Requirements

R1	A user can be registered with matching password and verified password
R2	A user can log in with valid credentials
R3	A recipient can view recipient orders
R4	A recipient can view order progress including transactions against an their own individual order
R5	A driver can view all orders
R6	A driver can add a transaction against an order
R7	A driver can remove a transaction from an order
R8	A seller can create a parcel with a valid value for name, type, weight, and seller
R9	A seller can edit a parcel with a valid value for name, type, weight, and seller
R10	A seller can delete a parcel, which subsequently removes the parcel from any existing order it was on
R11	A seller can create an order with a valid recipient and seller
R12	A seller can edit an order with a valid recipient and seller
R13	A seller can delete an order, which subsequently removes all transactions that existed against that order
R14	A seller can view driver metrics to find total delivery counts and average delivery durations (in days) per driver
R15	A seller can view a list of all registered users
R16	A seller can view details of a specific registered user
R17	An order has zero or more parcels
R18	An order has zero or more transactions
R19	An order has a recipient and seller
R20	An order has zero or one driver
R21	A user has zero or more orders
R22	A user has a role recipient, driver, or seller
R23	An order's driver must be "None" when no "Picked up" transaction exists
R24	When an order is "picked up", the driver adding the transaction becomes the named driver on the order
R25	When a "Picked up" transaction is removed, the named driver reverts to "None"
R26	An order's completed date must be blank when no "Dropped off" transaction exists
R27	When an order is "dropped off", the order completed date is filled out
R28	When a "Dropped off" transaction is removed, the order completed date is cleared
R29	A seller can view all orders
R30	A seller can view all parcels
R31	A seller can view details of a specific parcel
R32	A seller can add a parcel to an order with a specific quantity
R33	A driver can view order progress including transactions against any order
R34	A seller can view order progress including transactions against any order

Test cases

Normal values

N1 username = "TestUser", password1 = "pass", password2 = "pass" (R1)

N2 username = "recipient", password = "123" (R2)

N3 name = "Book", type = "Large", weight = 50, sellerID = 3 (R8)

N4 name = "Pen", type = "Small", weight = 100, sellerID = 2 (R9)

N5 recipientID = 1, sellerID = 3 (R11, R19)

N6 recipientID = 2, sellerID = 1 (R12, R19)

N7 orderID = 1, parcelID = 1, quantity=2 (R32)

Invalid values

I1 username = “TestUser” password1 = “pass”, password2 = “wrong” (R1)
I2 username = “seller”, password = “abc” (R2)
I3 name = “Book”, type = “Large”, weight = -1, sellerID = 3 (R8)
I4 name = “Pen”, type = “Small”, weight = 10, sellerID = -1 (R8)
I5 name = ”Book”, type = ”Large”, weight = -1, sellerID = 3 (R9)
I6 name = ”Pen”, type = ”Small”, weight = 10, sellerID = -1 (R9)
I7 recipientID = -1, sellerID = 1 (R11, R19)
I8 recipientID = 1, sellerID = -1 (R11, R19)
I9 recipientID = -1, sellerID = 1 (R12, R19)
I10 recipientID = 1, sellerID = -1 (R12, R19)
I11 orderID = -1, parcelID = 1, quantity = 2 (R32)
I12 orderID = 1, parcelID = -1, quantity = 2 (R32)
I13 orderID = 1, parcelID = 1, quantity = -1 (R32)

Boundary values

B1 There are 0 parcels in an order (R17)
B2 There are 0 transactions against an order (R18)
B3 An order has no driver (R20)
B4 An order has 1 driver (R20)
B5 A user has 0 orders (R21)
B6 A user has 1 order (R21)
B7 A user has no role (R22)
B8 A user has 1 role (R22)

Special cases

S1 Recipient (Recipient) views list of (Recipient’s) orders (R3)
S2 Recipient (Recipient) views details of one of (Recipient’s) orders (R4)
S3 Driver (Driver) views list of all orders (R5)
S4 Driver (Driver) adds transaction “Picked up” to an order (R6)
S5 Driver (Driver) adds transaction “Dropped off” to an order (R6)
S6 Driver (Driver) removes transaction “Picked up” from an order (R7)
S7 Driver (Driver) removes transaction “Dropped off” from an order (R7)
S8 Seller (Seller) deletes a parcel (R10)
S9 Seller (Seller) deletes an order (R13)
S10 Seller (Seller) views driver metrics for driver totals and average delivery days (R14)
S11 Seller (Seller) views list of all registered users (R15)
S12 Seller (Seller) views details of a single registered user (R16)
S13 An orders driver is updated when a “Picked up” transaction changes (R23, R24, R25)
S14 An orders completed date is updated when a “Dropped off” transaction changes (R26, R27, R28)
S15 Driver (Driver) views details of an order (R33)
S16 Seller (Seller) views details of an order (R34)
S17 Seller (Seller) views list of all orders (R29)
S18 Seller (Seller) views list of all parcels (R30)
S19 Seller (Seller) views details of a specific parcel (R31)

Test plan

* Requires manual testing due to dependency injection or unable to unit test this action

