



Al Akhawayn University

Technology Enablers

Homework 2

CSC 3374

Done by: Anass Zouine

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Service definition language: WSDL

WSDL is an XML-based interface definition language used to describe APIs. It is used to describe the prototypes of the functions that the provider provides in a language independent way. The WSDL document that contains the API describes the name of functions, the parameters that it expects, and the data types or structures that it returns. It is a language-agnostic technology.

Protocol: SOAP (Simple Object Access Protocol)

SOAP is an XML-based messaging protocol used for exchanging data when implementing web services. It uses the application layer protocol HTTP to transport the remote procedure calls.

SOAP is language-agnostic and platform independent.

Programming Languages:

Provider-side: JAVA (jdk 1.8.0_281)

The provider side was developed using Java programming language. Java provides many tools that make the provider development easy:

- JAX-WS (Java API for XML Web Services): it is a technology for building SOAP web services and clients that communicate using XML.
- Wsgen: is a command line tool that generates JAX-WS portable artifacts used in JAX-WS web services. The tool reads a web service endpoint class and generates all the required artifacts for web service deployment and invocation.

Consumer-side: Python 3.8

The consumer side was developed using Python programming language. Python provides tools that make the development of the consumer easy:

- Zeep Module: This python module allows generating the stub. It parses the WSDL document that contains the API to get the necessary information (location where the service is published, methods provided...). Then it generates the client stub that is used to make the remote procedure calls.