

# Java Web Development Basics

## Java EE Workshop – JavaServer Faces

### PANDA

**PANDA** (Package Acceptance and National Delivery Application) is a platform for package deliveries, which is a fast-rising Start-Up, which lacks a web application. You have been employed by the **KFC** (Kung-Fu-Chicken) Corporation to implement a web platform for **PANDA**.

## 1. Database Requirements

The **Database** of the **PANDA** application needs to support **3 entities**:

### User

- Has an **Id** – a **UUID String** or an **Integer**.
- Has an **Username**
- Has a **Password**
- Has an **Email**
- Has an **Role** – can be one of the following values (“**User**”, “**Admin**”)

### Package

- Has an **Id** – a **UUID String** or an **Integer**.
- Has a **Description** – a string.
- Has a **Weight** – a floating-point number.
- Has a **Shipping Address** – a string.
- Has a **Status** – can be one of the following values (“**Pending**”, “**Shipped**”, “**Delivered**”, “**Acquired**”)
- Has an **Estimated Delivery Date** – A **LocalDateTime** object.
- Has a **Recipient** – a **User** object.

### Receipt

- Has an **Id** – a **UUID String** or an **Integer**.
- Has a **Fee** – a decimal number.
- Has an **Issued On** – a **LocalDateTime** object.
- Has a **Recipient** – a **User** object.
- Has a **Package** – a **Package** object.

Implement the entities with the **correct datatypes**.

## 2. Template Requirements

### Guest Templates

These are the **templates** and **functionalities**, accessible by **Guests** (logged out users).

## Index Template (route = "/" ) (logged out user)

PANDA

Home Login Register

Welcome to PANDA Delivery Services.

Login

 if you have an account.  

Register

 if you don't.

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## Login Template (route = "/login" ) (logged out user)

PANDA

Home Login Register

Login

Username

Username...

Password

Password...

Login

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## Register Template (route = "/register") (logged out user)

PANDA

Home Login Register

Register

Username

Username...

Password

Password...

Confirm Password

Confirm Password...

Email

Email...

Register

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## User Templates

These are the **templates** and **functionalities**, accessible by **Users** (**logged in** users with **Role - User**).

## LoggedIn Index Template (route="/") (logged in user)

PANDA

Home Receipts Logout

Hello, Pesho!

Pending

iPhone XS Case

Details

TV table

Details

Chushkopek

Details

Office Chair

Details

Shipped

1959 Irish Bourbon

Details

Delivered

Dog Toy

Acquire

Mineral Water

Acquire

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## Package Details Template (route="/packages/details?id={id}") (logged in user)

PANDA

HomeReceiptsLogout

Package Details

Address

ul. Korab-Planina 1

Status

Pending

Estimated Delivery Date

N/A

Weight

5.64 KG

Recipient

Ivo

Description

iPhone XS Case

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PANDA

HomeReceiptsLogout

Package Details

Address

ul. Korab-Planina 1

Status

Shipped

Estimated Delivery Date

26/09/2019

Weight

5.64 KG

Recipient

Ivo

Description

iPhone XS Case

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PANDA

HomeReceiptsLogout

Package Details

Address

ul. Korab-Planina 1

Status

Delivered

Estimated Delivery Date

Delivered

Weight

5.64 KG

Recipient

Ivo

Description

iPhone XS Case

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### NOTE:

- If the **package's status** is **Pending**, it should **NOT** have an **Estimated Delivery Date**, and **"N/A"** should be presented.
- If the **package's status** is **Shipped**, it will have an **Estimated Delivery Date**. In that case the **date** should be presented instead of **"N/A"**. (Example: **"29/02/2016"**).
- If the **package's status** is **Delivered** or **Acquired**, instead of the **date**, **"Delivered"** should be presented.

