Scenario I.1 – Market Activation

Test Route – Positive

- Case Description: The user activates the market system for the first time.
- Test Data: Initial authentication details (username and password), valid payment and supply service details.
- Preconditions: System must be off.
- Expected Result: The system successfully activates, initializing the user as the system's manager with configured payment and supply services, and starts serving users.

Test Route – Negative (Authentication Error)

- Case Description: The system manager attempts to activate the market system but provides invalid authentication details.
- Test Data: Invalid authentication details (username and password).
- Preconditions: System must be off.
- Expected Result: The system won't start up and will return an error message indicating invalid authentication details, prompting the user to re-enter them.

Test Route – Negative (Payment and Supply Services Error)

- Case Description: The system manager provides correct authentication details but enters incorrect payment or supply service details.
- Test Data: Valid authentication details, incorrect payment and supply service details.
- Preconditions: System must be off.
- Expected Result: The system won't complete the activation and will report an error regarding the payment or supply service details, prompting the user to correct these details.

Scenario I.2 – Managing External Services

Test Route – Positive

- Case Description: The system manager changes, replaces, or adds an external service on the system successfully.
- Test Data: Valid new details for the external service to be changed, replaced, or added.

- Preconditions: System is on and initialized correctly, and the system manager is logged in.
- Expected Result: External services are updated successfully without interrupting system activity, and a confirmation of successful update is shown to the system manager.

Test Route – Negative

- Case Description: The system manager attempts to change, replace, or add an external service but provides invalid details.
- Test Data: Invalid details for the external service.
- Preconditions: System is on and initialized correctly, and the system manager is logged in.
- Expected Result: The system is unable to verify the changes due to invalid details, and prompts the system manager to recheck and enter the details again.

Scenario I.3 – Payment Processing

Test Route – Positive

- Case Description: The system successfully contacts the external payment service, submits payment details, and receives confirmation of the successful payment.
- Test Data: Valid payment details (e.g., amount, payer account information).
- Preconditions: The system is on.
- Expected Result: The user receives confirmation of successful payment.

Test Route – Negative (Unsuccessful Payment)

- Case Description: The external payment service rejects the payment due to issues with the transaction itself (e.g., insufficient funds, blocked account).
- Test Data: Payment details leading to an unsuccessful payment (e.g., insufficient funds).
- Preconditions: The system is on.
- Expected Result: The system receives a report of unsuccessful payment and informs the user accordingly.

Test Route – Negative (Incorrect Payment Details)

- Case Description: The system submits incorrect payment details to the external payment service, which leads to a failure in processing the payment.
- Test Data: Incorrect payment details (e.g., wrong account number).
- Preconditions: The system is on.

- Expected Result: The external payment service cannot process the payment due to incorrect details, and the system is notified of the error and in turn informs the user to correct the details.

Scenario I.4 – Supply Order Processing

Test Route – Positive

- Case Description: The system successfully contacts the external supply service, submits supplement and client details, and receives confirmation of the successful supplement order.
- Test Data: Valid supplement details (e.g., item types, quantities) and client details.
- Preconditions: The system is on.
- Expected Result: The user receives confirmation of successful supplement order.

Test Route – Negative (Unsuccessful Supplement Request)

- Case Description: The external supply service rejects the supplement request due to issues such as unavailable stock or discontinuation of a product.
- Test Data: Supplement details that lead to an unsuccessful supplement request (e.g., request for an out-of-stock item).
- Preconditions: The system is on.
- Expected Result: The system receives a report of unsuccessful supplement request and informs the user accordingly.

Test Route – Negative (Incorrect Supplement Details)

- Case Description: The system submits incorrect supplement details to the external supply service, which leads to a failure in processing the order.
- Test Data: Incorrect supplement details (e.g., wrong item codes).
- Preconditions: The system is on.
- Expected Result: The external supply service cannot process the supplement due to incorrect details, and the system is notified of the error and in turn informs the user to correct the details.

Scenario I.5.1 – Real-Time Alerts for Store Owners

Test Route – Positive

- Case Description: The system successfully sends a real-time notification to the store owner when a client buys one of their products, one of their stores is closed or reopened, or their subscription is removed.

