

Database Management Concepts and Systems

SimpleDB Configuration Guide

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Introduction

SimpleDB is a multi-user transactional database server written in Java. It is intended for academic use and supports only a subset of SQL and JDBC. For more details, refer

- <http://www.cs.bc.edu/~sciore/simplydb/intro.html>
- <http://www.cs.bc.edu/~sciore/papers/SIGCSE07.pdf>
- The ReadMe file in the SimpleDB archive.

This document attempts to help you setup SimpleDB on your system.

Download

- [Java](#)
- [Eclipse](#)
- [SimpleDB](#)

Setup

Java

- Install Java SE 6 (JDK + JRE)

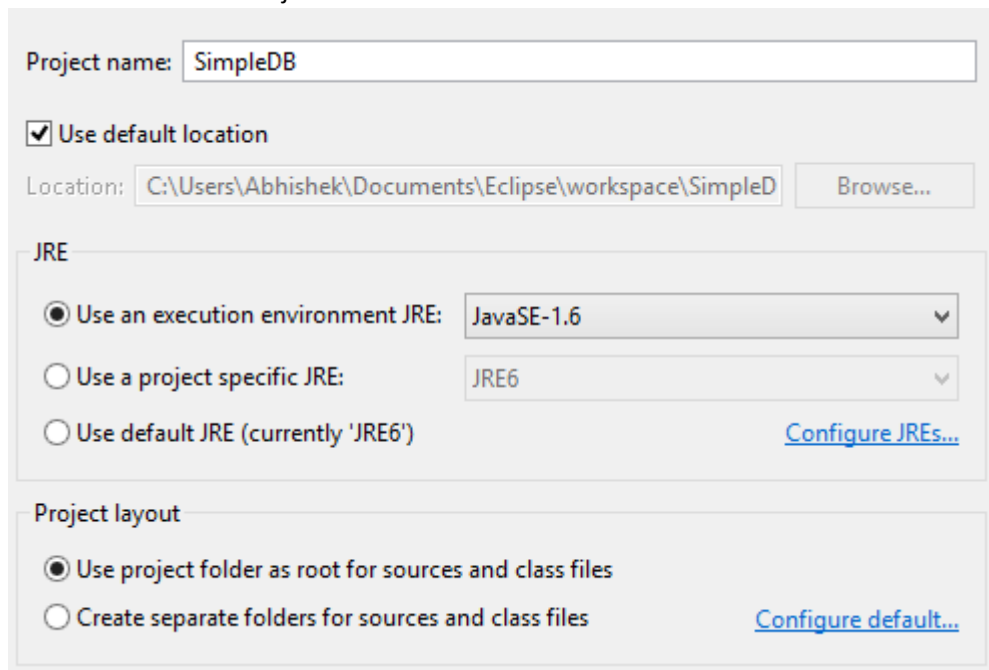
Eclipse

- Extract Eclipse (the compressed folder) into a location of your choice
- Start Eclipse by clicking on eclipse.exe
- Choose a workspace location

SimpleDB

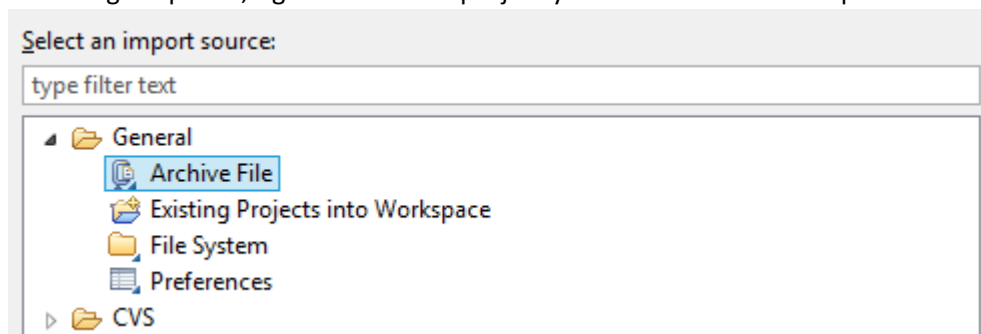
SimpleDB Server

- Create a new project in Eclipse
File → New → Java Project



The screenshot shows the 'New Java Project' dialog in Eclipse. The 'Project name' field is set to 'SimpleDB'. The 'Use default location' checkbox is checked, and the 'Location' field shows 'C:\Users\Abhishek\Documents\Eclipse\workspace\SimpleD'. Under the 'JRE' section, the 'Use an execution environment JRE' radio button is selected, with 'JavaSE-1.6' chosen from the dropdown. The 'Use a project specific JRE' and 'Use default JRE (currently 'JRE6')' options are unselected. A 'Browse...' button is next to the location field. A 'Configure JREs...' link is at the bottom right of the JRE section. Under the 'Project layout' section, the 'Use project folder as root for sources and class files' radio button is selected. A 'Configure default...' link is at the bottom right of the Project layout section.