## Receipts Template (route="/receipts") (logged in user)

PANDA

HomeReceiptsLogout

My Receipts

Id	Fee	Issued On	Recipient	Actions
fb536f4-7463-41d2-8650-4d1c87de722b	\$15.06	26/09/2019	Ivo	<a href="#">Details</a>
7c62da68-3875-44ba-815d-99518039b946	\$1344.72	15/11/2018	Ivo	<a href="#">Details</a>

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## Receipt Details Template (route="/receipts/details?id={id}") (logged in user)

PANDA

HomeReceiptsLogout

Receipt Details

Receipt Number:

fb536f4-7463-41d2-8650-4d1c87de722b

Issued On:

26/09/2019

Delivery Address:

ul. Korab-Planina 1

Package Weight (KG):

5.64

Package Description:

iPhone XS Case

Recipient:

Ivo

Total:

\$15.06

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## Admin Templates

These are the **templates** and **functionalities**, accessible by **Admins** (logged in users with **Role - Admin**).

## Admin Index Template (route="/" ) (logged in admin)

Hello, Administrator Pesho!

### Pending

iPhone XS Case	<a href="#">Details</a>
TV table	<a href="#">Details</a>
Chushkopek	<a href="#">Details</a>
Office Chair	<a href="#">Details</a>

### Shipped

1959 Irish Bourbon	<a href="#">Details</a>
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### Delivered

Dog Toy	<a href="#">Acquire</a>
Mineral Water	<a href="#">Acquire</a>

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The navigation links above should lead to:

- [\[Pending\]](#) – Pending Packages
- [\[Shipped\]](#) – Shipped Packages
- [\[Delivered\]](#) – Delivered Packages
- [\[Package\]](#) – Create Package

## Package Details Admin Template (route="/packages/details?id={id}") (logged in admin)

### Package Details

Address	Status	Estimated Delivery Date
ul. Korab-Planina 1	Pending	N/A
Weight	Recipient	
5.64 KG	Ivo	
Description		
iPhone XS Case		

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PANDA

Pending

Shipped

Delivered

Package

Home

Receipts

Logout

Package Details

Address

ul. Korab-Planina 1

Status

Shipped

Estimated Delivery Date

26/09/2019

Weight

5.64 KG

Recipient

Ivo

Description

iPhone XS Case

PANDA

Pending

Shipped

Delivered

Package

Home

Receipts

Logout

Package Details

Address

ul. Korab-Planina 1

Status

Acquired

Estimated Delivery Date

Delivered

Weight

5.64 KG

Recipient

Ivo

Description

iPhone XS Case

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## NOTE:

- If the **package's status** is **Pending**, it should **NOT** have an **Estimated Delivery Date**, and **"N/A"** should be presented.
- If the **package's status** is **Shipped**, it will have an **Estimated Delivery Date**. In that case the **date** should be presented instead of **"N/A"**. (Example: **"29/02/2016"**).
- If the **package's status** is **Delivered** or **Acquired**, instead of the **date**, **"Delivered"** should be presented.

## Receipts Admin Template (route="/receipts") (logged in admin)

PANDA

Pending

Shipped

Delivered

Package

Home

Receipts

Logout

My Receipts

Id	Fee	Issued On	Recipient	Actions
fb536f4-7463-41d2-8650-4d1c87de722b	\$15.06	26/09/2019	Ivo	<button>Details</button>
7c62da68-3875-44ba-815d-99518039b946	\$1344.72	15/11/2018	Ivo	<button>Details</button>

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## Receipt Details Admin Template (route="/receipts/details?id={id}") (logged in admin)

PANDA	Pending	Shipped	Delivered	Package	Home	Receipts	Logout
-------	---------	---------	-----------	---------	------	----------	--------

### Receipt Details

Receipt Number:	fbb536f4-7463-41d2-8650-4d1c87de722b
Issued On:	26/09/2019
Delivery Address:	ul. Korab-Planina 1
Package Weight (KG):	5.64
Package Description:	IPhone XS Case
Recipient:	Ivo
Total: \$15.06	

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## Package Create Admin Template (route="/packages/create") (logged in admin)

PANDA	Pending	Shipped	Delivered	Package	Home	Receipts	Logout
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### Create Package

Description	
<input type="text" value="Description..."/>	
Weight	Shipping Address
<input type="text" value="Weight..."/>	<input type="text" value="Shipping Address..."/>
Recipient	
<input type="text" value="-- Choose Recipient --"/>	
<input type="button" value="Create"/>	

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**NOTE:** The **Recipients** field is a **dropdown menu**, with **all the registered users** in the **application** (including **yourself**). The **primarily selected option** should be "**-- Choose Recipient --**" and it should be **disabled**, so that it **cannot be selected**.