- Test Data: Notification type (product purchase, store closure/reopening, subscription removal) and Store owner user.
- Preconditions: The system is on, and the store owner is logged in.
- Expected Result: The store owner receives a real-time notification appropriate to the event that occurred.

Test Route – Negative (Owner Not Logged In)

- Case Description: An event occurs that should trigger a notification (e.g., product purchase, store closure/reopening, subscription removal), but the store owner is not logged in.
- Test Data: Relevant event data but with the store owner logged out.
- Preconditions: The system is on, but the store owner is not logged in.
- Expected Result: Since the store owner is not logged in, they do not receive any real-time notification

Test Route – Negative (Failed to send)

- Case Description: The initial attempt to deliver a real-time alert fails.
- Test Data: Notification type with a simulated delivery failure and Store owner user.
- Preconditions: The system is on, and the store owner is logged in.
- Expected Result: The system attempts to resend the alert. The test should verify that the system retries the notification delivery and, on successful retry, the store owner receives the notification.

Scenario I.5.2 – Real-Time Alerts for Members

Test Route – Positive

- Case Description: The system successfully sends a real-time notification to a logged-in member when they receive a message.
- Test Data: message content to be sent to a member, online member.
- Preconditions: The system is on, and the member is logged in.
- Expected Result: The member receives a real-time notification that a new message has arrived.

Test Route – Negative (User Not Logged In)

- Case Description: A message is sent to the user, but the user is not logged in.
- Test Data: message content to be sent to a member, offline member.
- Preconditions: The system is on, but the store owner is not logged in.
- Expected Result: Since the store owner is not logged in, they do not receive

Test Route – Negative (Failed to send)

- Case Description: The initial attempt to deliver the real-time alert fails.

- Test Data: message content to be sent to a member, online member.
- Preconditions: The system is on, and the member is logged in.
- Expected Result: The system attempts to resend the alert. The test should verify that the system retries the notification delivery and, on successful retry, the member receives the notification.

Scenario I.6 – Delayed Alerts for Members

Test Route – Positive (Alerts)

- Case Description: The system successfully presents pending alerts to a member when they log into the market.
- Test Data: Preset pending alerts (e.g., notifications of sales, new products, messages).
- Preconditions: The system is on, and the member logs in.
- Expected Result: Upon login, the member receives all pending alerts that have accumulated since their last visit.

Test Route – Positive (No Pending Alerts)

- Case Description: The member logs in but has no pending alerts.
- Test Data: No pending alerts available.
- Preconditions: The system is on, and the member logs in.
- Expected Result: The system recognizes there are no pending alerts and thus does not present any notifications, confirming the system's ability to correctly handle the absence of alerts.

Scenario II.1.1 – Guest Login

Test Route – Positive

- Case Description: A user enters the system as a guest and the system successfully assigns a private shopping cart to them.
- Test Data: None.
- Preconditions: The user is not logged into the system.
- Expected Result: The user logs into the system as a visitor-guest, receives a private shopping cart, and can function as a buyer within the system.

Scenario II.1.2 – Guest Exit

Test Route – Positive

- Case Description: A guest user selects the option to exit the system, which successfully logs them out and removes their shopping cart.

- Test Data: None.
- Preconditions: The user is connected to the system as a guest.
- Expected Result: The guest user is logged out of the system, loses their shopping cart, and is no longer identified as a guest in the system.

Test Route – Negative (Exit Without Logout Confirmation)

- Case Description: A guest user attempts to exit but does not confirm the logout process when prompted.
- Test Data: None.
- Preconditions: The user is connected to the system as a guest and chooses to exit.
- Expected Result: The system prompts the guest for confirmation to log out. If the logout is not confirmed, the system maintains the guest's session and shopping cart, displaying a message that exit was not completed and they are still logged in.

Scenario II.1.3 – Registration to the System

Test Route – Positive

- Case Description: A guest accesses the registration page, enters unique authentication details, and successfully registers in the system as a member, though they must log in to achieve member status.
- Test Data: Unique authentication details (username, password).
- Preconditions: The user is connected to the system as a guest.
- Expected Result: The system verifies the uniqueness of the details, registers the user as a member, and the user can subsequently log in with these details to access member privileges.

