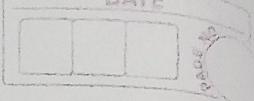
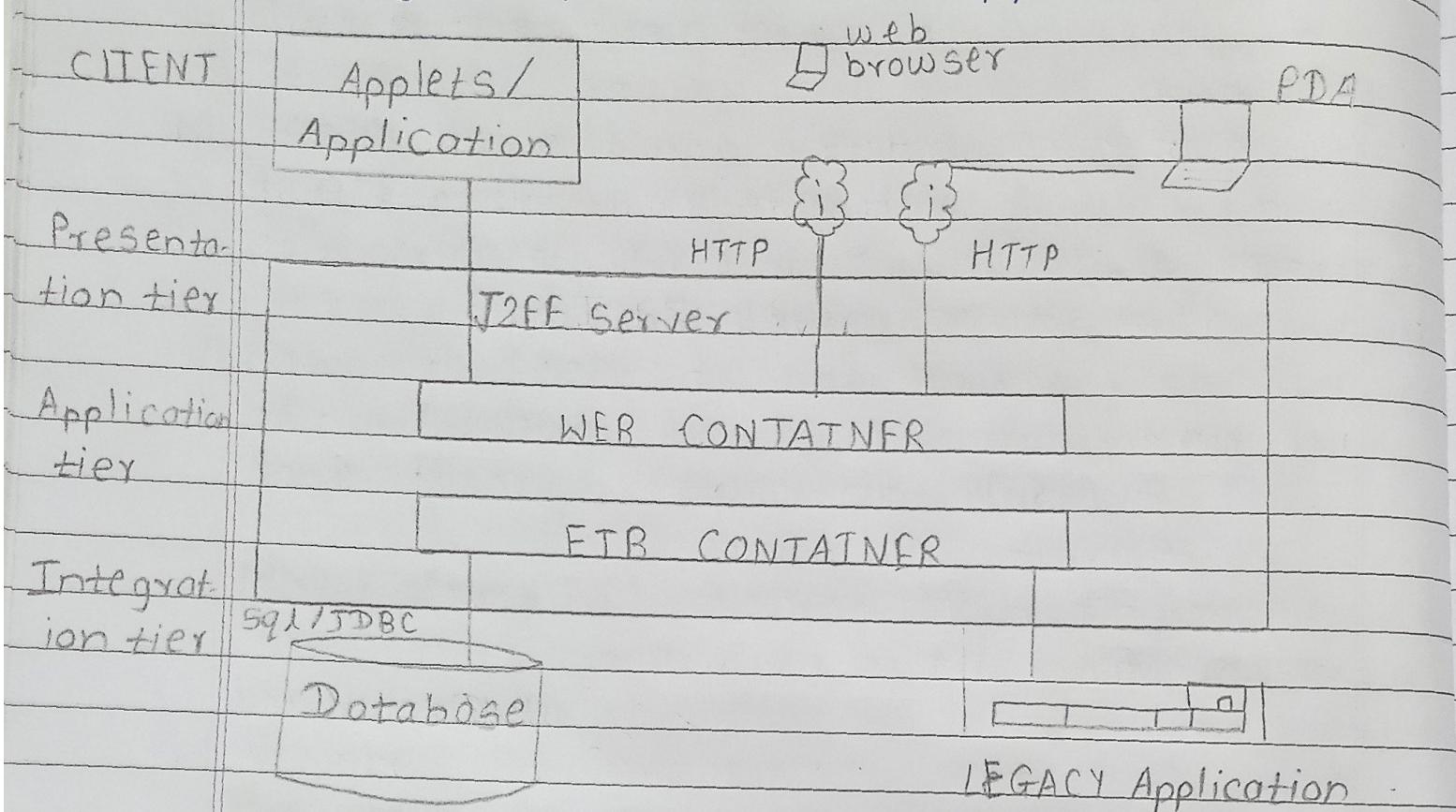


Assignment No. 3



Q. 1 What is the role of J2EE in distributed computing.

→ i) J2EE provides a programming model based upon web and business component that are managed by the J2EE application server.



i) The application server consists of many APIs and low level services available to the component. These low level services provide security, transaction connections and instance pooling and concurrency services.

