>
      </operation>
    </binding>
  <service name="TimeServerImplService">
    <port name="TimeServerImplPort" binding="tns:TimeServerImplPortBinding">
      <soap:address location="http://127.0.0.1:9876/one"/>
    </port>
  </service>
</definitions>
```