Test Route – Negative (Non-unique Identification Details)

- Case Description: A guest tries to register with identification details that are not unique in the system.
- Test Data: Non-unique authentication details (username, password).
- Preconditions: The user is connected to the system as a guest.
- Expected Result: The system detects that the identification details are not unique and prompts the user to provide different details, ensuring the user cannot complete registration until unique details are provided.

Scenario II.1.4 – Guest Login as Member

Test Route – Positive

- Case Description: A registered guest correctly enters their authentication details to log into the system and successfully accesses the system as a member.
- Test Data: Correct authentication details (username, password).
- Preconditions: The user is registered in the system but not logged in.
- Expected Result: The system verifies the authentication details, logs the user into the system as a member, and grants access to member-specific features.

Test Route – Negative (Incorrect Authentication Details)

- Case Description: A registered guest attempts to log in using incorrect authentication details.
- Test Data: Incorrect authentication details (username, password).
- Preconditions: The user is registered in the system but not logged in.
- Expected Result: The system fails to verify the incorrect details and prompts the user to re-enter their details, denying access until the correct details are provided.

Scenario II.2.1 – Accessing Information about Stores and Products

Test Route – Positive

- Case Description: A guest user requests and successfully receives information about stores and their products within the system.
- Test Data: None required.
- Preconditions: The user is logged into the system as a guest.
- Expected Result: The system presents a list of stores; the user selects a store and views its products, successfully retrieving and displaying the products available in the selected store.

Test Route – Negative (Data Retrieval Failure)

- Case Description: A guest requests information about a store's products, but the system fails to retrieve or display the product data due to a database access issue or a similar technical problem.
- Test Data: None required, simulate a backend failure.
- Preconditions: The user is logged into the system as a guest.
- Expected Result: The system attempts to present the product details, but due to a failure in data retrieval, it displays an error message explaining that the product information is currently unavailable.

Scenario II.2.2 – Product Search

Test Route – Positive (General Search)

- Case Description: A guest uses the general search functionality to find products based on name, category, or keywords, and applies filters to refine the search results.
- Test Data: Search input for product name, category, or keywords; filter criteria for price range, product rating, category, store rating.
- Preconditions: The user is logged into the system as a guest.
- Expected Result: The system retrieves products matching the initial search criteria, allows the user to apply specified filters, and displays the filtered search results.

Test Route – Positive (Store-Specific Search)

- Case Description: A guest navigates to a specific store's section within the system and searches for products by entering criteria and applying filters.
- Test Data: Search input specific to products in a chosen store; filter criteria as described above.
- Preconditions: The user is logged into the system as a guest and accesses a specific store's section.
- Expected Result: The system retrieves products matching the search criteria specific to the selected store, allows filtering, and displays the filtered search results.

Test Route – Negative (No Results Found)

- Case Description: A guest conducts a search using criteria that match no products in the system.
- Test Data: Uncommon or incorrect search terms and filter settings that do not match any existing products.
- Preconditions: The user is logged into the system as a guest.
- Expected Result: The system fails to find any matching products and displays a message indicating "no matching results."

Scenario II.2.3 – Saving Products in Shopping Cart

Test Route – Positive

- Case Description: A guest selects products from various stores and successfully adds them to the shopping cart.
- Test Data: Correct store ID, product ID, and product count for multiple items.
- Preconditions: The user is logged into the system as a guest.
- Expected Result: The system verifies the parameters for each product, adds the selected products to the guest's shopping cart, and confirms that the items have been saved.

Test Route – Negative (Incorrect Parameters)

- Case Description: A guest attempts to add products to the shopping cart using incorrect parameters, such as a wrong store ID, product ID, or an invalid count.
- Test Data: Incorrect store ID, product ID, or product count (e.g., a negative number for count).
- Preconditions: The user is logged into the system as a guest.
- Expected Result: The system attempts to verify the parameters and, upon finding errors, alerts the guest about the unsuccessful operation due to incorrect parameters.