Test	Instruction (Satisfies test cases)	Expected result(s)	Actual result(s)
T1	Create a user with username “TestUser” and matching passwords “pass”. Then log in to the system. (N1, N2)	There is a user called “TestUser” and can be logged in to, taking to Recipient landing page.	RegisterBeanTest .testRegisterValid() PASS (Appendix B)
T2	Create a user with username “TestUser”, password1= “pass” and password2= “wrong”. (I1)	Registration attempt will fail validation and an error message “Login credentials are not correct” will be displayed.	RegisterBeanTest .testRegisterInvalid() PASS (Appendix B)
T3	Create a parcel with values: name = “Book”, type = “Large”, weight = -1, sellerID = 3. (I3)	Creation of parcel fails and an error message requesting the value must be an integer of one or more digits will be displayed.	SellerBeanTest .testCreateParcelInvalid Weight() PASS (Appendix D)
T4	Create a parcel with values: name = “Pen”, type = “Small”, weight = 10, sellerID = -1. (I4)	Creation of parcel fails, and a null pointer exception is experienced.	SellerBeanTest .testCreateParcelInvalid SellerId() PASS (Appendix D)
T5	Edit parcel with ID1 with values: name = “Book”, type = “Large”, weight = -1, sellerID = 3. (I5)	Update of parcel fails and an error message requesting the value must be an integer of one or more digits will be displayed.	SellerBeanTest .testEditParcelInvalidWeight() PASS (Appendix D)
T6	Edit parcel with ID1 with values: name = “Pen”, type = “Small”, weight = 10, sellerID = -1. (I6)	Update of parcel fails, and a null pointer exception is experienced.	SellerBeanTest .testEditParcelInvalidSellerId() PASS (Appendix D)
T7	Create parcel with values: name= “Book”, type= “Large”, weight=50, sellerID=3, then edit the parcel with values: name= “Pen”, type= “Small”, weight=100, sellerID=2. Create order with values: recipientID=1, sellerID=3. Edit order with values: recipientID=2, sellerID=1.	There is a parcel with values: name= “Pen”, type= “Small”, weight=100, sellerID=2, there is an order with recipientID=2, sellerID=1 and the parcel is added to the order with quantity 2.	SellerBeanTest .testCreateEditParcel CreateEditOrder AddParcelToOrderValid() PASS (Appendix D)

	Add parcel with ID{just created} to order ID{just created} with quantity 2. (N3, N4, N5, N6, N7)		
T8	Create an order with values: recipientID = -1, sellerID = 1. (I7)	Create order fails and a null pointer exception is experienced.	SellerBeanTest .testCreateOrderInvalid RecipientID() PASS (Appendix D)
T9	Create an order with values: recipientID = 1, sellerID = -1. (I8)	Create order fails and a null pointer exception is experienced.	SellerBeanTest .testCreateOrderInvalid SellerId() PASS (Appendix D)
T10	Create a temp order, Edit order with ID{just created} with values: recipientID = -1, sellerID = 1. (I9)	Edit order fails and a null pointer exception is experienced.	SellerBeanTest .testEditOrderInvalid RecipientId() PASS (Appendix D)
T11	Create a temp order, Edit order with ID{just created} with values: recipientID = 1, sellerID = -1. (I10)	Edit order fails and a null pointer exception is experienced.	SellerBeanTest .testEditOrderInvalidSellerId() PASS (Appendix D)
T12	Add parcel with ID1 to order with ID= -1 and quantity 1. (I11)	ParcelID1 is not added to orderID-1, and a null pointer exception is experienced.	SellerBeanTest .testAddParcelInvalidOrderId() PASS (Appendix D)
T13	Add parcel with ID-1 to order with ID1 and quantity 1. (I12)	ParcelID-1 is not added to orderID1, and a null pointer exception is experienced.	SellerBeanTest .testAddParcelInvalidParcelId() PASS (Appendix D)
T14	Add parcel with ID1 to order with ID1 and quantity -1. (I13)	ParcelID1 is not added to orderID1 and an error message is displayed requesting a positive integer value.	SellerBeanTest .testAddParcelInvalidQuantity() FAIL: The parcel is added and shows as a negative quantity (Appendix A). PASS (After modifications) (Appendix D)
T15	Order with ID=2 has no parcels. View details of order with ID=2. (B1)	Order with ID=2 has no parcels listed.	SellerBeanTest .testFindOrderParcels() PASS

			(Appendix D)
T16	Order with ID=2 has no transactions. View details of order with ID=2 to check for transactions listed. (B2)	Order with ID=2 has no transactions listed.	SellerBeanTest .testFindOrderTransactions() PASS (Appendix D)
T17	Order with ID=2 has no transactions. View details of order with ID=2 to check its named driver. (B3)	Order with ID=2 has "None" in the driver section.	SellerBeanTest .testFindOrderTransactions NoTransactionNoDriver() PASS (Appendix D)
T18	Order with ID=2 has at least 1 transaction "Picked up". (B4)	Order with ID=2 has a named driver that is not "None".	SellerBeanTest .testFindOrderTransactions SomeTransactions() PASS (Appendix D)
T19	Register user with values: name = "RecipientWithNoOrders", matching passwords = "pass". View recipient orders. (B5)	User named RecipientWithNoOrders has an order total of 0.	RecipientBeanTest .testViewRecipientOrders NoOrders() PASS (Appendix E)
T20	Recipient views recipient orders. (B6)	Recipient has an order total greater than or equal to 1 and the order details are valid values.	RecipientBeanTest .testViewRecipientOrders() PASS (Appendix E)
T21*	A guest user (Not logged in) views the login page. (B7)	Guest may view login page without any missing public assets, including stylesheets and images.	Manual test PASS (Appendix G)
T22*	A guest user (Not logged in) attempts to navigate to "localhost:8080/ParcelTracker/faces/viewOrder_Recipient.xhtml". (B7)	Filter redirects user back to login page, no secure assets are available to the non-logged in user.	Manual test PASS (Appendix H)
T23*	Recipient attempts to navigate to "localhost:8080/ParcelTracker/faces/viewOrder_Recipient.xhtml" while being logged in. (B8)	Expected page viewOrder_Recipient.xhtml loads correctly.	Manual test PASS (Appendix I)
T24	Seller views all users. (S11)	Returns a list of 1 or more users.	SellerBeanTest .testViewAllUsers() PASS (Appendix D)

