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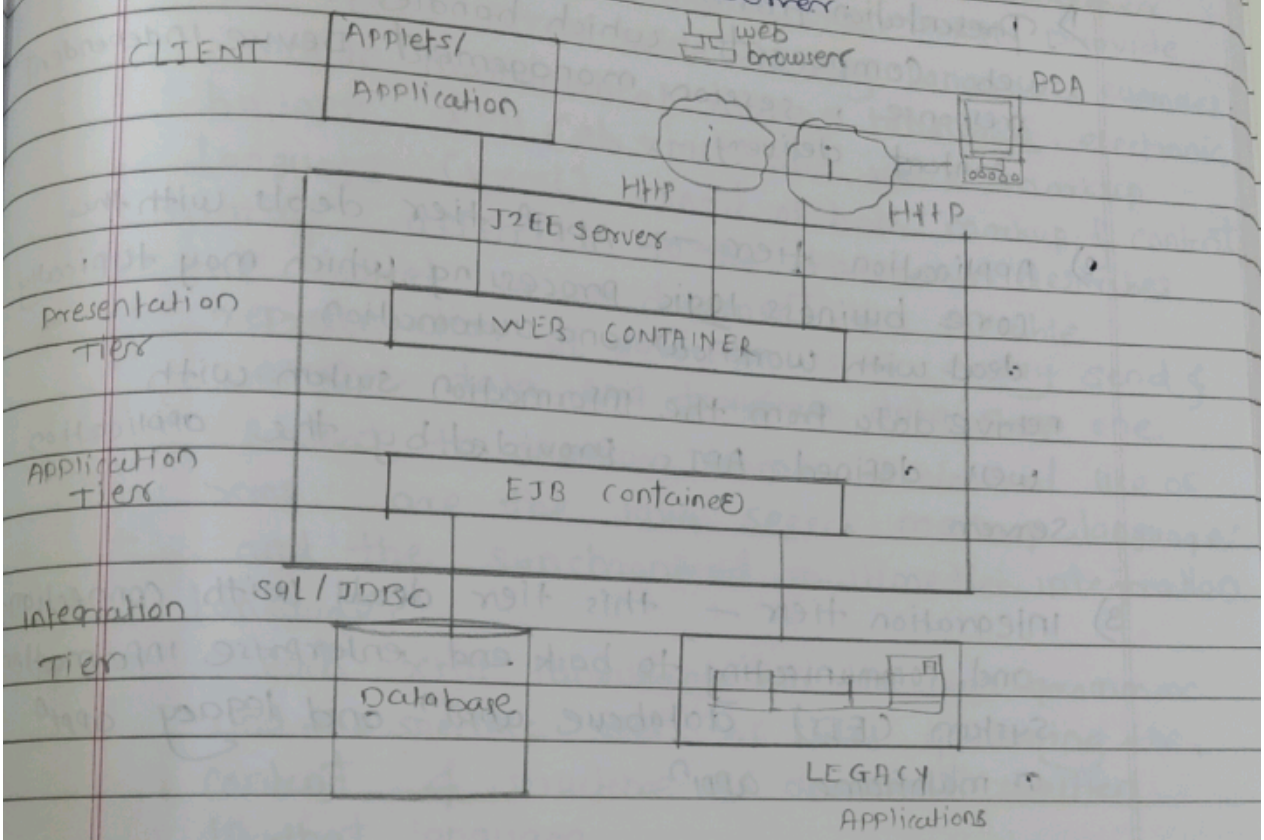
Q. What is the role of J2EE in distributed computing?

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



1) 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

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

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The J2EE architecture is physically divided into 3 tier.

1) Presentation tier – this tier is composed of web components which handle HTTP ~~requests~~ response, session management Device independent content delivery

2) Application tier – Appln tier deals with the core business logic processing which may typically deal with workflow and automation retrive data from the information system with well defined APIs provided by the application server.

3) Integration tier – this tier deals with connecting and communicating to back end enterprise information system (EIS) database appln and legacy appln or mainframe appln

2. explain the use of XML in distributed computing?

→ XML is the extensible markup language which allows multiple languages to come together and make the information base. XML provide the basis for a wide variety languages examples include mathamatical markup language, electronic business XML (eb XML) and voice markup Language (VXML) consist of both markup & content markup referred to the tags that describes the content in the document this flexible representation of data allows to easily send & receive data and transform data from one format to another. some specialized use of XML are the Java speech markup language and the synchronized multimedia integration language.

each XML language has its own grammar and the specific set of rules governing the content & structure of documents written in that language

An XML-based work enables high levels of component reuse and interportability in the distributed system.

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Q3 What is service oriented architecture ? explain its characteristics.

→ The SOA essentially a collection of services. these services communicate with each other. The SOA have following key characteristics —

① SOA services have self describing interfaces in platform independent WSDL is the standard used to describe the services.