Scenario II.2.4 – Checking and Modifying Shopping Cart

Test Route – Positive

- Case Description: A guest accesses their shopping cart, reviews its contents, and successfully makes changes such as adding more items, removing items, or adjusting the quantities of existing items.
- Test Data: None specified; operations are based on existing cart contents.
- Preconditions: The user is logged into the system as a guest. There is at least one product in the cart before attempting removal.
- Expected Result: The system displays the current contents of the shopping cart, accepts input for changes, and updates the cart accurately reflecting the guest's modifications.

Test Route – Negative (Attempt to Remove Non-existent Product)

- Case Description: A guest attempts to remove a product that is not in the shopping cart or reduce the quantity below zero.
- Test Data: Attempt to remove a product not present or set a negative quantity.
- Preconditions: The user is logged into the system as a guest, and the specific product is either not in the cart or the attempt is to set an invalid quantity.
- Expected Result: The system detects the error in the removal or quantity adjustment request and either prevents the action, displaying an error message, or does not change the cart, explaining why the modification could not be made.

Scenario II.2.5.a – Make Purchase of All Products in Cart

Test Route – Positive

- Case Description: A guest proceeds to purchase all the products in their shopping cart, which are confirmed to be available in stock.

- Test Data: None specified; operations based on the contents of the shopping cart and their availability.
- Preconditions: All products in the shopping cart are available in store stock.
- Expected Result: The system checks product availability, verifies payment and supply services, applies purchase policies and discounts, and successfully completes the purchase. The guest receives an order approval, and the stock quantity of each product is updated accordingly.

Test Route – Negative (Payment or Supply Service Failure)

- Case Description: During the purchase process, either the payment service or the supply service fails verification.
- Test Data: Simulated failure in payment or supply service verification.
- Preconditions: All products in the shopping cart are available in stock.
- Expected Result: The system attempts to verify the payment and supply services but fails. The purchase is canceled, and the system sends an error message to the guest indicating the reason for the cancellation.

Scenario II.2.5.b – Cancel Purchase of Entire Shopping Cart

Test Route – Positive

- Case Description: The system detects that at least one product in the guest's shopping cart is unavailable in stock and cancels the purchase of the entire cart.
- Test Data: None specified; the scenario is based on the unavailability of at least one product.
- Preconditions: At least one product in the shopping cart is unavailable in stock.
- Expected Result: The system automatically cancels the entire purchase and sends an error response to the user, explaining that the purchase could not be completed due to unavailable stock.

Test Route – Negative (Failure to Detect Unavailable Product)

- Case Description: The system fails to detect that a product in the cart is unavailable before attempting to proceed with the purchase.
- Test Data: Shopping cart contents including at least one unavailable product, but the system initially misses this fact.
- Preconditions: At least one product in the shopping cart is unavailable in stock, but the system does not recognize this at the first step.
- Expected Result: The system initially proceeds with the purchase but eventually detects the error (e.g., during stock verification). The purchase is

then canceled, and an error message is sent to the user. This test ensures that safety mechanisms are in place to prevent incomplete transactions even if initial checks fail.

Scenario II.3.1 – Member Logout

Test Route – Positive

- Case Description: A member selects the option to log out of the system, successfully logs out, and reverts to a guest status with their shopping cart preserved.
- Test Data: None required.
- Preconditions: The user is logged into the system as a member.
- Expected Result: The system effectively logs the user out, cancels their member identification, reverts them to guest status, and ensures their shopping cart remains intact for future sessions.

Test Route – Negative (Attempt to Log Out When Already Logged Out)

- Case Description: A member who is already logged out attempts to log out again.
- Test Data: None required, simulate a user action where a logged-out member tries to log out.
- Preconditions: The user has already logged out but attempts to log out once more.
- Expected Result: The system detects that the user is not currently logged in as a member and displays an appropriate error message indicating that they cannot log out because they are not logged in.

Scenario II.3.2 – Opening a Store

Test Route – Positive

- Case Description: A member successfully opens a new store by providing complete and correct details, and becomes the owner of the store.
- Test Data: Complete and correct store details such as store name, description, and category.
- Preconditions: The user is logged into the trading system as a member.
- Expected Result: The system verifies the provided details, creates the new store, and designates the member as the owner, confirming the successful establishment of the store.

