

EV Charging CMS

Test Case Documentation

Functional Testing and Test Case Design

This document contains structured functional test cases for a web-based EV charging CMS, covering its modules, role-based access, data consistency, validation and integration scenarios.

777

Test Cases

17

Sections

Project identifiers and sensitive information have been anonymized for portfolio presentation.

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Overview & Coverage Summary

This document presents 777 structured functional test cases for the **EV Charging CMS**, a web-based content management system and admin panel associated with EV charging functionality. It shows how I design test cases: clear scenarios, explicit preconditions and steps, measurable expected results, and priorities that reflect business risk.

Test cases are grouped by module or functional area. Each test case lists its ID, feature, scenario, preconditions, steps, expected result and priority. A dash (—) marks a field that was not specified.

Coverage areas

- Positive, negative and input-validation scenarios
- Role-based access control and permission enforcement
- UI and UX checks, including responsive behavior at reduced browser width
- UI-to-API data consistency validation
- Security-oriented input checks, such as XSS and SQL-injection prevention
- Real-time connector behavior (WebSocket), API and database consistency
- Integration and regression scenarios

Priority distribution

Priority	Test Cases	Share
Critical	30	3.9%
High	487	63.4%
Medium	220	28.6%
Low	30	3.9%
Critical / High (combined, single case)	1	0.1%

Percentages are based on the 768 test cases with a recorded priority. The 8 integration and regression scenarios, and one further test case, have no recorded priority.

Module / Section	Test Cases
High-Level Test Scenarios	13
Authentication — Login & Session Handling	17
Cross-Module Reliability & Stability	12
Dashboard	44
Consumer Analytics	30
Fleets	69
Stations	101
EV Charging Connector	40
Sessions	48
Settlements	55
Tariff	61
Offers & Promotions	83
Support	79
Alerts	39
Admin Access (Role-Based Access Control)	78
Integration Test Scenarios	4
Regression Test Scenarios	4
Total documented test cases	777

High-Level Test Scenarios

End-to-end smoke and sanity scenarios covering the most business-critical flows across the application.

13 test cases

Test Case ID	Module	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
HL-001	Authentication	Login/Logout	Verify user login and logout flow	Valid user account exists	Login with valid credentials and logout	User should login and logout successfully	High
HL-002	Authentication	Change Password	Verify password update functionality	User logged in	Change password and login with new password	New password should work successfully	High
HL-003	Stations	Create Station	Verify station creation flow	User has station permissions	Create new station with valid data	Station should be created successfully	High
HL-004	Stations	Update Station	Verify station update flow	Existing station available	Update station details	Updated station details should save successfully	High
HL-005	Stations	Delete Station	Verify station deletion flow	Existing station available	Delete station	Station should be removed successfully	Medium
HL-006	Tariff	Create Tariff	Verify tariff creation for EVM machines	EVM machine available	Create tariff and assign to machine	Tariff should be created and mapped successfully	High
HL-007	Notifications	Alerts	Verify notification alert navigation	Faulted alerts available	Open alert and click view station	Relevant station page should open successfully	High
HL-008	Offers	Offer Management	Verify offer creation and edit flow	User has offer permissions	Create and edit offer	Offer should save and edit successfully	Medium
HL-009	Ticket Management	Raise Ticket	Verify ticket creation workflow	User logged in	Create ticket with valid details	Ticket should submit successfully	Medium
HL-010	Sessions	Session Management	Verify session lifecycle	Station available	Start and stop charging session	Session details should update correctly	High
HL-011	Security	Route Guard	Verify unauthorized route restriction	User logged out	Access protected URL directly	Application should redirect to login page	High
HL-012	Security	Concurrent Login	Verify multiple login handling	Valid user account exists	Login from multiple browsers	Application should handle sessions correctly	Medium
HL-013	Performance	Application Response	Verify module response time	Application accessible	Navigate between major modules	Pages should load within expected time	Medium

Authentication — Login & Session Handling

Functional, validation, negative and security-oriented checks for the login flow, including route protection and session behavior.