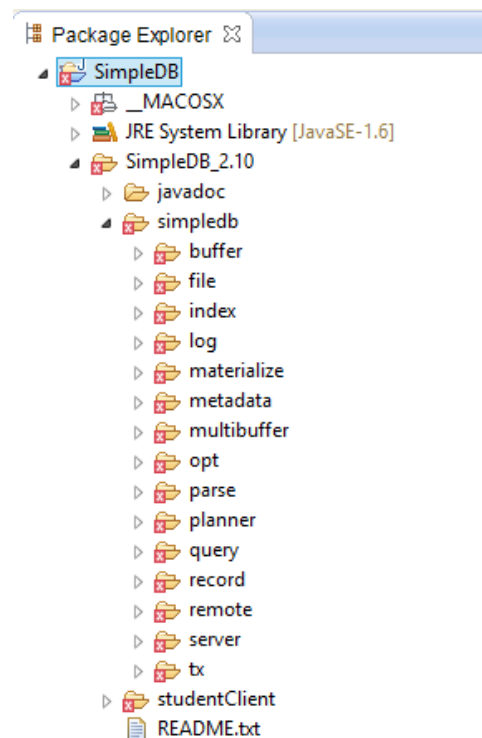
- Import the SimpleDB archive.
In Package Explorer, right click on the project you created and click Import



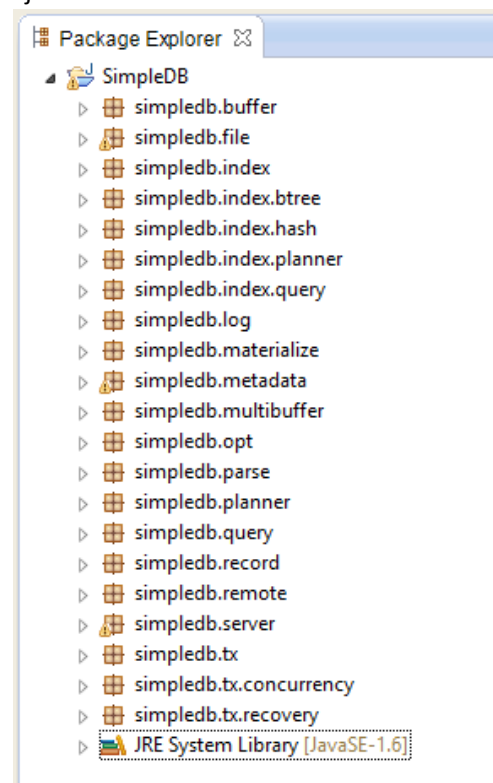
The screenshot shows the 'Import' dialog in Eclipse. The 'Select an import source:' section has a search bar with 'type filter text'. Below the search bar, a tree view shows the 'General' folder expanded, with 'Archive File' selected. Other options in the tree include 'Existing Projects into Workspace', 'File System', 'Preferences', and 'CVS'.

Choose the simpleDB archive file you previously downloaded.

In Package Explorer, under your project, you must see something similar to the structure shown below:



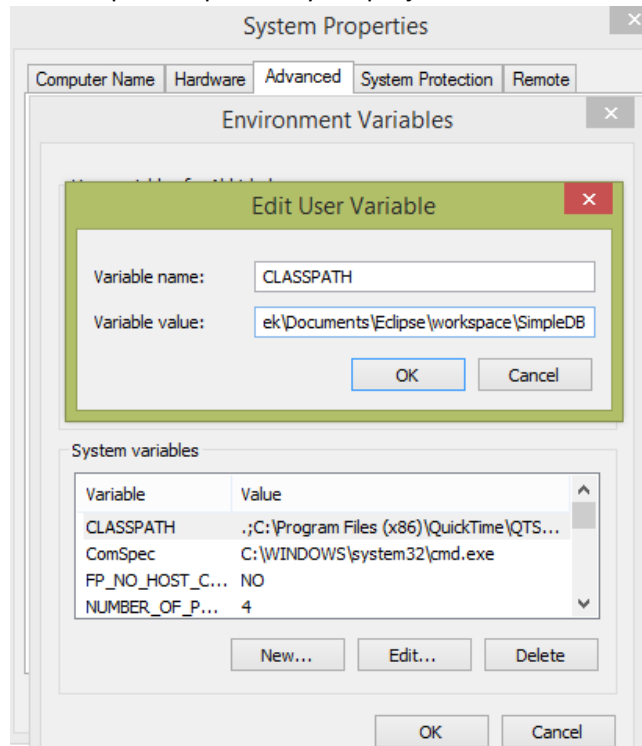
- Move the “simplifiedb” folder inside “SimpleDB_2.10” to the project root. Delete “studentClient” and “javadoc”.