Test Route – Negative (Incomplete or Incorrect Details Provided)

- Case Description: A member attempts to open a new store but provides incomplete or incorrect details.
- Test Data: Incomplete or incorrect store details, such as a missing store name or description.
- Preconditions: The user is logged into the trading system as a member.
- Expected Result: The system checks the details and finds them to be incomplete or incorrect. It then prompts the user to correct the details before it can proceed with the creation of the store, ensuring accurate and complete information is used to set up the store.

Scenario II.4.1.a – Adding New Product to the Store

Test Route – Positive

- Case Description: A store owner adds a new product to their store by providing valid product details.
- Test Data: Valid product details including name, description, category, price, and any other required attributes.
- Preconditions: The store is active and the user is logged into the trading system as a store owner.
- Expected Result: The system checks the product details for validity, adds the product to the store's catalog with an initial quantity of 0, and confirms the addition to the store owner.

Test Route – Negative (Invalid Product Details)

- Case Description: The store owner attempts to add a new product with invalid or incomplete details.
- Test Data: Incomplete or incorrect product details such as missing name or price.
- Preconditions: The store is active and the user is logged into the trading system as a store owner.
- Expected Result: The system identifies the invalid details during the verification process and returns an error message to the store owner, specifying which details need to be corrected before the product can be added.

Scenario II.4.1.b – Removing Products from the Store

Test Route – Positive

- Case Description: A store owner successfully removes a product from their store by providing a valid product ID.
- Test Data: Valid product ID of an active product in the store.

- Preconditions: The store is active, the user is logged into the trading system as a store owner, and the product ID corresponds to an active product.
- Expected Result: The system verifies the product ID, removes the product from the store's catalog, and sends a confirmation response to the store owner indicating the successful removal of the product.

Test Route – Negative (Invalid Product ID)

- Case Description: The store owner attempts to remove a product using an invalid ID or an ID for a product that does not exist in the store.
- Test Data: Invalid or non-existent product ID.
- Preconditions: The store is active and the user is logged into the trading system as a store owner.
- Expected Result: The system checks the product ID and determines it is invalid or does not correspond to any active product in the store. It then returns an error message specifying that the product could not be found and thus not removed.

Scenario II.4.1.c – Updating Product's Quantity in Stock

Test Route – Positive

- Case Description: A store owner updates the quantity of a product in the store by providing a valid product ID and a new quantity.
- Test Data: Valid product ID and a new non-negative quantity.
- Preconditions: The store is active, the user is logged into the trading system as a store owner, and the product ID corresponds to an active product in the store.
- Expected Result: The system verifies the product ID and the new quantity, updates the product's quantity in the store stock, and sends a confirmation response to the store owner indicating the successful update.

Test Route – Negative (Invalid Product ID)

- Case Description: The store owner attempts to update the quantity of a product using an invalid ID or an ID for a product that does not exist in the store.
- Test Data: Invalid or non-existent product ID.
- Preconditions: The store is active and the user is logged into the trading system as a store owner.
- Expected Result: The system checks the product ID and determines it is invalid or does not correspond to any active product in the store. It then returns an error message specifying that the product could not be found and thus its quantity not updated.

Test Route – Negative (Invalid Quantity)

- Case Description: The store owner attempts to update the product quantity with an invalid amount (e.g., a negative number).
- Test Data: Valid product ID and an invalid new quantity (negative number).
- Preconditions: The store is active, the user is logged into the trading system as a store owner, and the product ID corresponds to an active product.
- Expected Result: The system checks the new quantity and determines it is invalid due to being negative. It then returns an error message specifying that the quantity must be a non-negative number and the update is not completed.

Scenario II.4.1.d – Updating Product's Details in Given Store

Test Route – Positive

- Case Description: A store owner successfully updates the details of a product by providing a valid product ID and new product details.
- Test Data: Valid product ID and updated product details (e.g., name, description, price, category).
- Preconditions: The store is active, the user is logged into the trading system as a store owner, and the product ID corresponds to an active product in the store.
- Expected Result: The system verifies the product ID and the new details, updates the product details in the store catalog, and sends a confirmation response to the store owner indicating the successful update.

