# Report: Programming Project

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Course: ID2212 Network Programming with Java
Project: APG WebShop: Acme Plastic Gnomes Enter Cyberspace
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**Table of contents**



## Task specification

Acme Plastic Gnomes are selling more and more gnomes each day and the CEO, Mr. S. Anta, has finally decided that the time is ripe for Acme Plastic Gnomes to enter cyberspace!
The first attempts of devicing an electronic commerce infra-structure using pigeons and straw were complete failures.
The task are now in your hands. You will have to implement and deploy a working webshop in Java. You implement the webshop as a Web-application using the Java EE technologies, e.g JSF, servlets, EJBs, and JPA (or JDBC), to be deployed and run on an application server, e.g. GlassFish.

### Sub-assignment 1: Customer management

This sub-assignment of the Project 4 aims at implementing the infra-structure for tracking customers. Customers must be able to register themselves and must be able to log on to the system after presenting a user id and a password. Each customer has its own set of ids and passwords.

To pass this sub-assignment the system must handle the following cases:

- A customer must be able to register itself. The customer must be able to chose an arbitrary a password and user id. Both user id and password are strings. Customers cannot register an already existing user id.
- A registered customer must be able to log on to the system.
- A customer that have logged in must be able to log out from the system.

## Sub-assignment 2: Inventory and shopping basket management. Buy and pay functionality

Each customer has a shopping basket when he or she is logged on to the system. The customer fills this basket with gnomes from the inventory. In this sub-assignment the shopping basket and inventory is to be implemented.
To pass this sub-assignment the system must handle the following cases:

- A customer must be able to browse the articles, i.e., the different types of gnomes, and the inventory, i.e., the available amount of gnomes of each type. It is assumed that you hardcode the inventory to hold at least three (3) different types of gnomes and that there are initially at least 10 units of each type. For each type of gnome the currently available number of units in the inventory must be displayed.
- A customer must be able to take units from the inventory and put them into his or her shopping basket. The status of the shopping basket, i.e., the number of units of each type of gnome in the shopping basket, must be displayed.
- A customer must be able to buy and pay for the units in her shopping basket. After payment, the units should be removed from the basket as being bought by the customer.

## Sub-assignment 3: Administrative interface

The third and final sub-assignment in Project 4 aims at implementing the administrative interface to the system. This interface is, for example, to be used to update the inventory when new shipments of gnomes arrive from the factory.
Acme Plastic Gnome has in the past had problems with customers who cannot pay for the goods. Mr S. Anta has decided that customers can be banned if they do not behave.
To pass this sub-assignment of Project 4 the system must handle these cases:

- It must be possible to log on to the system as an administrator.
- As an administrator it must be possible to add and remove articles to the inventory.

- As an administrator it must be possible to add additional units to an arbitrary article.
- As an administrator it must be possible to ban registered customer. A banned customers can not log on. The user id is still, however, valid and no other customer can register the banned user id.

## Hardware/Software environment

Hardware environment Albert Avellana:

| | |
|---|---|
| Computer: | Thinkpad X-200 |
| OS: | Linux Mint |
| IDE: | NetBeans 7.4 |

Hardware environment Joël Rolli:

| | |
|---|---|
| Computer: | Thinkpad T-420s |
| OS: | Lubuntu 13.10 |
| IDE: | NetBeans 7.4 |

Team:

| | |
|---|---|
| Version control system: | git version 1.8.1.2 |
| Server: | Glassfish Server 4.0 |
| JDK version: | 1.7 |

