

## Topic 4 – Enterprise Java Beans – Homework

This document defines homework assignments from the “Java Web Development” course. Please submit the homework as single **zip / 7z** archive holding the source code of all below described problems.

### Problem 1 – Dynamic Web Project

- Create new dynamic web project.
- Deploy the project to the TomEE server.
- Use the created project as base for the remaining of the homework.

### Problem 2 – Web Banking Page

- Create new page for Web Banking operations – deposit and withdraw
- Print the following components:
  - Header with Title
  - Form with:
    - Input fields
      - Client (field containing client name/identifier)
      - Current bank account amount
      - Operation (deposit or withdraw)
      - Amount to change
    - Submit button
  - Footer with Project Name and Current Version
- Deploy the project and call the page from the web browser

### Problem 3 – Bank Operation

- Create EJB structure (1 or more EJBs) that can handle the following logic:
  - Keep global data about users and their bank accounts (1 account per user)
  - Allow deposit and withdraw operations with the following limitations:
    - Withdraw can't be more than the total amount
    - Withdraw per client session can't be more than 50% of the total amount but can be done with several requests
    - Deposits and withdraws can be only with values bigger than 0
    - If client doesn't have account only deposits are allowed that should also create new account

### Problem 4 – Bank Operation Controller (Servlet)

- Create new Servlet class that takes the request data from the Web Banking Page and calls the Bank Operations actions (working as controller/mediator)
- As a result return back to the Web Banking Page with the information about the last user and his current bank account amount

## Problem 5 – Currency

- Enhance the program to support currency operations:
  - Accounts should be in some currency
  - At least 3 total currencies should be available with their exchange rates (different exchange rates per date)
  - Deposits and withdraws can be in any of the available currency and should automatically convert to the account currency.