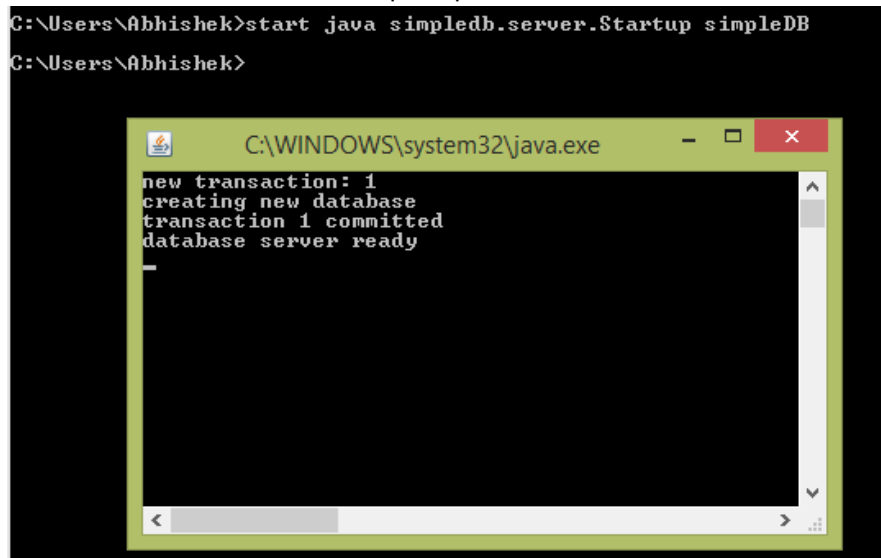
- Start SimpleDB server

Windows:

- Set classpath to point to your project folder. Add a new user variable "CLASSPATH"



- Start the server from command prompt



- The server is now ready and can accept client requests. You can simply close the window when done.

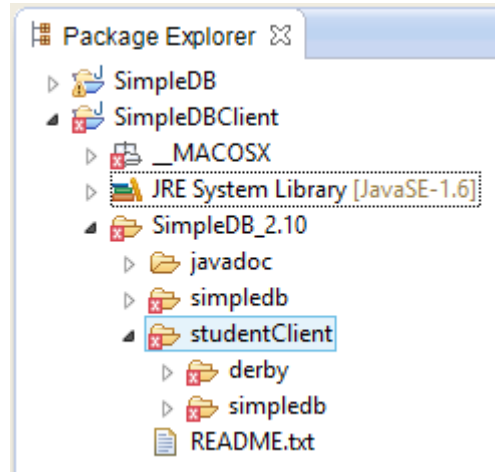
Mac OSX / UNIX

- Start the server using as follows
`java -cp <workspaceLocation>/SimpleDB simpledb.server.Startup simpleDB`

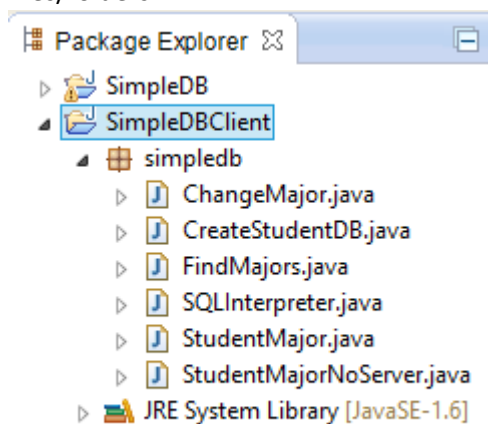
SimpleDB Client

- Create a new Java project, named “SimpleDBClient”, using the steps shown above. Import the SimpleDB archive.