Test Route – Negative (Invalid Product ID)

- Case Description: The store owner attempts to update the details of a product using an invalid ID or an ID for a product that does not exist in the store.
- Test Data: Invalid or non-existent product ID.
- Preconditions: The store is active and the user is logged into the trading system as a store owner.
- Expected Result: The system checks the product ID and determines it is invalid or does not correspond to any active product in the store. It then returns an error message specifying that the product could not be found and thus its details not updated.

Test Route – Negative (Invalid Product Details)

- Case Description: The store owner attempts to update a product with invalid details, such as providing incorrect formats for price or missing required fields like name or description.

- Test Data: Valid product ID with invalid new details (e.g., negative price, empty name).
- Preconditions: The store is active, the user is logged into the trading system as a store owner, and the product ID corresponds to an active product.
- Expected Result: The system checks the new details and determines they are invalid due to incorrect formats or incomplete information. It then returns an error message specifying the issues with the provided details and that the update cannot be completed.

Scenario II.4.2 – Update Type of Purchases and Discount Policy

Test Route – Positive

- Case Description: A store owner updates the purchases and discount policy of their store by providing a valid store ID and new policy details.
- Test Data: Valid store ID and detailed description of the new purchases and discount policy.
- Preconditions: The store is active, and the member is logged into the trading system as a store owner.
- Expected Result: The system verifies the store ID, sets the new policy for the store, and sends a confirmation response to the store owner indicating that the policy was updated successfully.

Test Route – Negative (Invalid Store ID)

- Case Description: The store owner attempts to update the purchases and discount policy using an invalid store ID.
- Test Data: Invalid store ID.
- Preconditions: The store is purported to be active, and the user is logged into the trading system as a store owner.
- Expected Result: The system checks the store ID and determines it is invalid or does not correspond to any active store. It then returns an error message specifying that the store could not be found and thus the policy could not be updated.

Scenario II.4.3 – Appoint Store Owner

Test Route – Positive

- Case Description: A store owner successfully appoints another member as a co-owner of the store, following the proper verification and acceptance steps.
- Test Data: Valid member ID of a member who is not currently a store owner.

- Preconditions: The store is active, and the current user is logged into the trading system as a store owner.
- Expected Result: The system verifies the member exists and is not already an owner, sends an appointment offer, the member accepts, and the system updates the hierarchy to include the new owner. A confirmation response is then sent to the original store owner.

Test Route – Negative (Member Does Not Exist)

- Case Description: The store owner tries to appoint a member who does not exist in the system.
- Test Data: Invalid member ID.
- Preconditions: The store is active, and the initiator is logged into the trading system as a store owner.
- Expected Result: The system checks the member ID and finds no corresponding member. It cancels the action and returns an error message stating that the member does not exist.

Test Route – Negative (Member Already an Owner)

- Case Description: The store owner attempts to appoint a member who is already a store owner.
- Test Data: Member ID of an existing store owner.
- Preconditions: The store is active, and the initiator is logged into the trading system as a store owner.
- Expected Result: The system identifies that the member is already an owner, cancels the action, and returns an error message stating that the member is already an owner and cannot be appointed again.

Test Route – Negative (Appointment Declined)

- Case Description: The store owner sends an appointment offer to a member, but the member declines the offer.
- Test Data: Valid member ID of a member who chooses to decline the offer.
- Preconditions: The store is active, and the initiator is logged into the trading system as a store owner.
- Expected Result: The system sends the appointment offer to the member, but upon their refusal, the system cancels the action and sends an appropriate message back to the original store owner indicating that the appointment was declined.

Scenario II.4.6 – Appoint Store Manager

Test Route – Positive

- Case Description: A store owner appoints another member as a store manager, following the proper verification and acceptance steps.
- Test Data: Valid member ID of a member who is not currently a manager, and legal manager permissions.
- Preconditions: The store is active, and the current user is logged into the trading system as a store owner.
- Expected Result: The system verifies the member exists and is not already a manager, checks that the permissions are legal, sends an appointment offer, the member accepts, and the system sets the new manager with the actor as appointer. A confirmation response is then sent to the original store owner.

