EX:11a STUDY OF REMOTE PROCEDURE CALL- XMLRPC

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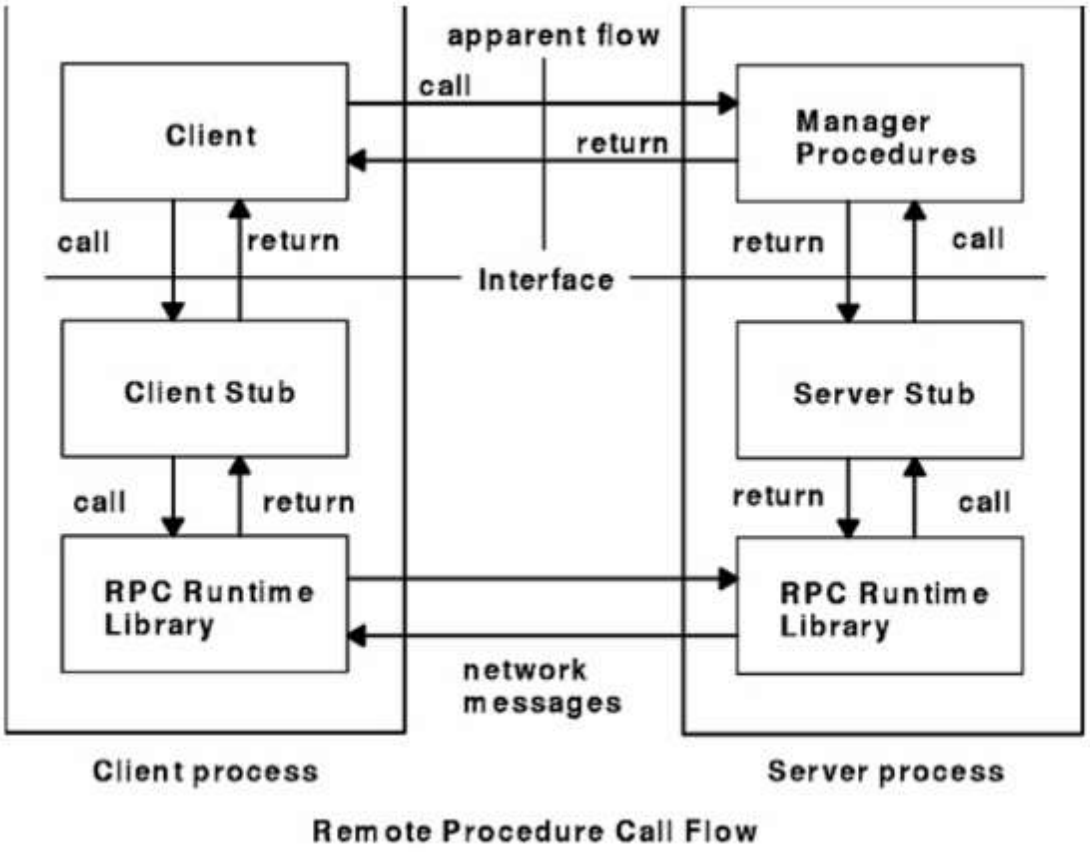
Aim:

To study the concepts of Remote Procedure Call-XML RPC.

Introduction to RPC

- Definition: RPC enables communication and coordination between processes on different machines.
- Procedure Call Model: Works like a local procedure call but over a network.
- Client-Server Interaction: In RPC, a client calls a remote procedure on a server and waits for a response.
- RPC Stubbing: The client and server communicate via client-side and server-side stubs.
- Marshalling: Packing parameters for network transmission; on the client, the stub marshals parameters, while on the server, it unmarshals them.

RPC Working Model



Remote Procedure Call Flow

1. Client Stub Call: Client calls a local procedure (client stub).
2. Marshalling: Client stub packs parameters into a message.
3. Network Transmission: The OS sends the message to the server.
4. Unmarshalling: Server stub unpacks parameters and calls the server procedure.
5. Response: Server procedure's results are marshalled and sent back, reversing these steps.

XML-RPC in Python

- Definition: XML-RPC is a simple protocol for remote procedure calls using XML over HTTP.
- Python Modules:
  - xmlrpc.client: For creating XML-RPC client applications.
  - xmlrpc.server: For creating XML-RPC server applications.

XML-RPC Client and Server Objects

- xmlrpc.client.ServerProxy: Creates a proxy object to communicate with an XML-RPC server.
- xmlrpc.server.SimpleXMLRPCServer: Provides a basic server framework. Use register_function() to register methods callable via XML-RPC.

Result:

Thus,the study of XML-RPC is studied successfully.