

TECHNICAL REQUIREMENTS

Adoption of Java EE Technologies and API	Requirement for Grade
GUI app client using Swing/AWT or Command-line based client	P
JSF web client (Facelet Pages & ManagedBeans)	P
Persistence API	P
Entity Manager (Application Managed or Container Managed)	P
Retrieval of data using JPQL	P
Interaction between clients and DB handled by EJBs	C
Use both Named and Dynamic JPQL (search by single property)	C
Mapping inheritance to DB	D (Preferred)
Use Bean validations	D
Use both Criteria API and JPQL (combination search)	HD
Consumption of WS in EJBs (May be implemented in Managed Beans but will not obtain full marks allocated to this item)	HD
The EE application secured using JAAS; User password encryption in database	HD

Note: You are welcome to demonstrate advanced features that you've implemented but not listed below for bonus marks.

GENERAL REQUIREMENTS

Documentation and Coding Style	Requirement for Grade
Learning Summary Report is Complete	P
Design Report is Complete	C
Entity Classes are well designed with proper Annotations	C
Implementation demonstrates Object Oriented Principle of Encapsulation	C
Design Report is Complete and of Very Good Quality	D (Preferred)
Java EE Code is appropriately commented (with Author's name noted)	D
Design Report is Complete and of Excellent Quality	HD (Preferred)

APPLICATION CLIENT

Action	Parameter (Inputs validation)	Result	Feature for Grade
Search for items by	Title Type Price (and other Attributes)	Results with tabular format and headings	P

WEB CLIENT - VISITOR ROLE

Action	Parameter (Inputs validation)	Result	Feature for Grade
Search for Items by	Title Type Price (and other Attributes)	Results with tabular format and headings	P
Login	username password (validation & encryption)	Login as a Visitor	C
Logout	username	Redirect to the Login page	C
Update User's personal information	All mandatory properties (required fields check & inputs validation)	Successful operation Feedback to User	C
Select one item in the resulting table from Search	Items in the list	Display full details on an item (URLs of thumbnail images acceptable).	C

WEB CLIENT - TRADER ROLE

Action	Parameter (Inputs validation)	Result	Feature for Grade
Search for available Items by	Title Type Price (and other Attributes)	Results with tabular format and headings	P
Login	username password (validation & encryption)	Login as a Trader	C
Logout	username	Redirect to the Login page	C
View User's personal information, account data and list of items in their possession.	Select appropriate option	Results with tabular format and headings	C
Select one item in the resulting table from Search	Items in the list	Display full details on an item (URLs of thumbnail images acceptable).	C
Purchase or sale of items or units of a single type	Item from the list	Units of a single item are exchanged between User and Store and transaction processed	C
Update User's personal information	All mandatory properties (required fields check & inputs validation)	Successful operation Feedback to User	C (Preferred)

Update available credit (deposit or withdraw funds)	Numerical input	Results with tabular format and headings	C (Preferred)
Purchase or sale of items or units of a multiple types	Multiple items from the list	Units of a multiple item are exchanged between User and Store and transaction processed	D
Simultaneous purchase and sale of items or units of a multiple types	Multiple items from the list (for sale and purchase)	Units of a multiple item are exchanged in both directions between User and Store and transaction processed	HD

WEB CLIENT – ADMINISTRATOR ROLE

Action	Parameter (Inputs validation)	Result	Feature for Grade
Search for available Items by	Title Type Price (and other Attributes)	Results with tabular format and headings	P
Login	username password (validation & encryption)	Login as an Administrator	C
Logout	username	Redirect to the Login page	C
View User's personal information, account data and list of items in their possession.	Select action	Results with tabular format and headings	C
Select one item in the resulting table from Search	Items in the list	Display full details on an item (URLs of thumbnail images acceptable).	C
Upgrade a Visitor to Trader, upgrade a Trader to an Administrator	All mandatory properties (required fields check & inputs validation)	Successful operation Feedback to User	C
Downgrade an Administrator to Trader	All mandatory properties (required fields check & inputs validation)	Successful operation Feedback to User	C
Purchase or sale of items or units of a single type	Item from the list	Units of a single item are exchanged between User and Store and transaction processed	C (See Note 1)
Update User's personal information	All mandatory properties (required fields check & inputs validation)	Successful operation Feedback to User	C (Preferred)
Update available credit (deposit or withdraw funds)	Numerical input	Results with tabular format and headings	C (Preferred)
Search for Users by	A combination of inputs: ID, Last name, First name phone number and email	Results with tabular format and headings	D
Select one user in the resulting table from Search	Users in the list	Display full details on a user: Personal information, credit and any items in their possession.	D
Search for Exchanges by	A combination of available inputs: Exchange ID, User and Item Information	Results with tabular format and headings (multiple rows)	D