17 test cases

Test Case ID	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-AUTH-001	Login with valid credentials	Admin account exists	Enter valid email & password → Click Login	Admin should login successfully and navigate to dashboard	High
TC-AUTH-002	Login with invalid password	Admin account exists	Enter valid email + invalid password	Error message should display	High
TC-AUTH-003	Login with invalid email	Enter email not saved in DB	Enter invalid email + valid password	Error message should display	High
TC-AUTH-004	Login with empty fields	None	Keep email & password empty → Click Login	Mandatory field validation should display	High
TC-AUTH-005	Login with empty password	None	Enter email only → Click Login	Password required message should display	Medium
TC-AUTH-006	Login with empty email id	None	Enter password only → Click Login	Email required message should display	Medium
TC-AUTH-007	Verify password masking	Login page open	Type password in password field	Password should be masked	Medium
TC-AUTH-008	Verify email case insensitivity	Admin account exists	Login using uppercase/lowercase email combination	Login should work successfully	Medium
TC-AUTH-009	Verify password case sensitivity	Admin account exists	Change password letter case and login	Login should fail	High
TC-AUTH-010	Verify trimmed spaces in email	Admin account exists	Enter email with leading/trailing spaces	Spaces should be trimmed and login should work	Medium
TC-AUTH-011	Verify logout functionality	Logged in user	Click Logout	User should redirect to login page	High
TC-AUTH-012	Verify browser back button after logout	User logged out	Click browser back button	Protected pages should not open	High
TC-AUTH-013	Verify route guard protection	User logged out	Access dashboard URL directly	User should redirect to login page	High
TC-AUTH-014	Verify unauthorized route access	Logged in normal user	Access admin-only URL	User should redirect/deny access	Medium
TC-AUTH-015	Verify concurrent login	Admin logged in on one browser	Login same account in another browser	Application should follow defined session behavior	High
TC-AUTH-016	Verify forgot password navigation	Login page open	Click Forgot Password	User should navigate to reset page	High
TC-AUTH-017	Verify login button state	Login page open	Observe login button without inputs	Button should behave as per requirement	High

Cross-Module Reliability & Stability

Repeatability, persistence and stability checks that span several modules: data persistence after refresh, repeated operations, concurrent sessions and error handling.

12 test cases

Test Case ID	Module	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-AUTH-018	Authentication	Login Stability	Verify repeated login/logout operations	Valid user account exists	Perform login/logout multiple times continuously	Application should work consistently without crash	High
TC-AUTH-019	Stations	Data Persistence	Verify created station data persistence after refresh	Station created successfully	Refresh browser/relogin	Created station data should remain intact	High
TC-AUTH-020	Sessions	Session Recovery	Verify session continuity after temporary network disconnect	Active session exists	Disconnect and reconnect internet	Session should recover without data loss	High
TC-AUTH-021	Notifications	Alert Reliability	Verify notifications are consistently generated	Trigger alert condition	Generate multiple alerts	Notifications should appear correctly every time	Medium
TC-AUTH-022	Tariff	Save Reliability	Verify tariff save operation consistency	Tariff page accessible	Create/update tariffs repeatedly	Tariff data should save correctly every time	High
TC-AUTH-023	Ticket Management	Ticket Persistence	Verify ticket data reliability	Ticket module accessible	Create ticket and refresh page	Ticket should remain saved correctly	High
TC-AUTH-024	Offers & Promotions	Offer Status Handling	Verify pause/resume reliability	Offer exists	Pause/resume offer multiple times	Offer status should update correctly	Medium
TC-AUTH-025	Authentication	Concurrent Sessions	Verify system stability during multiple concurrent logins	Valid account exists	Login from multiple browsers/devices	System should manage sessions reliably	Medium
TC-AUTH-026	Dashboard	Application Stability	Verify dashboard stability during long usage	User logged in	Keep dashboard open for extended duration	Dashboard should remain stable without crash	Medium
TC-AUTH-027	Settlements	Invoice Download Reliability	Verify invoice download consistency	Approved settlements available	Download invoices multiple times	Invoice should download successfully every time	Medium
TC-AUTH-028	Security	Token Validation	Verify token/session reliability	User logged in	Keep session idle and continue usage	Session/token handling should work properly	High
TC-AUTH-029	UI/UX	Error Handling Stability	Verify application handles unexpected errors gracefully	Application accessible	Trigger invalid scenarios	Application should show proper error handling without crash	High

Dashboard

UI layout, KPI cards, filters, charts and UI-to-API data consistency checks for the dashboard.