T25	Seller views details of user with ID=1. (S12)	Returns details of Recipient (User with ID=1).	SellerBeanTest .testSetAndGetUserDetails() PASS (Appendix D)
T26	- Create a recipient user with username “Jimmy”. - Create a seller user with username “Sally”. - **Create order** where “Jimmy” is the recipient and “Sally” is the seller. - Run **View recipient orders** when using the application as “Jimmy”. - View details of the order where Jimmy is the recipient and Sally is the seller. (S1, S2)	Returns a list Jimmy’s orders containing at least the one where Sally is the seller. Then returns details of the selected order without errors.	SellerBeanTest .textViewRecipientOrdersSpecial() PASS (Appendix D)
T27	- Create a recipient user with username “Jimmy”. - Create a seller user with username “Sally”. - **Create order** where “Jimmy” is the recipient and “Sally” is the seller. - Create a driver user with username “Bob”. - **Add transaction** “Picked up” to the order while using the application as “Bob” (Driver). - View this order’s details. - **Add transaction** “Dropped off” to the order while using the application as “Bob” (Driver). - View this order’s details. - **Remove transaction** “Dropped off” from the order while using the application as “Bob” (Driver). - Bob (Driver) Views all orders. - **View order progress** against the order created. (S3, S4, S5, S6, S7, S13, S14, S15)	First order details represent the order with Bob as the named driver. Second order details represent the order with a completed date filled in. Final order details show “Jimmy” is the recipient, “Sally” is the seller, “Bob” is the driver and shows 1x transaction of “Picked up”, and no other transactions.	DriverBeanTest .testAddAndRemoveTransaction() PASS (Appendix F)
T28	- Create a seller user with username “Sally”. - **Create parcel** with name = “Old item”, type = “Book”, weight=500, sellerID = (ID of Sally). - **Delete parcel** that was just created. (S8)	Parcel does not exist in database and can not be seen within the application.	SellerBeanTest .testDeleteParcel() PASS (Appendix D)
T29	- Create a recipient user with username “Jimmy”. - Create a seller user with username “Sally”. - **Create order** with recipientId=(ID of “Jimmy”), sellerId=(ID of “Sally”). - **Delete order** that was just created. (S9)	Order no longer exists in database and can not be seen within the application.	SellerBeanTest .testDeleteOrder() PASS (Appendix D)
T30	- Create a driver user with username “Bob”.	Returns list of metrics showing “Bob” with 2 total	SellerBeanTest .testViewDriverMetrics()

	- Create a driver user with username “Dave”. - Create a recipient user with username “Jimmy”. - Create a seller user with username “Sally”. - **Create order** “Order1” where “Jimmy” is the recipient and “Sally” is the seller. - **Create order** “Order2” where “Jimmy” is the recipient and “Sally” is the seller. - **Create order** “Order3” where “Jimmy” is the recipient and “Sally” is the seller. - **Add transaction** “Picked up” to “Order1” while using the application as “Bob”. - **Add transaction** “Dropped off” to “Order1” while using the application as “Bob”. - **Add transaction** “Picked up” to “Order2” while using the application as “Bob”. - **Add transaction** “Dropped off” to “Order2” while using the application as “Bob”. - **Add transaction** “Picked up” to “Order3” while using the application as “Dave”. - **Add transaction** “Dropped off” to “Order3” while using the application as “Dave”. - Run **View driver metrics** while using the application as “Sally” (Seller). (S10)	deliveries and average days to complete 0 & “Dave” with 1 total delivery and average days to complete 0.	PASS (Appendix D)
T31	Seller views all orders. (S17)	Returns a list of 1 or more orders.	SellerBeanTest .testViewAllOrders() PASS (Appendix D)
T32	Seller views details of order with ID=1. (S16)	Returns details of the order with ID=1.	SellerBeanTest .testFindOrderById() PASS (Appendix D)
T33	Seller views all parcels. (S18)	Returns a list of 1 or more parcels.	SellerBeanTest .testViewAllParcels() PASS (Appendix D)
T34	Seller views details of parcel with ID=1. (S19)	Returns details of the parcel with ID = 1.	SellerBeanTest .testFindParcelById()

			PASS (Appendix D)

Appendices

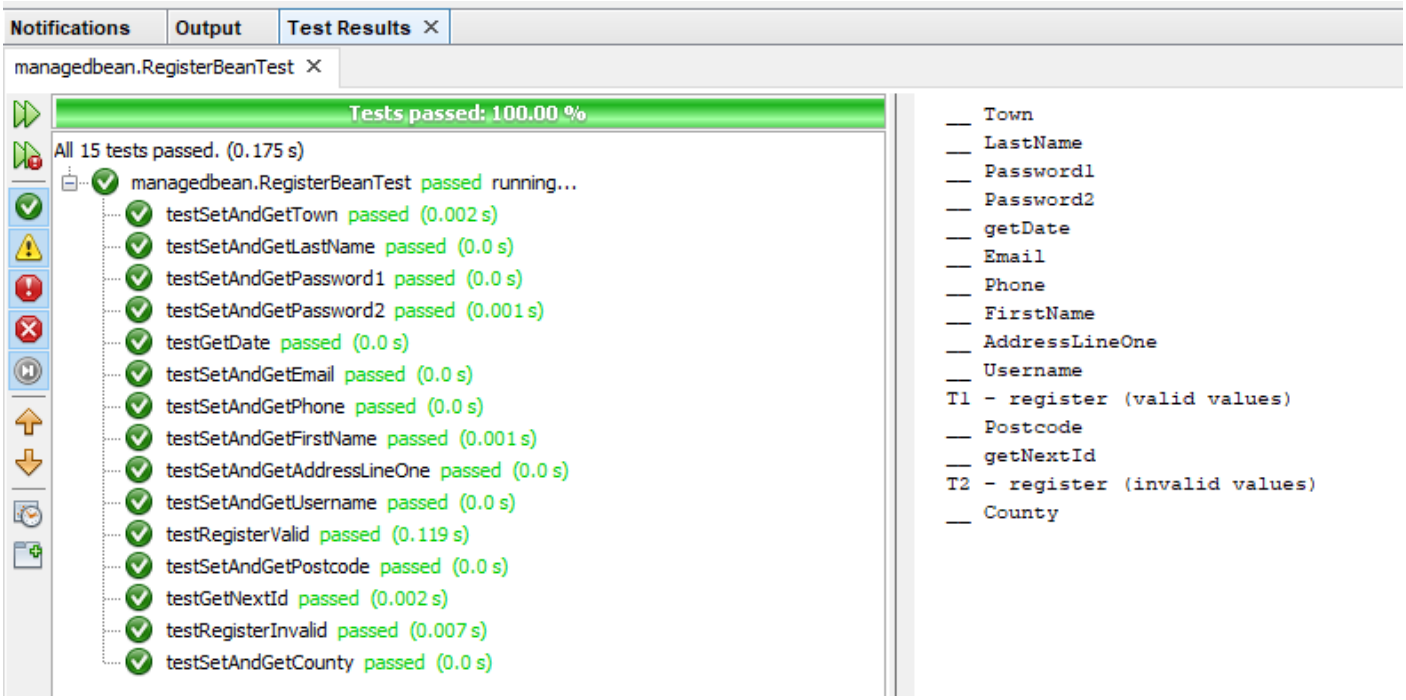
Appendix A: Adding negative quantity of parcel to order (fail), before refactoring to pass.