Test Route – Negative (Member Does Not Exist)

- Case Description: The store owner tries to appoint a member who does not exist in the system as a manager.
- Test Data: Invalid member ID.
- Preconditions: The store is active, and the initiator is logged into the trading system as a store owner.
- Expected Result: The system checks the member ID and finds no corresponding member. It cancels the action and returns an error message stating that the member does not exist.

Test Route – Negative (Member Already a Manager)

- Case Description: The store owner attempts to appoint a member who is already a manager of the store.
- Test Data: Member ID of an existing store manager.
- Preconditions: The store is active, and the initiator is logged into the trading system as a store owner.
- Expected Result: The system identifies that the member is already a manager, cancels the action, and returns an error message stating that the member is already a manager and cannot be appointed again.

Test Route – Negative (Appointment Declined)

- Case Description: The store owner sends an appointment offer to a member, but the member declines the offer.
- Test Data: Valid member ID of a member who chooses to decline the offer.
- Preconditions: The store is active, and the initiator is logged into the trading system as a store owner.
- Expected Result: The system sends the appointment offer to the member, but upon their refusal, the system cancels the action and sends an appropriate message back to the original store owner indicating that the appointment was declined.

Scenario II.4.7 – Update Store Manager Permissions

Test Route – Positive

- Case Description: A store owner successfully updates the permissions of a store manager whom they had previously appointed.
- Test Data: Valid member ID of the manager and new legal manager permissions.
- Preconditions: The store is active, the member is logged in as a store owner, and the store owner is the appointer of the given manager.
- Expected Result: The system verifies the manager exists, confirms that they are a manager in this store and were appointed by the actor, updates the manager's permissions accordingly, and sends a confirmation response to the store owner.

Test Route – Negative (Member Does Not Exist)

- Case Description: The store owner attempts to update permissions for a manager who does not exist in the system.
- Test Data: Invalid member ID.
- Preconditions: The store is active, and the initiator is logged in as a store owner.
- Expected Result: The system checks the member ID and finds no corresponding manager. It cancels the action and returns an error message stating that the manager does not exist.

Test Route – Negative (Member Not a Manager)

- Case Description: The store owner tries to update permissions for a member who is not a manager of the store.
- Test Data: Member ID of someone who is not a manager.
- Preconditions: The store is active, and the initiator is logged in as a store owner.
- Expected Result: The system identifies that the member is not a manager of the store, cancels the action, and returns an error message stating that the member is not a manager.

Test Route – Negative (Manager Not Appointed by Actor)

- Case Description: The store owner attempts to update permissions for a manager who was not appointed by them.
- Test Data: Member ID of a manager not appointed by the acting store owner.
- Preconditions: The store is active, and the initiator is logged in as a store owner.
- Expected Result: The system verifies that the manager was not appointed by the actor, cancels the action, and returns an error message stating that the manager was not appointed by the actor and thus cannot have their permissions altered by them.

Scenario II.4.9 – Close Store

Test Route – Positive

- Case Description: The store founder sends a request to close an active store, following all necessary verifications.
- Test Data: Founder ID and store ID.
- Preconditions: The store is active, and the member is logged in as the first store owner (founder).
- Expected Result: The system verifies that the actor is the founder and that the store is currently active. It then sets the store as inactive, notifies all store owners and managers of the closure, and sends a confirmation response that the store has been closed.

Test Route – Negative (Actor Not Founder)

- Case Description: A store owner who is not the founder attempts to close the store.
- Test Data: Member ID of someone other than the founder and store ID.
- Preconditions: The store is active, and the member is logged in as a store owner.
- Expected Result: The system checks the founder status of the actor and finds they are not the founder. It cancels the action and returns an error message stating that only the founder can close the store.

Test Route – Negative (Store Already Inactive)

- Case Description: The founder attempts to close a store that is already inactive.
- Test Data: Founder ID and store ID of an inactive store.
- Preconditions: The store is marked as inactive, and the member is logged in as the store founder.
- Expected Result: The system verifies the store status and discovers it is already inactive. It cancels the action and returns an error message stating that the store is already inactive and cannot be closed again.