44 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
UI-DB-001	Page Layout	Verify dashboard page layout alignment	User logged in	Open dashboard page	All UI components should align properly	High
UI-DB-002	Navigation Menu	Verify sidebar/top navigation visibility	Dashboard accessible	Open dashboard	Navigation menus should display correctly	High
UI-DB-003	Responsive Design	Verify dashboard responsiveness	Dashboard accessible	Open dashboard in different screen sizes	UI should adjust properly without overlap	Medium
UI-DB-004	Cards & Widgets	Verify dashboard cards visibility	Dashboard loaded	Observe dashboard widgets/cards	Cards should display correctly without distortion	Medium
UI-DB-005	Font Validation	Verify font style and readability	Dashboard loaded	Check text labels/headings	Fonts should be readable and consistent	Low
UI-DB-006	Color Validation	Verify color consistency	Dashboard loaded	Observe buttons/cards/labels	Colors should match UI standards	Low
UI-DB-007	Button Validation	Verify button alignment and visibility	Dashboard accessible	Check all action buttons	Buttons should align and display correctly	Medium
UI-DB-008	Icon Validation	Verify icons visibility and functionality	Dashboard loaded	Observe and click icons	Icons should display and work properly	Medium
UI-DB-009	Table UI	Verify table/grid alignment	Dashboard contains tables	Open tables/grids	Rows and columns should align correctly	Medium
UI-DB-010	Tooltip Validation	Verify tooltip visibility	Tooltip-supported elements available	Hover over icons/buttons	Tooltips should display properly	Low
UI-DB-011	Loader/Spinner	Verify loading indicator behavior	Slow loading scenario	Refresh dashboard	Loader/spinner should display correctly	Medium
UI-DB-012	Error Message UI	Verify error message styling	Trigger error scenario	Observe displayed error	Error messages should appear user-friendly	High
UI-DB-013	Empty State UI	Verify empty/no-data screen	No records available	Open empty dashboard section	Proper no-data message should display	Medium
UI-DB-014	Scroll Behavior	Verify page scrolling behavior	Dashboard accessible	Scroll vertically/horizontally	Scrolling should work smoothly	Low
UI-DB-015	Chart UI	Verify dashboard chart rendering	Dashboard charts available	Open dashboard	Charts should render properly without breakage	High
UI-DB-016	Alignment Validation	Verify spacing/padding consistency	Dashboard loaded	Observe margins/paddings	Proper spacing should maintain throughout UI	Low
UI-DB-017	Browser Compatibility	Verify UI across browsers	Multiple browsers installed	Open dashboard in Chrome/Edge/Firefox	UI should appear consistent	Medium
UI-DB-018	Session UI Handling	Verify dashboard after session timeout	Session timeout configured	Keep session idle	Proper session expiry message should display	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
UI-DB-019	Notification UI	Verify notification popup alignment	Notifications available	Trigger notification	Notification should display correctly	Medium
UI-DB-020	Accessibility	Verify keyboard/tab navigation	Dashboard accessible	Navigate using keyboard tab	Focus/navigation should work properly	Medium
UI-DB-021	Total Stations KPI	Verify Total Stations value	Dashboard accessible	Open Dashboard → note Total Stations → check KPIs API response	UI value should match API totalStations	High
UI-DB-022	Live Sessions KPI	Verify Live Sessions value	Dashboard accessible	Note Live Sessions → check KPIs API	UI value should match API liveSessions	High
UI-DB-023	Lifetime Revenue KPI	Verify Total Lifetime Revenue	Dashboard accessible	Note revenue → check KPIs API	UI revenue should match API revenue value and currency format	High
UI-DB-024	Network Uptime KPI	Verify Avg Network Uptime	Dashboard accessible	Note uptime → check KPIs API	UI value should match avgNetworkUptimePercent	High
UI-DB-025	Lifetime Sessions KPI	Verify Total Lifetime Sessions	Dashboard accessible	Note value → check KPIs API	UI value should match totalLifetimeSessions	High
UI-DB-026	Total Stations	Verify Total Stations updates when a new station is created	User has permission to create a station	Create a new station → return to Dashboard → refresh	Total Stations should reflect the newly created station	High