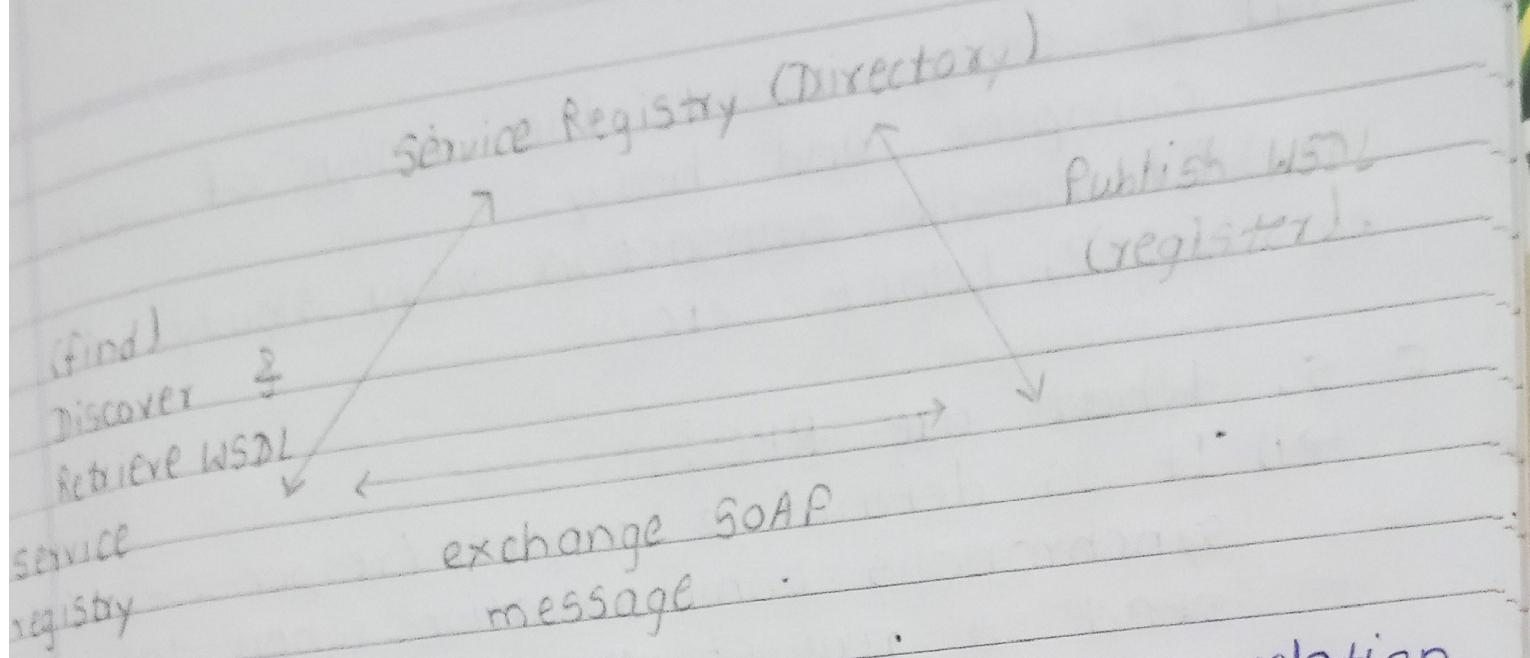
ii) The J2EE provides the interfaces to connect with various back-end legacy and information system. J2EE also provides excellent client connectivity capability ranging from PDA to web browser to rich client.

The J2EE architecture is physically divided into 3 tier.

- vii) Some specialized uses of XML are the Java Speech Markup Language and the Synchronized Multimedia Integration Language.
- viii) An XML-based work enables high levels of component reuse and interoperability in distributed system.

