**Project** **Title**: Job Scheduler for Distributed Systems

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**Introduction**: The Job Scheduler for Distributed Systems oversaw a simple simulation between client and server, initializing from establishing a connection, to authentication and finally the scheduling of jobs. Our goal of the project was to create a streamlined implementation of handling job scheduling, which also included rescheduling of jobs if errors appeared.

**System Overview**: Client.java, talk about structure, talk about each modular part of it, describe send message, read message, perform handshake and xml parser.

Send Message

* We need to output a message to the server, in our case, we convert a string to bytes

Read Message

* We need to receive bytes and convert them to a readable format, this involved casting bytes to characters and combining them to a string
* Can talk about what we tried, what worked, what didn’t ie. Using read(), din.available(), casting, creating byte array

Perform Handshake

* A series of sending and receiving messages between the server and the client to initiate the communication and authentication of the user.
* Talk about why we need to use System.getProperty(“user.name”), we don’t know who is going to be using the system, so this makes it dynamic

XML Parser

* We should grab the ds-system XML file, read it hierarchically and pull three pieces of information, the server name, the server coreCount and the server limit
* This functions by turning each parent and child tag of the XML file into a nodelist and traversing the list to retrieve each bit of information.

**Design:** Things that we considered, design approaches, what could we do and what could we not do etc

* readLine being deprecated, we considered other things
* XML parser, whether to use GETS ALL or XML parser
* Modular approach

**Implementation:** XML libraries we used

* Usage of objects and object array lists, especially in XML parser.
* VM setup, tried kali linux I guess

**References**: XML parser: https://www.tutorialspoint.com/java\_xml/java\_dom\_parse\_document.htm