## Pending Packages Admin Template (route="/packages/pending") (logged in admin)

PANDA	Pending	Shipped	Delivered	Package	Home	Receipts	Logout
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### Pending Shipment

#	Description	Weight	Shipping Address	Recipient	Actions
1	IPhone XS Case	5.64 KG	ul. Korab-Planina 1	Ivo	<button>Ship</button>
2	Mineral Water	503.64 KG	ul. Tintyava 15-17	Pesho	<button>Ship</button>

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## Shipped Packages Admin Template (route="/packages/shipped") (logged in admin)

PANDA	Pending	Shipped	Delivered	Package	Home	Receipts	Logout
-------	---------	---------	-----------	---------	------	----------	--------

### Shipped

#	Description	Weight	Estimated Delivery Date	Recipient	Actions
1	IPhone XS Case	5.64 KG	25/09/2019	Ivo	<button>Deliver</button>
2	Mineral Water	503.64 KG	12/11/2018	Pesho	<button>Deliver</button>

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## Delivered Packages Admin Template (route="/packages/delivered") (logged in admin)

PANDA	Pending	Shipped	Delivered	Package	Home	Receipts	Logout
Delivered							
#	Description	Weight	Shipping Address	Recipient	Actions		
1	IPhone XS Case	5.64 KG	ul. Korab-Planina 1	Ivo	Details		
2	Mineral Water	503.64 KG	ul. Tintyava 15-17	Pesho	Details		

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All of the templates will be given to you in the form of HTML files, so make sure you implement your pages correctly.

**NOTE:** The templates should look **EXACTLY** as shown above.

**NOTE:** The templates do **NOT** require additional CSS. Only **bootstrap** and the given **style.css** are enough.

**NOTE:** In the given **style.css** you'll see some helpful classes "**bg-panda**", "**text-panda**", "**border-panda**". "**border-panda**" will help you with the **border** of the **blocks** on the **Index Pages**.

### 3. Functional Requirements

The **Functionality Requirements** describe the functionality that the **Application** must support.

The **application** should provide **Guest** (not logged in) users with the functionality to:

- **Login**
- **Register**
- **View the Guest Index** page

The **application** should provide **Users** (logged in) with the functionality to:

- **Logout**
- **View their Packages**
- **View details** about a **Package**
- **View their Receipts**
- **View details** about a **Receipt**

The **application** should provide **Admins** (logged in, with **role - Admin**) with the functionality to:

- **Logout**
- **View their Packages**
- **View details** about a **Package**
- **View their Receipts**

- **View details** about a **Receipt**
- **View all Pending Packages**
- **View all Shipped Packages**
- **View all Delivered Packages**
- **View details** about all **Delivered Packages**
- **Ship Packages**
- **Deliver Packages**

## Users

The **first registered User** should be **assigned** a **role** – "**Admin**". Every **User** after that, should have a **role** – "**User**".

**Users** have **Packages**, which are **created** and **controlled** for them, by an **Administrator**.

**Users** can **view Details** about their **own Packages**.

When a **Package** is **delivered**, a **User** can **acquire** it, at which point a **Receipt** is **created** with **that Package** and **that User**.

**Users** can **view** their **Receipts**, and **details** about each **Receipt**.

**Administrators** (role = "**Admin**") are essentially like normal **Users**. They can also have **Packages**, which are **delivered**, **acquired** and they also have **Receipts**.

**Administrators** can also **create Packages** for a specific **User**.

- They can also **view** all **Pending Packages**, and they can **Ship** them.
- They can also **view** all **Shipped Packages**, and they can **Deliver** them.
- They can also **view** all **Delivered Packages**, and they can **view Details** about them.

## Packages

When **Packages** are **created**, they are **created** with a **Description**, a **Weight**, a **Shipping Address** and a **Recipient User**.