Q. 3. What is service oriented architecture. Explain its key characteristics SOA.

- The SOA essentially a collection of services these services communicate with each other. The SOA have following key characteristics:
 - i) SOA services have self describing interfaces in platform independent WSDL is the standard used to describe the services.
 - ii) SOA services communicate with message formally defined via XML schema (also called XSD)
 - iii) Number of application can look up the services registry and invoke the services UDDI is the standard used for service registry.
 - iv) Each services (SOA) has a actually of service (Coos) associated with it some of the key element are security requirement such as authentication and authorisation.
 - v) Loose coupling Reuse of existing technology SOA is an architecture provides conceptual design pattern for service based distributed system.
 - vi) SOA supports composition (assembling services) reusability.



Generally the basic SOA distribute the relation between the kind of participant the service provider, registry, service requester

e.g. What is stateless and statefull services? Explain with example.

→ Stateless : i) Stateless services are the type of network protocols in which client used a request to the server and server response back according to current stack.

ii) In stateless service there are no taint dependency between server and client.
iii) The stateless protocol design simplify the server design.

iv) It handles transaction very fast.

e.g. DNS, HTTP, UDP

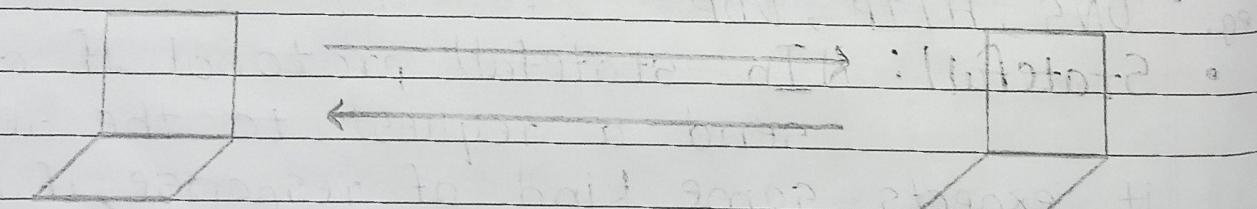
• Stateful : i) In stateful protocol if client send a request to the server then it expects some kind of response, if it does not get any response then if resend the request.

ii) In statefull services there are taint dependancy between server and client.

- iii) Its design makes the design of server very complex and heavy.
 - iv) It handles transaction very slowly.
- eg. FTP, Telnet etc.

Q. 5. What are RPC?

- i) It is defined as request/response-based synchronous communication where the client sends a request and the client waits until a response is sent back from the server before continuing any operation.
- ii) The RPC-based web services are tightly coupled and are implemented with remote objects of the client application.
- iii) The fig. represents the RPC-based communication model in web service.
- iv) The client has a capability to provide parameters in method calls to the web service provider, then clients invoke the web service by sending parameters to the provider that executes the return value additionally using a RPC-based common model both the service provider & requester can register & discover services respectively.



Web Service Provider
Requestor

Synchronous means that every tier a client

the SOAP response. Synchronous is request, response operation.

- Q. 6. What are the features of SOAP?
- i) SOAP is a communication protocol and it is used for communication between applications.
 - ii) SOAP is a format for sending message.
 - iii) SOAP communicates through internet.
 - iv) Independance - SOAP allow for any programming model.
 - v) SOAP is platform independent and language independence that is soap can used in any languages
 - SOAP is based on XML.
 - v) Extensibility - Security and ws-routing are among the extensions under development
 - SOAP is simple and extensible.
 - vi) Neutrality - SOAP can be used over any transport protocol process only two such as HTTP, SMTP, TCP or JMS.
 - vii) SOAP as a lightweight protocol - SOAP protocol process only two fundamental properties They are,
 - 1) Send and receive HTTP transport protocol packets.
 - 2) Process XML message, this can be contrasted with the heavyweight protocols such as ORPC protocols.

- Q. 7. Explain any one web technology in details used for implementing web services.