1. **List the three major roles in a web service environment.**

There are three major roles in a web-service environment:

• Service provider.

• Service requester.

• Service registry.

1. **A web service may be used to implement a Service-Oriented Architecture (SOA). What is an SOA?**

A Service-Oriented Architecture (SOA) is that the distributed system is constructed as a sized, suitable, independently deployed modules of different services such as web client, android client and a database service. Developing a SOA system involves service composition and each service must offer a well-defined interface, which allows component services in various systems to interact in a unified and universal way. SOA Will help us stand at a new height to understand the development and deployment forms of various components in an enterprise architecture.

**Give an example of how such an architecture may be implemented.**

SOA can be implemented using Web services (e.g. SOAP and RESTful web services).

1. **Describe how a SOAP web service works.**

Simple Object Access Protocol (SOAP) is a web service protocol, which is a framework

for implementing web-services. All messages are encoded using XML and delivered using

any transportation protocol (e.g. HTTP). SOAP binding to HTTP provides the advantages of using both the style and decentralized flexibility of SOAP and the rich feature library of HTTP. Sending SOAP over HTTP does not mean that SOAP will overwrite existing HTTP semantics, but that SOAP semantics on HTTP will naturally map to HTTP semantics. In the case of using HTTP as the protocol binding, RPC requests are mapped to HTTP requests, and RPC responses are mapped to HTTP responses. However, using SOAP over RPC is not limited to HTTP protocol binding.

The Web Service Description Language (WSDL) is an XML language for defining interfaces to web services. Each SOAP web service will have a WSDL file describing how a client should communicate with the web service in question.

1. **What is the purpose of the Web Service Description Language (WSDL) in the context of a SOAP web service?**

Web Service Description Language (WSDL) is an XML language for defining interfaces, which can describe how a client should communicate with the web service.