Purchase or sale of items or units of a multiple types	Multiple items from the list	Units of a multiple item are exchanged between User and Store and transaction processed	D (Note 1)
Simultaneous purchase and sale of items or units of a multiple types	Multiple items from the list (for sale and purchase)	Units of a multiple item are exchanged in both directions between User and Store and transaction processed	HD (Note 1)

(Note 1) If combining Administrator and Super-administrator functions, purchase and sales should ideally be prevented for these roles.

WEB CLIENT – **SUPER-ADMINISTRATOR** ROLE

Action	Parameter (Inputs validation)	Result	Feature for Grade
Search for available Items by	Title Type Price (and other Attributes)	Results with tabular format and headings	P
Login	username password (validation & encryption)	Login as Super Administrator	C
Logout	username	Redirect to the Login page	C
View User's personal information, account data and list of items in their possession.	Select appropriate option	Results with tabular format and headings	C
Select one item in the resulting table from Search	Items in the list	Display full details on an item (URLs of thumbnail images acceptable).	C
Search for Users by	A combination of inputs: ID, Last name, First name phone number and email	Results with tabular format and headings	C
Select one user in the resulting table from Search	Users in the list	Display full details on a user: Personal information, credit and any items in their possession.	C
Upgrade a Visitor to Trader, upgrade a Trader to an Administrator	All mandatory properties (required fields check & inputs validation)	Successful operation Feedback to User	C
Downgrade an Administrator to Trader	All mandatory properties (required fields check & inputs validation)	Successful operation Feedback to User	C
Purchase or sale of items or units of a single type	Item from the list	Units of a single item are exchanged between User and Store and transaction processed	C (See Note 1)
Update User's personal information	All mandatory properties (required fields check & inputs validation)	Successful operation Feedback to User	C (Preferred)
Update available credit (deposit or withdraw funds)	Numerical value	Results with tabular format and headings	C (Preferred)
Search for Exchanges by	A combination of available inputs: Exchange ID, User and Item Information	Results with tabular format and headings (multiple rows)	D

Downgrade a Trader to Visitor	Add a user to the system, delete a user from the system and update a user's details	Successful operation Feedback to User	D
Remove a User from the database	Delete user from the system and update a user's details	Successful deletion from User table and Feedback to User	D
Add a new item to catalogue, including all required and optional fields.	All mandatory properties (required fields check & inputs validation)	Successful insertion to Item table and Feedback to User	D
Purchase or sale of items or units of a multiple types	Multiple items from the list	Units of a multiple item are exchanged between User and Store and transaction processed	D (See Note 1)
Update base price of an item, or modify numbers currently in stock	Numerical inputs	Successful updates to Item table and Feedback to User	D (Preferred)
Delete an Item from the catalogue	Item to delete	Successful removal from Item table and Feedback to User	D (Preferred)
Adjust buy / sell percentage spread(s) Si for Traders and privileged users (Administrators)	Numerical inputs	Results with tabular format and headings	D (Preferred)
Add a new item to catalogue, using information from a web service for one or more fields.	Information about the item can be obtained via WS	Successful insertion to Item table and Feedback to User	HD
Simultaneous purchase and sale of items or units of a multiple types	Multiple items from the list (for sale and purchase)	Units of a multiple item are exchanged in both directions between User and Store and transaction processed	HD (See Note 1)

(Note 1) If combining Administrator and Super-administrator functions, purchase and sales should ideally be prevented for these roles.