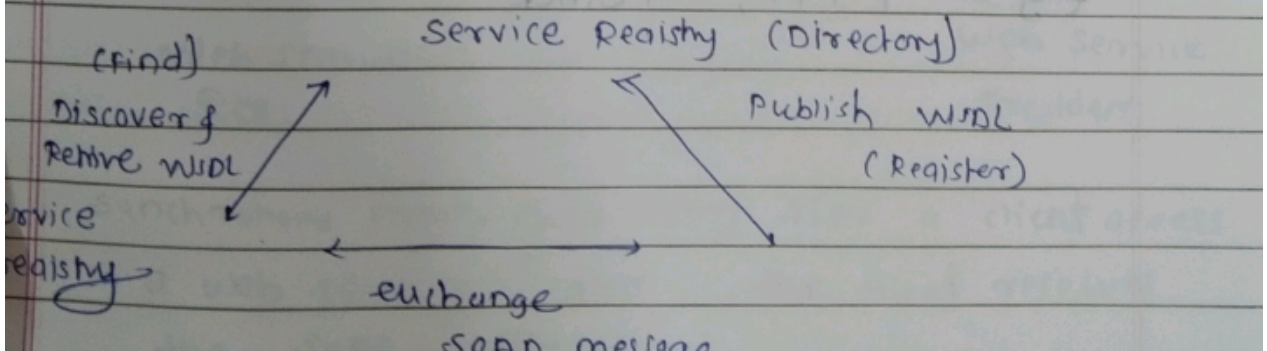
② SOA services communicate with message formally defined via XML schema (also called XSD)

③ Number of appln can look up the services in the registry & invoke the services UDDI is the standard used for service registry

④ each services (SOA) has a quality of services (QoS) associated with it. some of the key element are security requirement such as authentication & authorization

5) Loose coupling Reuse of existing technology SOA is an architecture. Provides conceptual design pattern for service based distributed system.

6) SOA supports composition (assembling) or services reusability.



Generally the basic SOA describe the relⁿ betⁿ three kind of participient the service provider, registry, service requestor.

4q. What is stateless & stateFull services? explain with example.

→ stateless – 1) stateless service are the type of network protocols in which client send a request to the server and server response back according to current state.

2) in stateless service there are no tight depen ber server and client.

3) The stateless protocol design simplify the server design

4) it handles transation very fast.

eg – DNS, HTTP, UDP.

stateFull –

1) in stateful protocol if client send a request to the server then it expects some kind of response, if it does not get any resp then it resend the request.

2) in stateFull services there ~~are~~ is tight dependancy ber server and client.

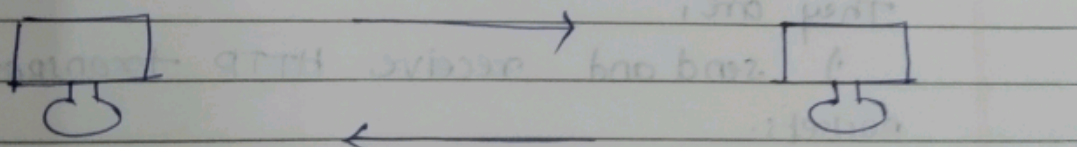
3) it design makes the design of server very complex & heavy.

4) it handle transation very slowly.

e.g – FTTP, Telnet

Q.5 What are RPC ?

- it is defined a request / response - based synchronous communication when the client send a request. the client wait until a response is sent back from the server before continuing any operation.
- The RPC - based web service are tightly coupled if are implemented with remote objects of the client appln
- The fig. represents the RPC - based comm^n model in web service
- The client have a capability to provide parameters in method calls to the web service provider, then clients invokes the web service by sending parameter values to the web service provider that executes the require method & then send back the return value additionally using a RPC - based comm^n model both the service provider & requestor can register & discover services resp.



Synchronous means that every tier a client access a web service appln, the client receives the SOAP response.

Synchronous is request - response operation.

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Q.6) What are the Features of SOAP?

1) SOAP is a communication protocol and it is used for communication betn applications.
2) SOAP is a format for sending message
3) SOAP communicates through internet

4) independence - SOAP allows for any Programing model
- SOAP is platform independet and language independ that is SOAP ~~is~~ can used in any languages
- SOAP is based on XML.

5) Extensibility - security and WS-routing are among the extensions under development. SOAP is simple and extensible.

6) Neutrality - SOAP can be used over any transp protocol such as HTTP, SMTP, TCP or JMS

7). SOAP as a lightweight protocol - it ~~permits~~ SOA protocol process only two fundamental properties They are,
1) send and receive HTTP transport protoco packets.
2) process XML message, this can be constrasted with the heavyweight protocols such as ORPC protocols