Parcels in order #1

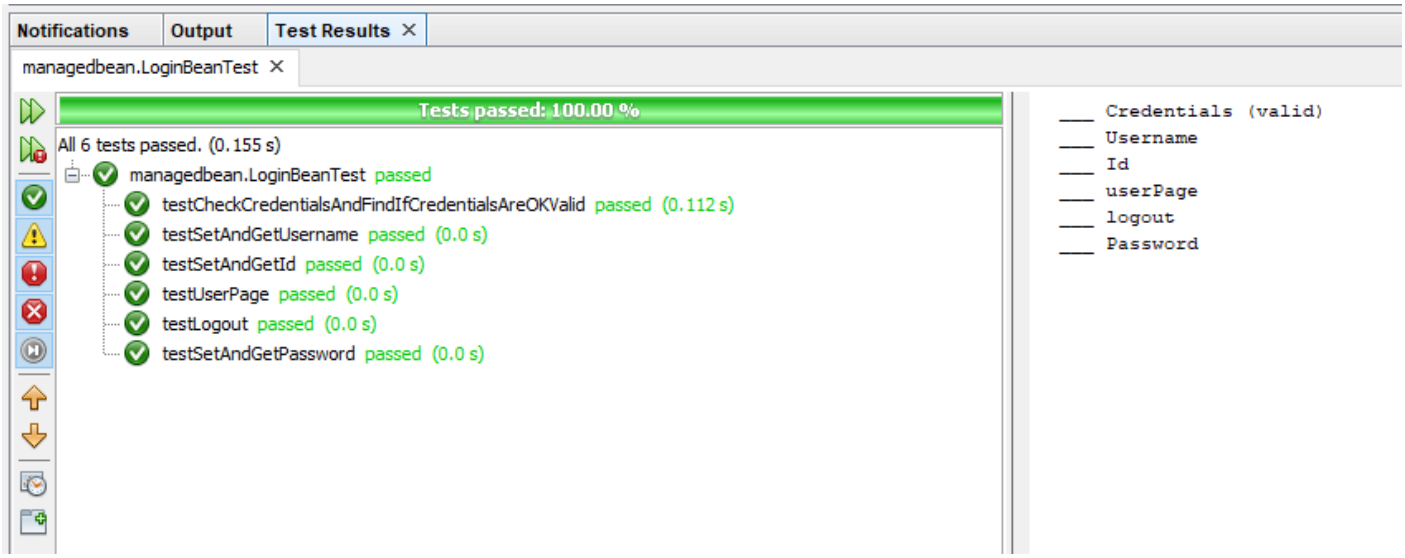
ID	Item	Type	Quantity	Weight ea. (g)	Seller
1	Item One	Large Box	2	95	recipient
1	Item One	Large Box	-1	95	recipient