Scenario II.4.11.a – Get Role Holders Details

Test Route – Positive

- Case Description: A store owner requests and receives information about the role holders in the store.
- Test Data: Store owner ID and store ID.
- Preconditions: The member is logged into the trading system as a store owner.

- Expected Result: The system verifies the store's existence and the actor's ownership status, then returns a list containing the detailed data of the store role holders.

Test Route – Negative (Store Does Not Exist)

- Case Description: A store owner attempts to retrieve role holder information for a store that does not exist.
- Test Data: Store owner ID and non-existent store ID.
- Preconditions: The member is logged into the trading system as a store owner.
- Expected Result: The system fails to find the store and returns an error message indicating that the store does not exist.

Test Route – Negative (Actor Not Owner)

- Case Description: A member who is not an owner of the store attempts to retrieve role holder information.
- Test Data: Non-owner member ID and store ID.
- Preconditions: The member is logged into the trading system, but not as an owner of the store in question.
- Expected Result: The system verifies the actor's status and, finding that they are not an owner, returns an error message stating that only store owners can access role holder information.

Scenario II.4.11.b – Get Managers Permissions

Test Route – Positive

- Case Description: A store owner requests and receives information about the permissions of the store managers.
- Test Data: Store owner ID and store ID.
- Preconditions: The member is logged into the trading system as a store owner.
- Expected Result: The system verifies the store's existence and the actor's ownership status, then returns a list containing the permissions of the store managers.

Test Route – Negative (Store Does Not Exist)

- Case Description: A store owner attempts to retrieve manager permissions for a store that does not exist.
- Test Data: Store owner ID and non-existent store ID.
- Preconditions: The member is logged into the trading system as a store owner.

- Expected Result: The system fails to find the store and returns an error message indicating that the store does not exist.

Test Route – Negative (Actor Not Owner)

- Case Description: A member who is not an owner of the store attempts to retrieve manager permissions.
- Test Data: Non-owner member ID and store ID.
- Preconditions: The member is logged into the trading system, but not as an owner of the store in question.
- Expected Result: The system verifies the actor's status and, finding that they are not an owner, returns an error message stating that only store owners can access manager permissions information.

Scenario II.4.13 – Get Purchase History

Test Route – Positive

- Case Description: The store owner successfully views the purchase history of their store.
- Test Data: Store owner ID, store ID.
- Preconditions: Store owner is logged into the trading system.
- Expected Result: The system returns a list containing the store purchase history.

Test Route – Negative (Store Does Not Exist)

- Case Description: The store does not exist in the system.
- Test Data: Invalid store ID.
- Preconditions: Store owner is logged into the trading system.
- Expected Result: The system returns an appropriate message indicating that the store does not exist.

Test Route – Negative (Actor Not Store Owner)

- Case Description: The actor attempting to view the purchase history is not a store owner.
- Test Data: Regular member ID.
- Preconditions: Regular member is logged into the trading system.
- Expected Result: The system returns an appropriate message indicating that the actor is not a store owner.

Scenario II.6.4 – Get Purchase History of Store/Buyer by System Manager

Test Route – Positive

- Case Description: The system manager successfully views the purchase history of a store/buyer.
- Test Data: System manager ID, store/buyer ID.
- Preconditions: System manager is logged into the trading system.
- Expected Result: The system returns a list containing the store/buyer purchase history.

Test Route – Negative (Store/Buyer Does Not Exist)

- Case Description: The store/buyer does not exist in the system.
- Test Data: Invalid store/buyer ID.
- Preconditions: System manager is logged into the trading system.
- Expected Result: The system returns an appropriate message indicating that the store/buyer does not exist.

Test Route – Negative (Actor Not System Manager)

- Case Description: The actor attempting to view the purchase history is not a system manager.
- Test Data: Regular member ID.
- Preconditions: Regular member is logged into the trading system.
- Expected Result: The system returns an appropriate message indicating that the actor is not a system manager.