Assignment 3

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1) SOAP ~~failure failure~~ fault is caused due to client or server failure.

→ True.

2) SOAP actor element is used to address the header element to a specific endpoint.

3) What do you mean by wire protocol & transport protocol.

→ It generally refers to communication protocols higher than the physical layer. In contrast to transport protocol at the protocol level (like TCP or UDP) the term wire protocol is used to describe a common way to exchange information at the application level.

4) What is SOAP message path?

→ It is a set of SOAP nodes through which a single SOAP message passes, including the initial SOAP sender zero or more SOAP intermediaries & an ultimate SOAP receiver.

5) Give the use of SOAP must understand attribute.

→ To indicate whether a header entry is mandatory or optional for the recipient to process.

6) What is SOAP?

→ SOAP is an acronym for simple object access protocol. It is an XML based messaging protocol for exchanging information among computers. SOAP is an application of the XML specification. You can transmit SOAP messages in any way that the application requires, as long as both the client and the server use the same method.

7) What is the method format used in SOAP?

① SOAP is based on message exchanges.
② Messages are seen as envelopes where the application envelopes the data to be sent
③ A SOAP message consists of an <Envelope> element containing an optional <Header> & a mandatory <Body> element.

④ The contents of these elements are application defined & not a part of the SOAP specificati

⑤ A SOAP <Header> contains blocks of information relevant to how the message is to be processed. This helps pass information in SOAP messages that is not for the application but for the SOAP engine.

⑥ The SOAP <Body> is where the main end-to-end information conveyed in a SOAP message must be carried.

8) What are the steps taken in SOAP processing model?

→ ① SOAP sender: It is a node that transmit the message received by the receiver.

② SOAP receiver: It is a node that receives or accepts the message passed by the user.

③ SOAP message path: It is a node that sets the path to make it easy for the messages to go along to reach its destination.

④ Initial SOAP sender: It is also called as originator & it sends the messages at the starting point of the message path & saves the setting there.

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(c) SOAP intermediary : It is in between the SOAP receiver & SOAP sender that contains the SOAP messages. It processes the header blocks that forward the SOAP messages to the receiver.

(d) Ultimate SOAP receiver : It is the node where the message gets received finally. This is responsible for the processing of the contents used by SOAP body & the SOAP header also included in it.

9) What is the use of having SOAP messages with attachments?

→ (1) You can send & receive SOAP messages that include binary data (such as PDF files or JPEG images) as attachments. Attachments can be referenced (that is represented explicitly as message parts in the service interface) or unreferenced (in which arbitrary nos & types of attachments can be included)

(2) MTOM (message transmission optimization mechanism) A method that W3C recommends to use for transferring binary data in SOAP messages.

(3) SWA (soap with attachments), also known as MIME)

A MIME based attachments mechanism for SOAP HTTP. SOAP UI supports plain SWA as well as swaref attachments in accordance with the WS-I attachments profile.

④ SOAP UI also supports specifying file names inline to insert binary contents from a file into a message body.

10) What is the difference between SOAP & other remote access techniques?

→

	SOAP	CORBA
①	simple to use & symmetrical unlike DCOM	usually have complexity in it.
②	provides greater platform independence with language independence unlike DCOM	Doesn't provide platform or language independence.
③	SOAP identify the object other than stateless & it is hard to maintain	It is not hard to maintain in case of other techniques

11) Give advantages & disadvantages of SOAP.

→ ① Advantages of SOAP

- simplicity
- portability
- firewall friendliness
- use of open standards

- Interoperability
- Universal acceptance

(2) Disadvantages
- Too much reliance of http
- statelessness
- serialization by value & not by reference

12) Explain in short apache axis environment.

↳ (1) Apache axis is an implementation of the SOAP. SOAP is lightweight protocol for enhancing structured information in a decentralized distributed environment.

(2) It is an XML based protocol. Apache axis is an open source. It consists of a Java & c++ implementation of SOAP server & various utilities & API's for generating & deploying web service application.