UI-DB-027	Station Status	Verify station status change is reflected on Dashboard	At least one station exists	Change station status through the application → open Dashboard	Dashboard should show the updated station status	High
UI-DB-028	Live Sessions	Verify an active charging session appears as Live Session	Station and charger are available	Start a charging session → open/refresh Dashboard	Active session should be reflected in Live Sessions	Critical
UI-DB-029	Live Sessions	Verify completed session is removed from Live Sessions	An active session exists	Stop/complete the charging session → refresh Dashboard	Completed session should no longer be counted as Live Session	Critical
UI-DB-030	Sessions	Verify completed session is reflected in session-related dashboard data	A charging session can be completed	Complete a charging session → refresh Dashboard	Relevant session count/data should be updated	High
UI-DB-031	Revenue	Verify successful charging session contributes to revenue	Charging and payment flow is available	Start session → complete charging/payment → open Dashboard	Applicable revenue should be updated	Critical
UI-DB-032	Revenue	Verify cancelled/failed payment does not incorrectly contribute to revenue	Payment flow available	Start transaction → cancel/fail payment → refresh Dashboard	Cancelled/failed transaction should not incorrectly increase revenue	Critical
UI-DB-033	Revenue Overview	Verify 7D filter changes revenue chart period	Revenue data available	Open Revenue Overview → select 7D	Chart should display the applicable 7-day revenue information	High
UI-DB-034	Revenue Overview	Verify 30D filter changes revenue chart period	Revenue data available	Select 30D	Chart should display the applicable 30-day revenue information	High
UI-DB-035	Revenue Overview	Verify 3M filter changes revenue chart period	Revenue data available	Select 3M	Chart should display the applicable 3-month revenue information	High
UI-DB-036	Revenue Overview	Verify changing period updates chart correctly	Revenue data available	Select 7D → 30D → 3M → switch back to 7D	Chart should update correctly for each selected period	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
UI-DB-037	Charger Network	Verify charger status changes are reflected	At least one charger is available	Change charger status through supported application flow → refresh Dashboard	Charger Network should reflect the current status	High
UI-DB-038	Recent Sessions	Verify newly completed session appears in Recent Sessions	Charging session can be completed	Complete a charging session → open Dashboard → check Recent Sessions	Newly completed session should appear in Recent Sessions	High
UI-DB-039	Recent Sessions	Verify session details from Dashboard can be opened	At least one recent session exists	Open Dashboard → select a recent session	User should be taken to the corresponding session/details view	Medium
UI-DB-040	Alerts	Verify dashboard notification opens the correct alert	An alert is available	Open notification → select an alert	User should be taken to the corresponding alert/details	High
UI-DB-041	Alerts	Verify View All Alerts opens the Alerts section	Alerts/notifications available	Open notification → click View All Alerts	User should be redirected to Alerts and available alerts should be displayed	High
UI-DB-042	Data Refresh	Verify dashboard reflects changes after manual refresh	Dashboard loaded and application data can change	Perform an applicable data change → return to Dashboard → refresh	Dashboard should display the latest applicable values	High
UI-DB-043	Navigation	Verify clicking Dashboard-related links opens the correct page	Dashboard accessible	Click each supported dashboard navigation/card link	Correct corresponding page should open	Medium
UI-DB-044	Session State	Verify dashboard behavior when user logs out during dashboard usage	User logged in and Dashboard open	Open Dashboard → logout	User should be logged out and protected dashboard data should no longer be accessible	High