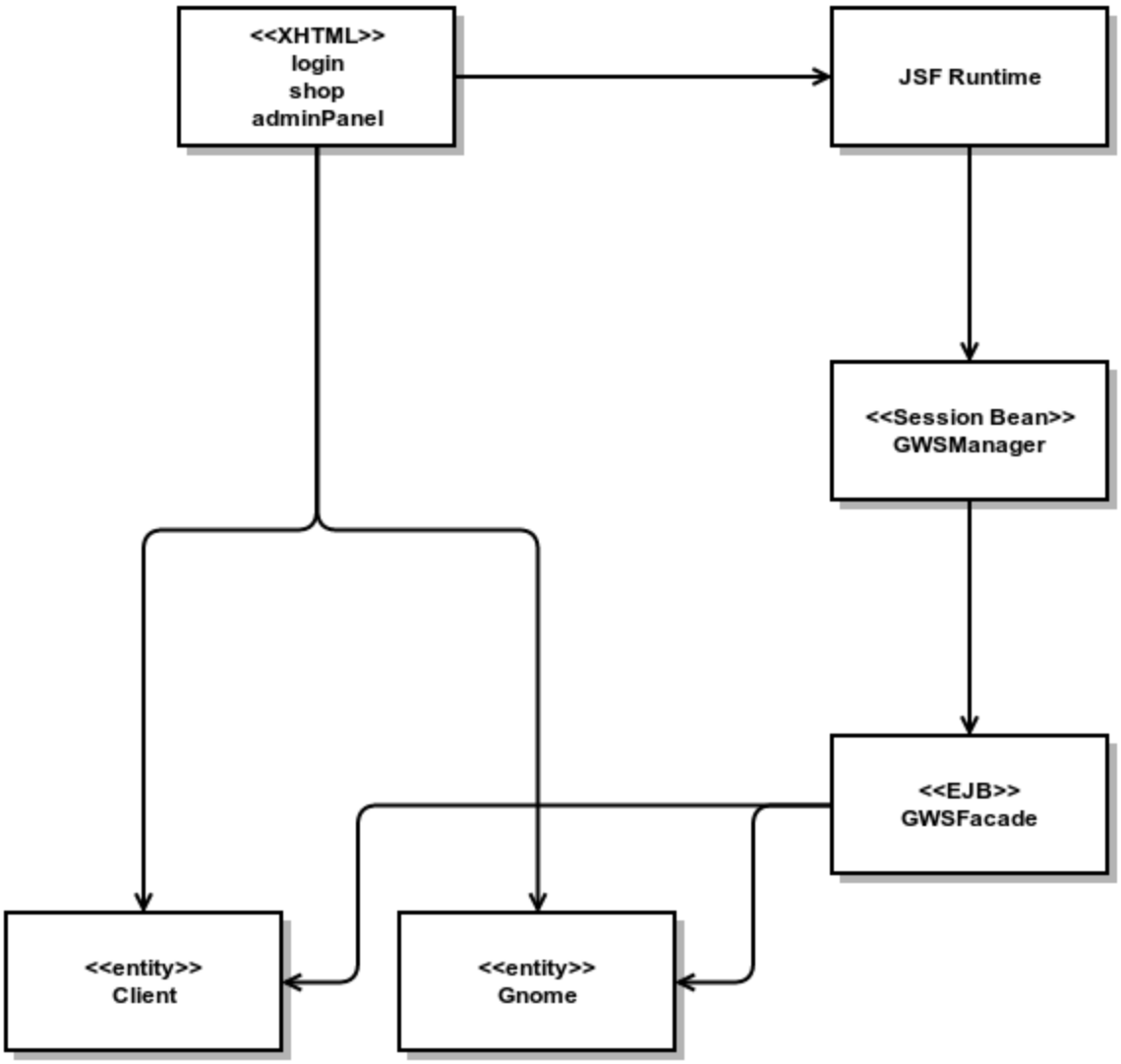
## Technologies

Used java technologies:

- JPA
- JDBC
- MySQL Database on Glassfish Server
- EJB

# Software description

## Class diagram




### Web content

The three xhthml login, shop and adminpanel represent the GUI which is shown in the web browser to the clients.

- Login is the login page, where you can register a new user, login as user or administrator
- shop is used by a user to buy gnomes.
- adminpanel is used by administrators to add/remove gnomes fill the stock or ban/unban user.

**GWSManager (View)**

This session bean handles all incoming HTTP requests and gets the needed data from the GWSFacade and handles the navigation between the html views. The GWSManager handles feedback to the user as well.

**GWSFacade (Controller)**

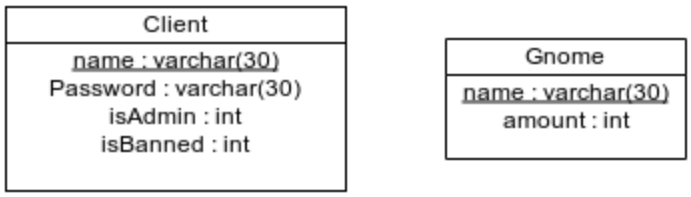
The GWSFacade manages transactions. It provides all methods to manipulate the entities. The two main tasks that are provided are:

User management: Register, login, logout, bann user
Gnome management: Buy, fill stock, add/remove gnomes

**Model**

The model contains the two entities Client and Gnome. Read more about this in chapter ER-model.

## ER-model




A very simple er model is used for the web shop. There are only two entities needed which have to be persistent. These are the clients and the avaliable gnomes in the web shop.
There is no relation between the entities needed as there is no buying history or such thing needed for this project.

**Client**
This entity is used to keep track of the clients using the web shop, including the administrator.

| | |
|---|---|
| name | Is used to identify the user. This is the primary key and it's unique. |
| password | This is the password that has to be entered in conbination with the correct name to log in successfully. |
| isAdmin | This value is used to define a client as administrator. |

| | |
|---|---|
| isBanned | This value is used to define a client as banned. |

**Gnome**
This entity is used to keep track of the inventory.

| | |
|---|---|
| name | Is used to identify the type of gnome. This is the primary key and it's unique. |
| amount | Is used to define, how many gnomes are in the inventory |

# User guide

The project was developed and tested within Netbeans environment and with Glassfish server. The database is located as well on the Glassfish server in the Netbeans environment. To run and test the project you have to work with Netbeans. Following steps have to be performed before starting the program:

1. Open your Netbeans EE environment
2. If not installed, install the git plugin for Netbeans.
3. Clone the project from git. The link to the git repository is https://github.com/gargamelcat/StupidSwiss.git
4. Create a database on the glassfish server. The database information can be found in the persistence.xml in the project folder "Configuration files"
5. To fill the database with some default information, two sql statements can be found in the project folder "SQLStatements".
6. Run the project.