



Course Name:
Advanced Java



Lecture 17

Topics to be covered

- Java IDL
- CCRA
- Remote Method Calls with SOAP

IDL (Interface Definition Language)

- IDL specifies interfaces b/w CORBA objects.
- CORBA is language independent, bcoz interfaces described in IDL can be mapped to any programming language.
- A client written in c++ can communicate with server written in java.

- IDL syntax is :

```
interface Product {  
    string getDescription();  
};
```

Differences b/w IDL & java :

- The interface definition ends with a semicolon.
- String is written in lower case.
- In CORBA, the string contain only 8 bit characters, whereas in java programming language, string contains 16 bit Unicode characters.

- IDL compiler generates a number of other source files – the stub class for communicating with the ORB & three helper classes.
- IDL compiler generates a class with suffix Holder for every interface. for ex: when a Product interface is compiled, it automatically generates a ProductHolder class.
- In IDL you can use sequence construct to define an arrays of variable size. u must define a type before u can declare sequence parameters.
- Ex:

```
interface Warehouse {  
    ProductSeq find(Customer c);  
};
```

- IDL can contain constants also.

- Ex:

```
interface Warehouse {  
    const int SOLD_OUT =404;  
};
```

- In IDL, u can group definitions of interfaces, types, exceptions & constants into modules.

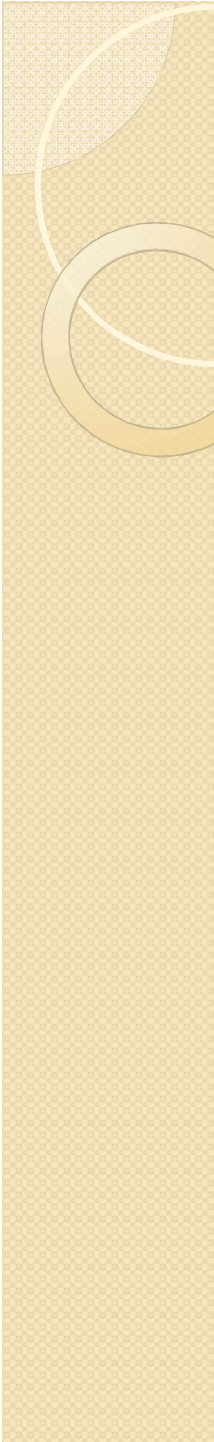
- Ex:

```
module corejava {  
    interface Product {  
        .....  
    };  
    interface Warehouse {  
        .....  
    };  
};
```



Remote Method Calls with SOAP (Simple Object Access Protocol)

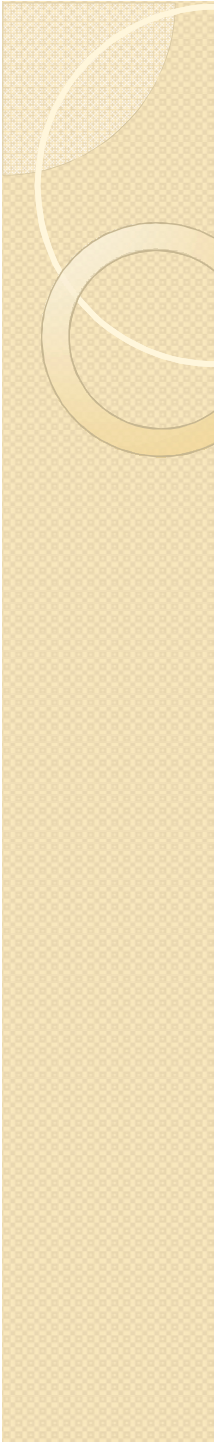
- SOAP is an XML protocol, like CORBA's IIOP, that provides a protocol for invoking remote methods.
- In recent years, web services have emerged as a popular technology for remote method calls.

- 
- A web service has two components:
 - A server can be accessed with SOAP transport protocol.
 - A description of the service in the Web Description Language (WSDL) format.
 - A primary attraction of web services is that they are language neutral.



WSDL:

- WSDL is analogous to IDL. It describes the interface of the web service, the methods that can be called & their parameter & return types.

- 
- The WSDL descriptor describes the services in a language independent manner.
 - For Ex: the WSDL for the Amazon web services (located at <http://soap.amazon.com/schemas3/AmazonWebServices.wsdl>) describes an AuthorSearchRequest operation.