Add parcel to this order

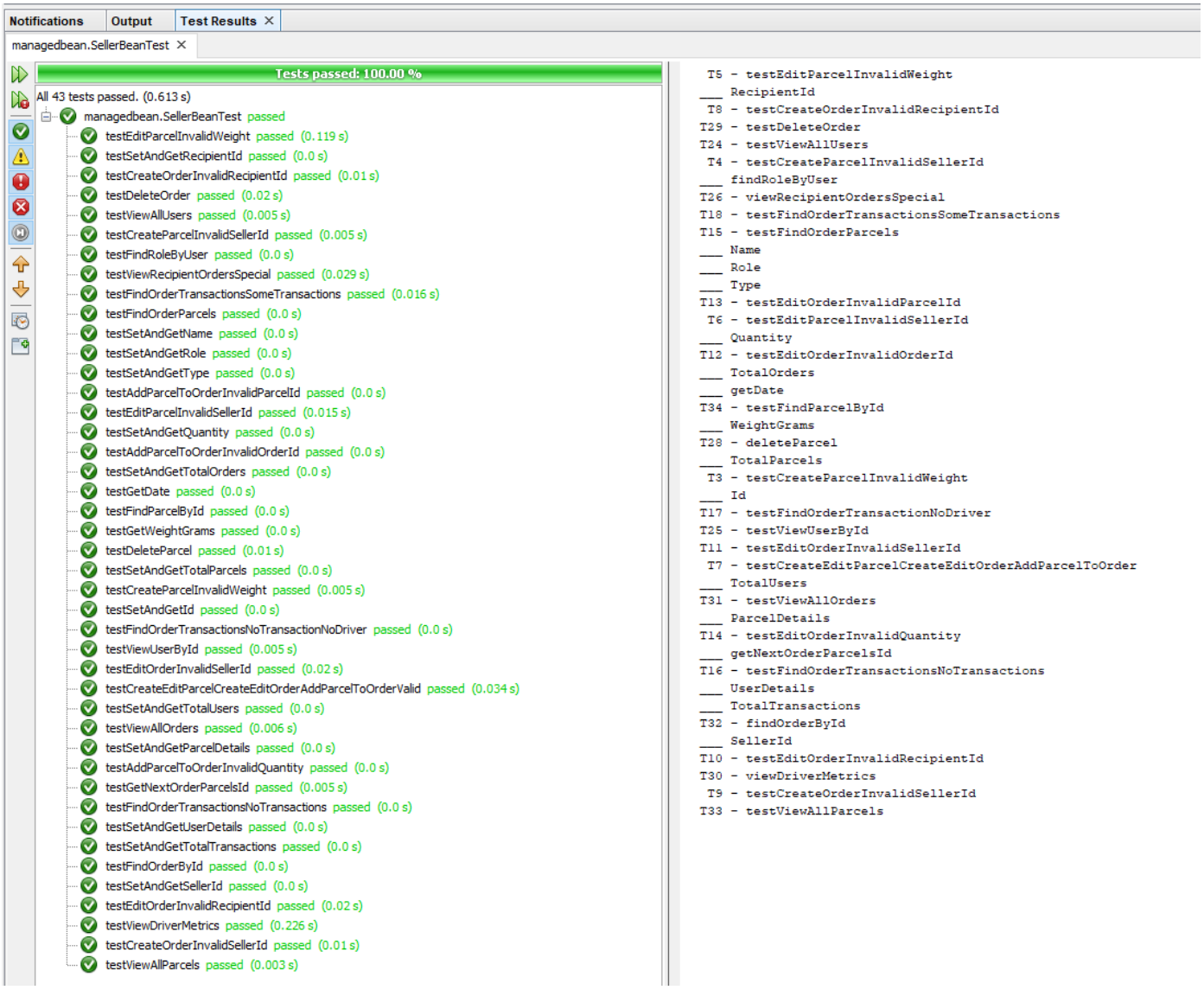
Appendix B: RegisterBean Test results



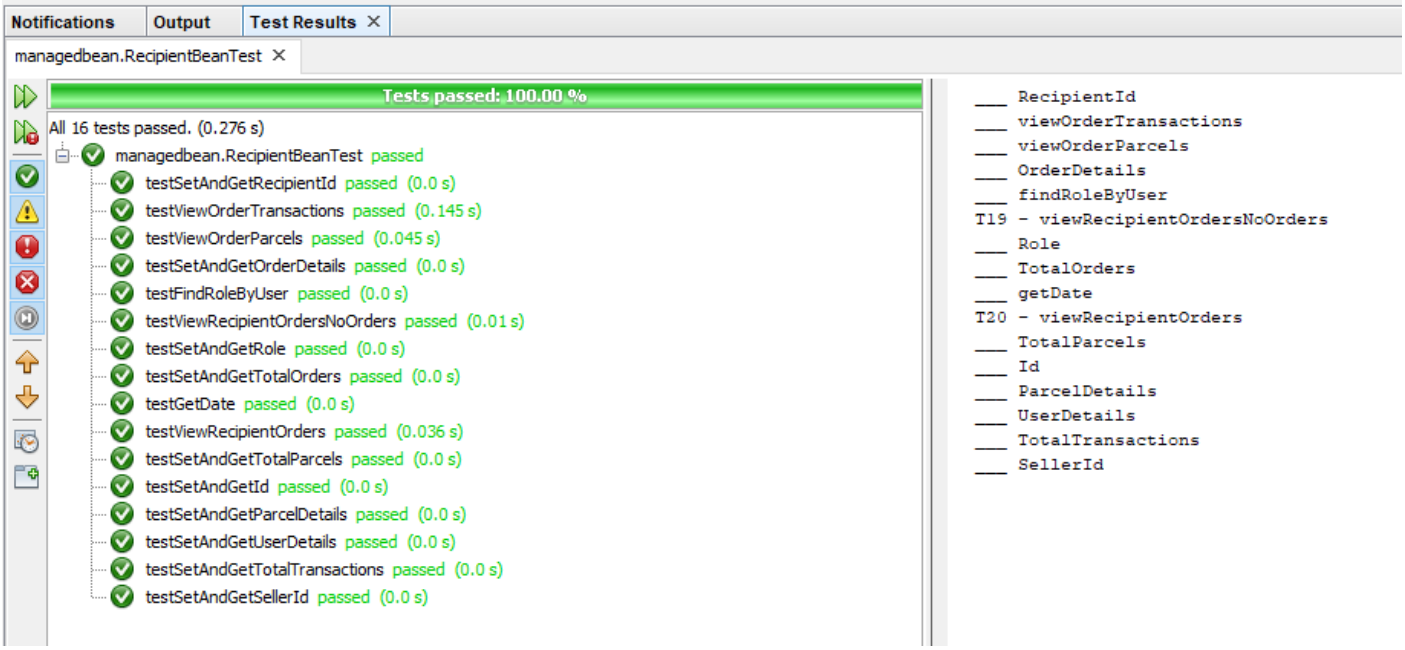
Appendix C: LoginBean Test results



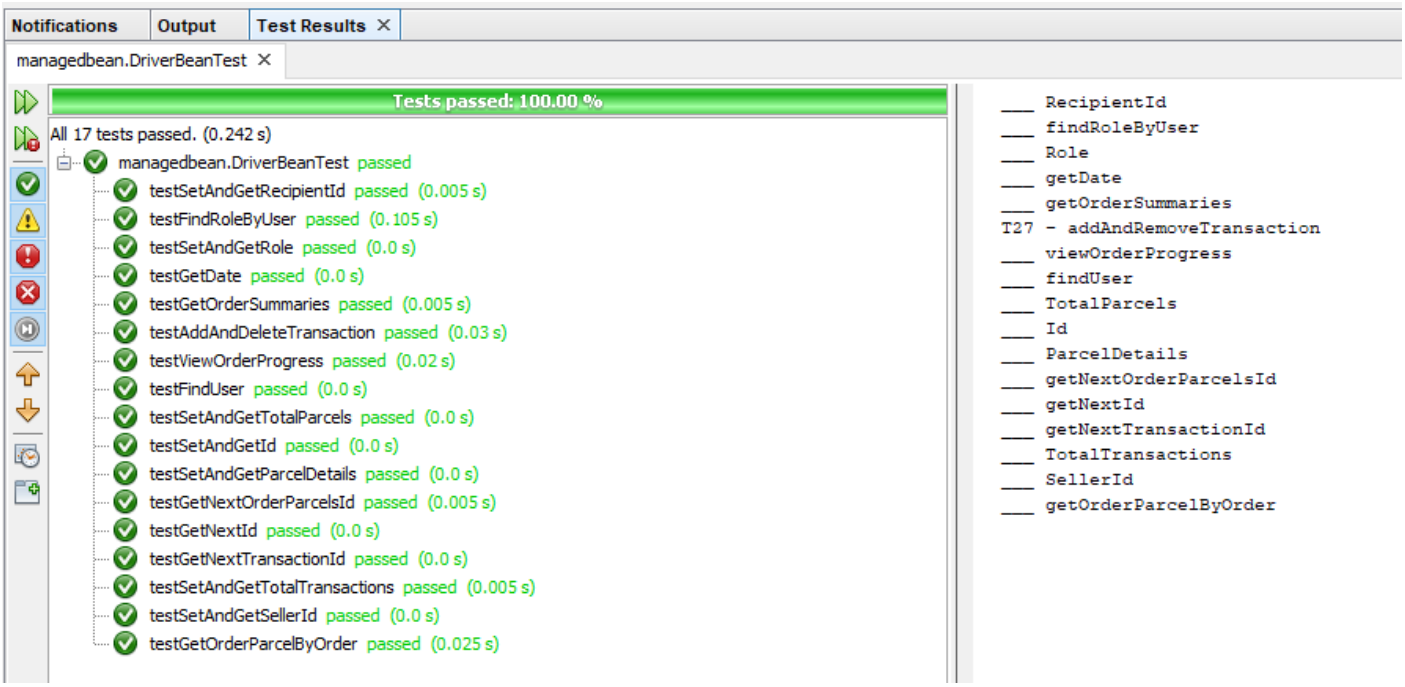
