

## User Story 1: Real-Time Order Tracking

**As a** customer **I want** to view the live status of my order on dedicated “My Orders” page **So that** I can immediately know where my package is without calling customer service.

### Acceptance Criteria:

#### 1. Scenario: Display current order status

- **Given** I am on the “My Orders” page
- **When** I enter a valid order number and submit
- **Then** I can track my order’s progress through each stage: 'Preparing', 'Shipped', 'Out for Delivery', 'Delivered!'
- **And** each status entry shows a timestamp in UTC+3

#### 2. Scenario: Automatic refresh of status

- **Given** my order status is displayed on the page
- **When** 5 seconds have elapsed without user interaction
- **Then** the page fetches the latest status from the server
- **And** automatically refreshes the display

#### 3. Scenario: Tracking multiple orders

- **Given** I have tracked more than one order in my session
- **When** I select a different order from the list
- **Then** the page displays the selected order’s status

## User Story 2: Multi-Carrier API Integration

**As a** software developer **I want** to implement a unified adapter layer for Aras, Yurtiçi, and MNG APIs **So that** order status data can be fetched reliably and uniformly from each carrier.

### Acceptance Criteria:

#### 1. Scenario: Adapter instantiation per carrier

- **Given** the system requires order status data from a logistics provider
- **When** the carrier type is identified as Aras, Yurtiçi, or MNG
- **Then** instantiate the corresponding adapter implementation

#### 2. Scenario: Sandbox Environment Validation

- **Given** the sandbox environment is active
- **When** a status request is executed via the adapter layer
- **Then** validate end-to-end success of the API transaction

#### 3. Scenario: Transient Failure Recovery

- **Given** an API response indicates a timeout or 5xx server error (e.g., 502 Bad Gateway, 503 Service Unavailable, etc.)
- **When** the initial request fails
- **Then** retry the operation up to 3 times with exponential backoff
- **And** audit all retries attempts in the system logs

#### 4. Scenario: Diagnostic Data Capture

- **Given** any interaction with a carrier API occurs
- **When** the request lifecycle completes (success/failure)
- **Then** persist the raw payload, headers, and metadata to Elasticsearch

## User Story 3: Estimated Delivery Date Display

**As a** customer managing my schedule, **I want** to see an “Estimated Delivery Date (DD.MM.YYYY)” for each order **So that** I can anticipate when my package will arrive.

### Acceptance Criteria:

#### 1. Scenario: Carrier-Sourced ETA Display

- **Given** the carrier’s API returns an estimated time of arrival
- **When** I access the **Order Details** page
- **Then** the system displays 'Estimated Delivery: DD.MM.YYYY' (adjusted to UTC+3) below the order summary section.

#### 2. Scenario: AI-Powered Delivery Prediction

- **Given** the carrier API does not return an estimated time of arrival
- **When** I navigate to the Order Details page
- **Then** the system invokes the ML Prediction Service
- **And** displays the predicted ETA in “DD.MM.YYYY” format

#### 3. Scenario: PDF Export Consistency

- **Given** I export my order details as a PDF
- **When** the document is generated
- **Then**, under the Key Dates header, display the delivery date in bold using the label format: Estimated Delivery: DD.MM.YYYY

## User Story 4: SMS/Email Notification Preferences

**As a** customer **I want** to be able to choose my preferred notification channels (SMS, email, or both) in my profile settings **So that** I only receive status updates through the communication methods I prefer.

### Acceptance Criteria:

#### 1. Scenario: Update notification preferences

- **Given** I am on the “Profile > Notification Preferences” page
- **When** I select or deselect the SMS and/or Email notification options
- **Then** my preferences should be saved and reflected in my user settings
- **And** I should see a confirmation message: “Your notification preferences have been updated.”

#### 2. Scenario: Trigger notifications on status change

- **Given** SMS and/or email notification is enabled for my account
- **When** an order status changes (e.g. “Shipped” → “Out for Delivery”)
- **Then** the system sends an SMS via Twilio if SMS is enabled
- **And** if email notifications are enabled, the system sends an email via SendGrid.  
If the delivery success rate for any notification channel falls below the acceptable threshold, an error is logged.

## User Story 5: Secure Order Access via Authentication

**As a** registered customer, **I want** to securely authenticate **so that** I can only access my own order history.

### Acceptance Criteria:

#### 1. Scenario: Login Requirement to Access Orders

- **Given** I am not logged into the system,
- **When** I try to access the “My Orders” page,

- **Then** the system should redirect me to the login page and require proper authentication,
- **And** upon successful authentication, I should only see my own orders.

## 2. Scenario: Order Ownership Validation

- **Given** I am logged into the system,
- **When** I request the details for a specific order,
- **Then** the system must verify that the order belongs to my account,
- **And** display the order details only if the ownership is confirmed,
- **And** all database queries related to this task must use parameterized queries to prevent SQL injection attacks.

## 3. Scenario: Prevention of Unauthorized Access

- **Given** I am logged in,
- **When** I attempt to access an order that does not belong to my account (e.g., by modifying URL parameters),
- **Then** the system must display an error message stating, “You are not authorized to view this order,”
- **And** log the unauthorized access attempt with details including my user ID, timestamp, and the attempted order ID,
- **And** flag the log entry for immediate security review.

## 4. Scenario 4: Session Timeout and Reauthentication

- **Given** my session has expired due to inactivity,
- **When** I attempt to access the “My Orders” page,
- **Then** the system should redirect me to the login page for reauthentication,
- **And** upon successful login, automatically redirect me back to the “My Orders” page with my session renewed.