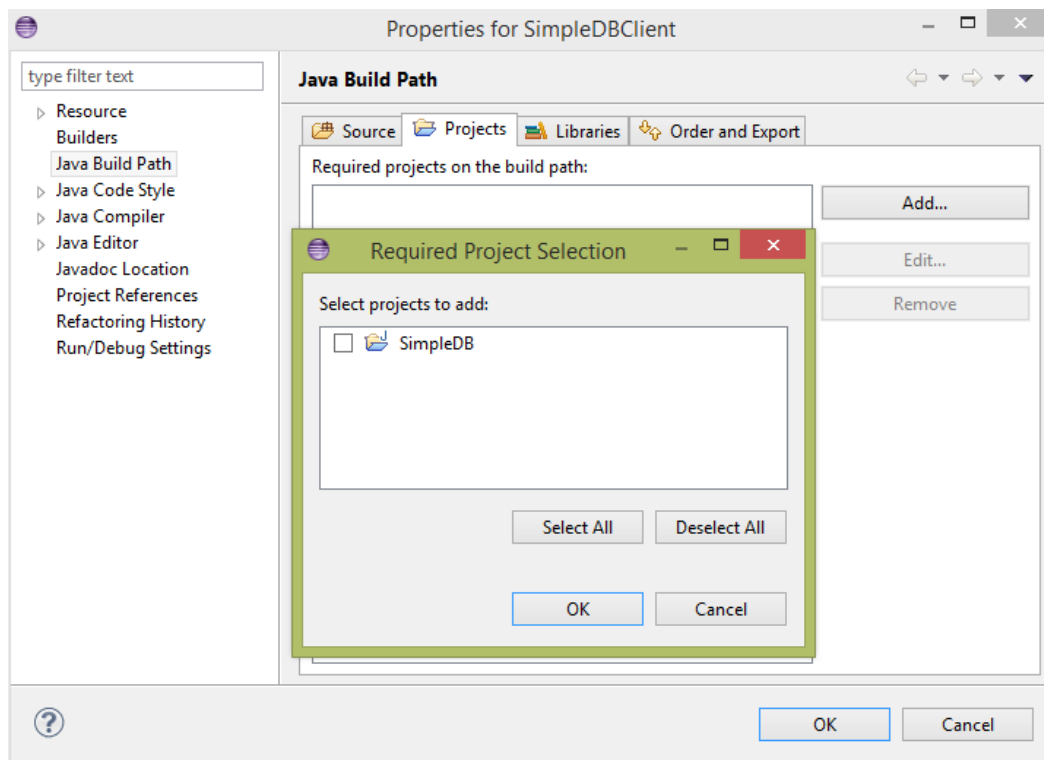
In Project Explorer, you must see something similar to the structure shown below:



- Move the “simplifiedb” folder inside “studentClient” to “SimpleDBClient” and remove other files/folders



- For each of the classes in the package *simplifiedb*, add the statement “package simplifiedb;”
- In Package Explorer, right click on the project
Build Path → Configure Build Path → Projects → Add



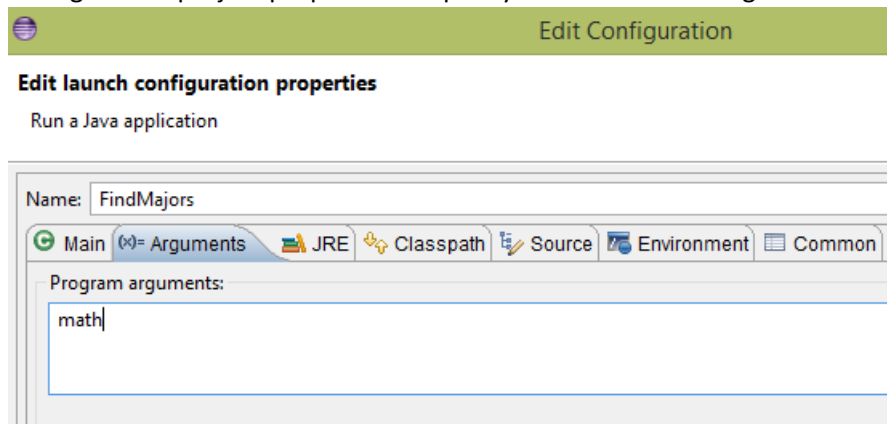
After adding the “SimpleDB” project as a dependency, your clients are ready to execute.

- To execute a client program, open the class.
Right click on the source and select Run As → Java Application.
- Check the server console to observe client connections.

Note: The clients are only used to test the program. Each of the client programs test a particular function of the database. You can also write your own clients.

Troubleshooting

- SimpleDB Server – **Compiler errors show up on importing SimpleDB archive**
 - Make sure you move the “simplifiedb” folder to the root, under the project “SimpleDB”. Delete other files/folders such as “studentClient” and “javadoc”.
- SimpleDB Client – **Compiler errors show up on importing SimpleDB archive**
 - Add the package statements and configure build path
- SimpleDB Client – **Run-time exceptions show up on executing FindMajors class**
 - Run the StudentMajor class before running the FindMajors class
 - Configure the project properties to specify a command line argument



- SimpleDB Client - **SQL Exceptions show up when running some SQL queries**
 - SimpleDB does not support all Oracle SQL commands. Find out what is supported by going through the reference link provided in the Introduction section.
- For further help, contact your course instructors.