Appendix D: SellerBean Test results



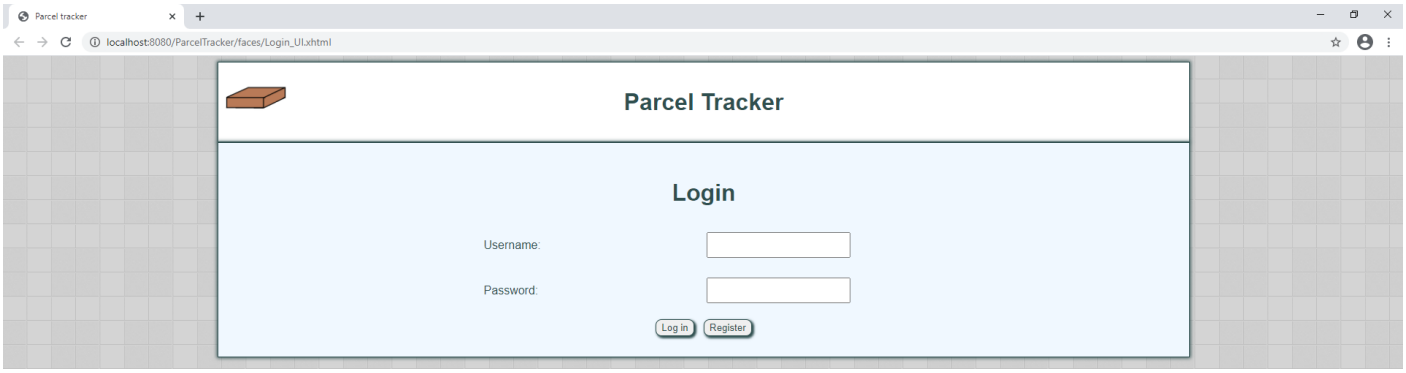
Appendix E: RecipientBean Test results



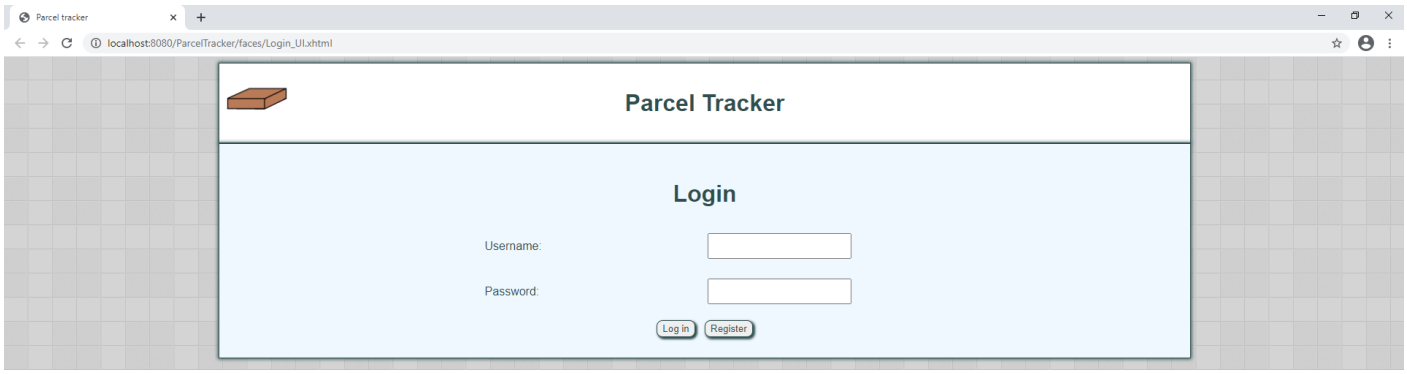
Appendix F: DriverBean Test results



