

Systems for Design and Implementation

Outline

- Spring Remoting
- JDBC Template
- Remoting over HTTP

RPC (Remote Procedure Call)

- RPC is an inter-process communication paradigm that allows a computer program to cause a subroutine or procedure to execute in another address space without the programmer explicitly coding the details for this remote interaction
- The programmer writes almost the same code whether the subroutine is local to the executing program, or remote
- When the software is written using object-oriented paradigm, RPC may be referred to as remote invocation or Remote Method Invocation (**RMI**)
- RPC is a popular paradigm for implementing the client-server model of distributed computing
- RPC is initiated by a client sending a request message to a known remote server in order to execute a specified procedure using supplied parameters. A response is returned to the client and the application continues along with its process
- While the server is processing the call, the client is, by default, blocked (it waits until the server has finished processing before resuming execution)

RMI

Spring Remoting

[remoting](#)

JDBC Template

[jdbctemplate](#)

Remoting over HTTP

- RMI may not pass through firewalls
- *Hessian, Burlap* --- HTTP
 - Define their own serialization mechanisms
 - simpler than RMI
 - Hessian - binary, Burlap -XML
 - Python, Ruby, PHP, C#
- *Spring HttpInvoker*
 - HTTP
 - Uses Java Serialization
 - Advantages, disadvantages

Exposing a remote HTTP service

HessianServiceExporter, BurlapServiceExporter, HttpInvokerServiceExporter

Invoking a remote HTTP service

HessianProxyFactoryBean, BurlapProxyFactoryBean, HttpInvokerProxyFactoryBean