- Upon creation, the **Status** of a **Package** should be set to **Pending**.
- Upon creation, the **Estimated Delivery Date** of a **Package** should be set to **NULL**.

## Functionality

### Pending Packages

A **Pending Package**, can be **Shipped** by an **Administrator**, by clicking on the **[Ship]** button from the **Pending Packages** Page. At that moment the **Package Status** becomes "**Shipped**" and the **Estimated Delivery Date** is to be set to a **random** of **20-40** days from then.

- **All Pending Packages** are presented on the **Pending Packages Page**.
- A **User** can view his **Pending Packages** on his **Index Page** in the **Pending** rectangular block.
- A **User** can **view details** about each one of his **Pending Packages** from his **Index Page**, by clicking on the **[Details]** button.

### Shipped Packages

A **Shipped Package**, can be **Delivered** by an **Administrator**, by clicking on the **[Deliver]** button from the **Shipped Packages** Page. At that moment the **Package Status** becomes "**Delivered**".

- **All Shipped Packages** are presented on the **Shipped Packages Page**.

- A **User** can view his **Shipped Packages** on his **Index Page** in the **Shipped** rectangular block.
- A **User** can **view details** about each one of his **Shipped Packages** from his **Index Page**, by clicking on the **[Details]** button.

### Delivered Packages

A **Delivered Package**, can be **Acquired** by the **Package's Recipient**, by clicking on the **[Acquire]** button from his **Index Page**. At that moment the **Package Status** becomes "**Acquired**" and a **Receipt** is **generated** to the **User** for that **Package**.

- **All Delivered Packages** are presented on the **Delivered Packages Page**.
- A **User** can view his **Delivered Packages** on his **Index Page** in the **Delivered** rectangular block.
- A **User** can **Acquire** each one of his **Delivered Packages** from his **Index Page**, by clicking on the **[Acquire]** button.

**NOTE:** The **INDEX PAGE** visualizes **ONLY** the **CURRENTLY LOGGED IN USER / ADMIN's PACKAGES**.

**NOTE:** **Acquired Packages** are viewable only by **Administrators** on the **Delivered Packages Page**.

**NOTE:** **Administrators** can **view details** about **ALL Delivered / Acquired Packages** from the **Delivered Packages Page**, by clicking on the **[Details]** button.

### Receipts

**Receipts** are just data entities. They are **created** when a **Package** is **Acquired** by its **Recipient User**. A **Receipt** should be **created** with a **Package** and a **Recipient User**.

Upon creation, a **Receipt's Fee** should be **set** to the **Package's Weight multiplied (\*) by 2.67**.

Upon creation, a **Receipt's IssuedOn** should be set to the **current moment**.

## 4. Security Requirements

The **Security Requirements** are mainly access requirements. Configurations about which users can access specific functionalities and pages.

- **Guest** (not logged in) users can access **Index** page and functionality.
- **Guest** (not logged in) users can access **Login** page and functionality.
- **Guest** (not logged in) users can access **Register** page and functionality.
- **Users** (logged in) can access **User LoggedIn Index** page and functionality.
- **Users** (logged in) can access **User Package Details** page and functionality.
- **Users** (logged in) can access **User Receipts** page and functionality.
- **Users** (logged in) can access **User Receipt Details** page and functionality.
- **Users** (logged in) can access **User Package Acquire** functionality.
- **Users** (logged in) can access **Logout** functionality.
- **Admins** (logged in) can access **every functionality** a **normal logged in User** can.
- **Admins** (logged in) can access **Admin LoggedIn Index** page and functionality.
- **Admins** (logged in) can access the **Admin Package Create** page and functionality.
- **Admins** (logged in) can access the **Admin Pending Packages** page and functionality.
- **Admins** (logged in) can access the **Admin Shipped Packages** page and functionality.
- **Admins** (logged in) can access the **Admin Delivered Packages** page and functionality.
- **Admins** (logged in) can access the **Admin Package Ship** functionality.
- **Admins** (logged in) can access the **Admin Package Deliver** functionality.