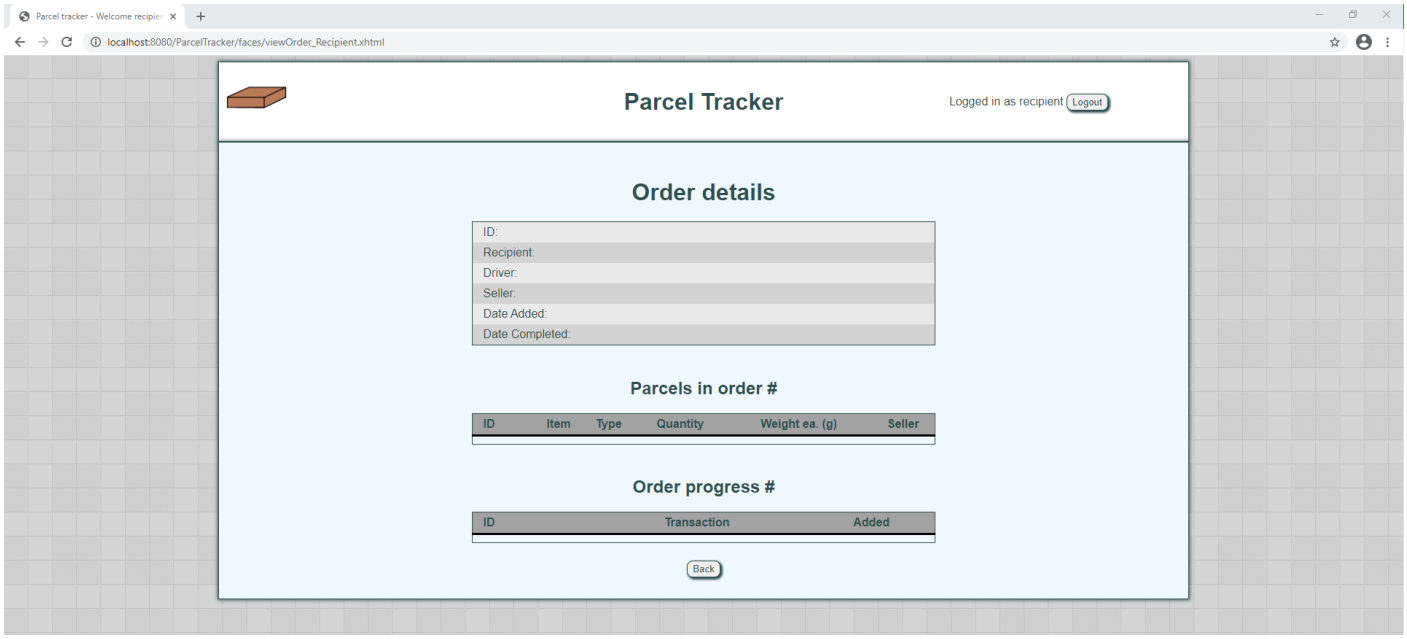
Appendix G: Guest views Login



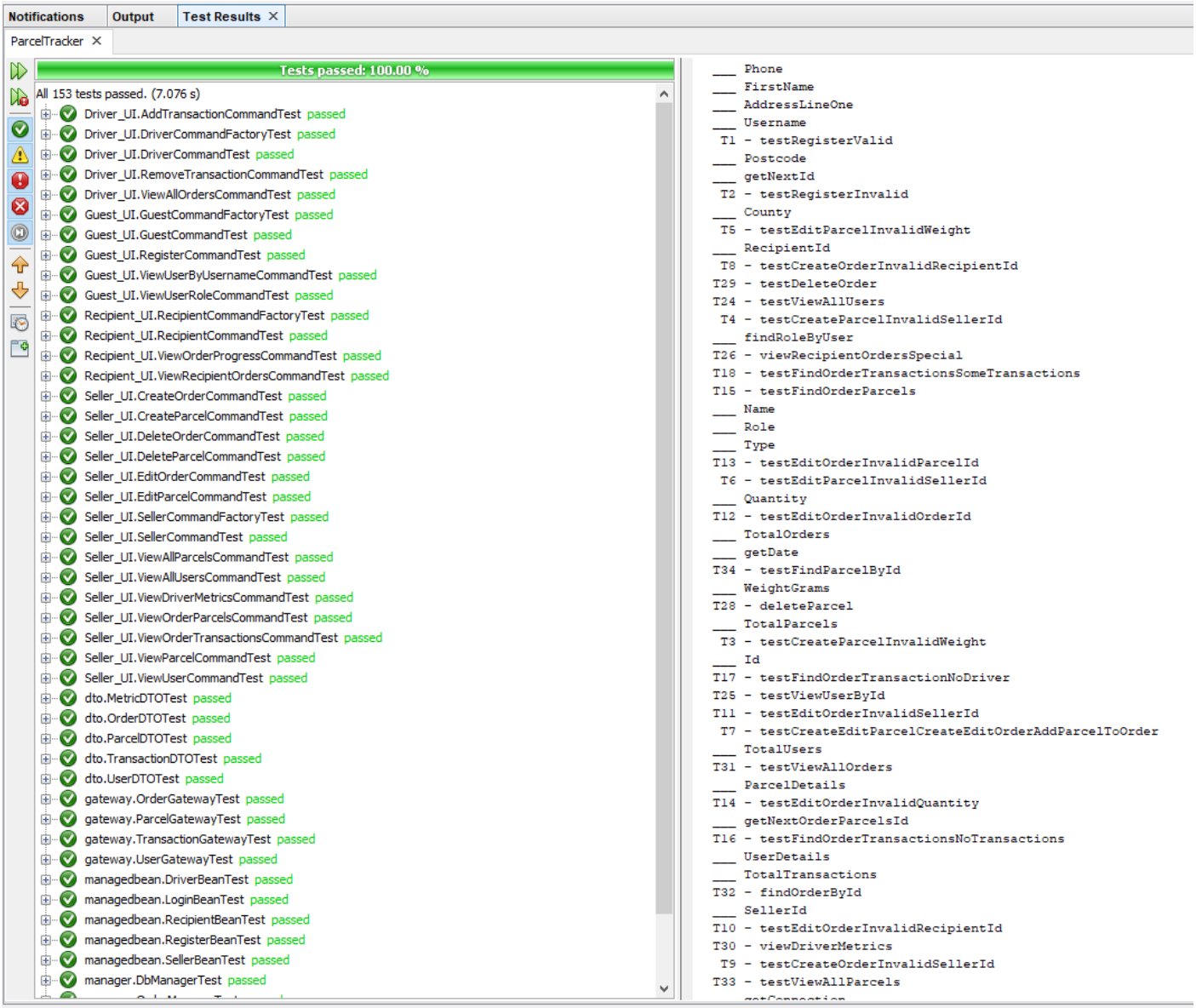
Appendix H: Guest attempts to view restricted page but is returned to login screen



