



## Computer Science 2B

### Practical Assignment 01

2016-08-16

Deadline: 2016-08-23 12h00

Marks: 100

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This practical assignment must be uploaded to [eve.uj.ac.za](http://eve.uj.ac.za) **before** 2016-08-23 12h00. Late or incorrect submissions **will not be accepted**, and will therefore not be marked. You are **not allowed to collaborate** with any other student.

The Java Development Kit (JDK) has been installed on the laboratory computers along with the [Eclipse](#) Integrated Development Environment (IDE).

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This practical will focus on creating a socket connection to a web server. Handling of client connections must be multi-threaded!

Create a Java application which acts as a web server. Create a server socket which listens on port 1337. Accept any client connections and establish the needed streams for input/output. Process any client requests according to HTTP. Test the web server with a web browser ([Opera](#), [Firefox](#), [Chrome](#)) on [localhost](#). Use the appropriate response codes for requests:

200 When a request can be served without issue (must be able to handle binary files).

404 When a requested page/content cannot be found.

500 When an error occurs.

### Bonus

1. An optional command line argument specifies a directory which the server will use to find content to serve.

## Marksheet

1. Create ServerSocket on port 1337. [5]
2. Accept client connection using threads. [10]
3. Sending HTTP response. [5]
4. Handle each response type (200, 404, 500) [15]
5. Correctly sending image files. [15]
6. Coding convention (structure, layout, OO design) and commenting (normal commenting). [10]
7. Correct execution [40]
8. Serve content in a folder [20 (bonus)]