

CSIT 222 Prelim Project
Socket Programming in Java
Due Date: 17 February 2025

Objective: To create a client-server application involving the use of socket programming, concurrency, and XML data exchange in Java.

Requirements:

Students will work in teams. Each team must create a client-server application using socket programming in Java that will be able to process the following operations:

1. CRUD - create, read, update and delete
2. Search
3. Operation that is related to the system

Note that the server can be started/stopped manually without restarting the program and that it should be able to accommodate multiple client requests at the same time. This entails that the server application should be able to handle concurrency issues (example: requests from buyers to purchase a single item will lead to the fulfillment of a single buyer only).

Other considerations:

- Create an online repository (Gitlab) for your team and invite the faculty member as a maintainer of such.
- Client program:
 - The **MVC (model-view-controller) design pattern** must be implemented on the **client program**.
 - A GUI (graphical user interface) **must** be created for this component of the system.
- Server program:
 - It must display the log of activities (time stamp, user involved, transpired transaction, data involved) happening.
 - Data to be used in the system must be stored in XML files (ex. Users of the system).
 - The interface for the server does not necessarily have to be graphical.
- Messages to be sent by a client as well as responses sent by the server should be in the form of XML.

Deliverable:

The following deliverables will be submitted by the representative of the teams only. Note further that representatives are the only ones assigned to do the submission thus other members may not be able to see such in the Google classroom.

- Peer evaluation
 - Naming convention: **ClassCode-Team##_PreProject-Peer**
 - Example: **9300-Team01_PreProject-Peer.pdf**

- Archived project
 - Naming convention: **ClassCode-Team##_PreProject**
 - Example: **9300-Team01_PreProject.zip**

Rating Scale:

5 - Excellent 4 - Very Good 3 - Adequate 2 - Needs Improvement 1 - Very Poor

Criteria:

- Application can perform the following tasks accurately (60%)
 - a. CRUD - 40%
 - b. Search - 10%
 - c. Other relevant operation(s) - 10%
- Client program conforms to the following specifications (10%)
 - a. MVC design pattern has been utilized in its implementation - 5%
 - b. GUI is implemented - 5%
- Server program conforms to the following (10%)
 - a. Option to start/stop the server is available - 5%
 - b. Shows log of transactions - 5%
- Data format used by the application is in XML (20%)
 - a. Messages between server and client - 10%
 - b. Storage of data used in the application - 10%