Appendix I: Recipient views order details page while logged in without being redirected back to login screen



Appendix J: All 153 JUnit tests completed and passed


Notifications
Output
Test Results
ParcelTracker
Tests passed: 100.00 %
All 153 tests passed. (7.076 s)
Driver_UI.AddTransactionCommandTest passed
Driver_UI.DriverCommandFactoryTest passed
Driver_UI.DriverCommandTest passed
Driver_UI.RemoveTransactionCommandTest passed
Driver_UI.ViewAllOrdersCommandTest passed
Guest_UI.GuestCommandFactoryTest passed
Guest_UI.GuestCommandTest passed
Guest_UI.RegisterCommandTest passed
Guest_UI.ViewUserByUsernameCommandTest passed
Guest_UI.ViewUserRoleCommandTest passed
Recipient_UI.RecipientCommandFactoryTest passed
Recipient_UI.RecipientCommandTest passed
Recipient_UI.ViewOrderProgressCommandTest passed
Recipient_UI.ViewRecipientOrdersCommandTest passed
Seller_UI.CreateOrderCommandTest passed
Seller_UI.CreateParcelCommandTest passed
Seller_UI.DeleteOrderCommandTest passed
Seller_UI.DeleteParcelCommandTest passed
Seller_UI.EditOrderCommandTest passed
Seller_UI.EditParcelCommandTest passed
Seller_UI.SellerCommandFactoryTest passed
Seller_UI.SellerCommandTest passed
Seller_UI.ViewAllParcelsCommandTest passed
Seller_UI.ViewAllUsersCommandTest passed
Seller_UI.ViewDriverMetricsCommandTest passed
Seller_UI.ViewOrderParcelsCommandTest passed
Seller_UI.ViewOrderTransactionsCommandTest passed
Seller_UI.ViewParcelCommandTest passed
Seller_UI.ViewUserCommandTest passed
dto.MetricDTOTest passed
dto.OrderDTOTest passed
dto.ParcelDTOTest passed
dto.TransactionDTOTest passed
dto.UserDTOTest passed
gateway.OrderGatewayTest passed
gateway.ParcelGatewayTest passed
gateway.TransactionGatewayTest passed
gateway.UserGatewayTest passed
managedbean.DriverBeanTest passed
managedbean.LoginBeanTest passed
managedbean.RecipientBeanTest passed
managedbean.RegisterBeanTest passed
managedbean.SellerBeanTest passed
manager.DbManagerTest passed
___ Phone
___ FirstName
___ AddressLineOne
___ Username
T1 - testRegisterValid
___ Postcode
___ getNextId
T2 - testRegisterInvalid
___ County
T5 - testEditParcelInvalidWeight
___ RecipientId
T8 - testCreateOrderInvalidRecipientId
T29 - testDeleteOrder
T24 - testViewAllUsers
T4 - testCreateParcelInvalidSellerId
___ findRoleByUser
T26 - viewRecipientOrdersSpecial
T18 - testFindOrderTransactionsSomeTransactions
T15 - testFindOrderParcels
___ Name
___ Role
___ Type
T13 - testEditOrderInvalidParcelId
T6 - testEditParcelInvalidSellerId
___ Quantity
T12 - testEditOrderInvalidOrderId
___ TotalOrders
___ getDate
T34 - testFindParcelById
___ WeightGrams
T28 - deleteParcel
___ TotalParcels
T3 - testCreateParcelInvalidWeight
___ Id
T17 - testFindOrderTransactionNoDriver
T25 - testViewUserById
T11 - testEditOrderInvalidSellerId
T7 - testCreateEditParcelCreateEditOrderAddParcelToOrder
___ TotalUsers
T31 - testViewAllOrders
___ ParcelDetails
T14 - testEditOrderInvalidQuantity
___ getNextOrderParcelsId
T16 - testFindOrderTransactionsNoTransactions
___ UserDetails
___ TotalTransactions
T32 - findOrderById
___ SellerId
T10 - testEditOrderInvalidRecipientId
T30 - viewDriverMetrics
T9 - testCreateOrderInvalidSellerId
T33 - testViewAllParcels