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Remote Method Invocation

=> RMI :- (Remote Method Invocation)

➔ RMI is an API which is used to create Distributed Applications in java

➔ RMI API allows an object to invoke another method that exists in another address space or another JVM

➔ RMI provides remote communication between the applications using two objects i.e. "stub" & "skeleton".

⇨ NOTE : RMI API is provided in "java.rmi" package

=> Stub object :-

➔ Stub is an object which acts as a gateway for the client side. All the outgoings request are routed through stub object.

➔ Stub object has the following tasks :-

1. It initiates the connection with remote machine (remote JVM)
2. It writes and transmits the parameters from client to server (remote machine)
3. It will wait for the result
4. It can read the returned result/expression or exception
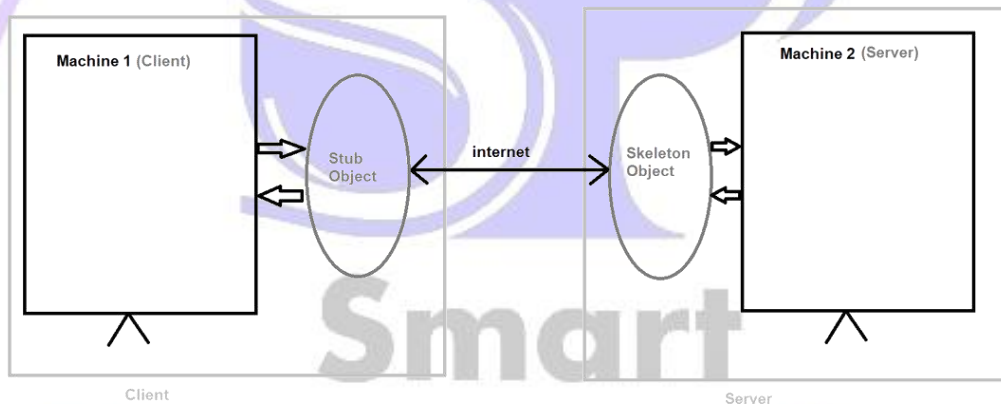5. Finally, it can return the value to the caller/client

=> Skeleton Object :-

➔ Skeleton is an object which acts as a gateway for the server side. All the incomming requests are routed through skeleton object
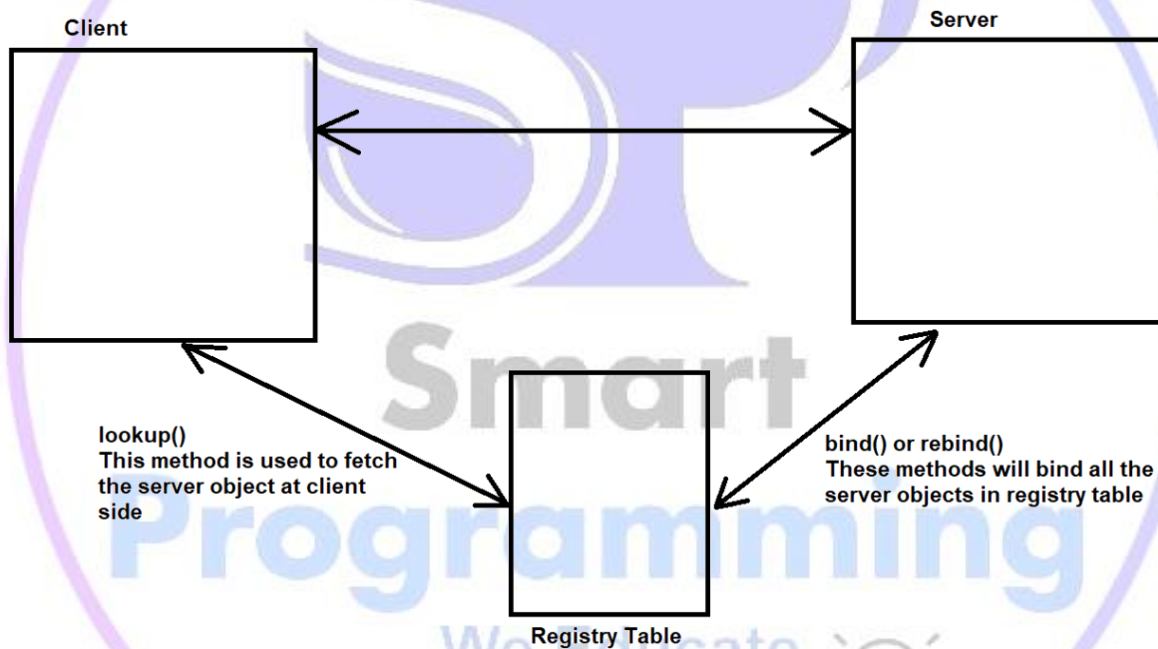
➔ Skeleton object has the following tasks :-

1. It can read the parameters for remote machine
2. It will invoke the remote method
3. It can write and transmits the result

⇨ NOTE :- From rmic 1.2 version, skeleton object is not generated. New JRMP (Java Remote Method Protocol) has got rid of skeleton object

=> RMI Registry :-

-> It is the namespace on which all the server objects are placed

Client

Server

lookup()
This method is used to fetch the server object at client side

bind() or rebind()
These methods will bind all the server objects in registry table

Registry Table

=> Steps for RMI program :-

1. Create the remote interface
2. Create an implemented class for remote interface
3. Create client and server
4. Compile, stub & skeleton (rmic)
5. start the registry (rmiregistry)
6. Start the server
7. Run the client

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