Consumer Analytics

Page access, period filters, region and station breakdowns, charts and export checks for the analytics module.

30 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
UI-CF-001	Page Access	Verify Consumer Analytics page access	User logged in	Open Consumer Analytics	Consumer Analytics page should load successfully	High
UI-CF-002	Period Filter	Verify Last 7 Days filter	Consumer Analytics accessible	Select Last 7 days	Dashboard data should update for selected period	High
UI-CF-003	Period Filter	Verify Last 30 Days filter	Consumer Analytics accessible	Select Last 30 days	Dashboard data should update for selected period	High
UI-CF-004	Period Filter	Verify Last 3 Months filter	Consumer Analytics accessible	Select Last 3 months	Dashboard data should update for selected period	High
UI-CF-005	Custom Period	Verify custom date range	Consumer Analytics accessible	Select Custom → enter valid dates → apply	Data should be displayed for selected date range	High
UI-CF-006	Custom Date	Verify invalid custom date range	Analytics page accessible	Select Custom → enter end date earlier than start date → Apply	Validation message should be displayed and data should not be loaded	High
UI-CF-007	Custom Date	Verify future date selection	Analytics page accessible	Select Custom → enter future dates → Apply	System should handle the future date range appropriately without displaying incorrect data	Medium
UI-CF-008	Region Filter	Verify region selection	Multiple regions available	Select a region	Consumer analytics should update according to selected region	High
UI-CF-009	Station Filter	Verify station selection	Stations available	Select a station	Analytics should display data for selected station	High
UI-CF-010	Region Filter	Verify station list based on selected region	Multiple regions and stations available	Select a region from Region filter → open Station filter	Station dropdown should display only stations belonging to the selected region	High
UI-CF-011	Station Filter	Verify analytics data after selecting a station	Station available for selected region	Select Region → select Station → observe KPI cards and charts	Analytics data should update according to the selected station	High
UI-CF-012	Station Filter	Verify station data is not displayed for unrelated region	Multiple regions/stations available	Select Region A → open Station filter	Stations belonging to other regions should not be available for selection	High
UI-CF-013	Chart	Verify chart data after selecting a station	Station with analytics data available	Select Region → select Station → observe chart	Chart should display data corresponding to the selected station	High
UI-CF-014	Combined Filters	Verify region and station filters together	Region and station available	Select region → select station	Data should update according to both selections	High
UI-CF-015	Utilization Trend	Verify utilization chart	Analytics data available	Open Utilization Trend → switch between 7D, 30D and 3M	Chart should update according to selected period	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
UI-CF-016	Export	Verify analytics data export	Analytics page loaded	Select required filters → click Export	Analytics data should be exported successfully	High
UI-CF-017	Export PDF	Verify analytics data export in PDF format	Consumer Analytics page accessible	Select period → click Export → select PDF	PDF should download successfully with the displayed analytics data	High
UI-CF-018	Export Excel	Verify analytics data export in Excel format	Consumer Analytics page accessible	Select period → click Export → select Excel	Excel file should download successfully with the displayed analytics data	High
UI-CF-019	Export with Filters	Verify PDF export with selected filters	Analytics data available	Select region/station/period → Export PDF	PDF should contain data based on selected filters	High
UI-CF-020	Export with Filters	Verify Excel export with selected filters	Analytics data available	Select region/station/period → Export Excel	Excel should contain data based on selected filters	High
UI-CF-021	Export Negative	Verify export when no data is available	No data available for selected filter	Select a filter/date range with no data → Export	System should show appropriate no-data message and should not generate incorrect data	High
UI-CF-022	Export	Verify exported file name and format	Analytics data available	Export PDF and Excel	Downloaded files should have the correct format and meaningful file name	Low
UI-CF-023	Export	Verify exported data after changing filters	Analytics data available	Apply filter → Export → change filter → Export again	Each exported file should correspond to the filter selected at the time of export	High
UI-CF-024	Refresh	Verify analytics after browser refresh	Analytics page accessible	Apply filters → refresh browser	Page should load successfully and filter/data behavior should follow expected application design	Medium
UI-CF-025	Chart View	Verify By Station chart view	Analytics data available	Select By Station	Chart should display analytics data grouped/displayed by station	High
UI-CF-026	Chart View	Verify By Region chart view	Analytics data available	Select By Region	Chart should display analytics data grouped/displayed by region	High
UI-CF-027	Chart View	Verify switching between By Station and By Region	Analytics data available	Select By Station → note chart → select By Region	Chart should update correctly according to the selected view	High
UI-CF-028	Chart & Filter	Verify chart updates when region is changed	Multiple regions available	Select Region A → observe chart → select Region B	Chart should refresh and display data relevant to the newly selected region	High
UI-CF-029	Chart & Filter	Verify chart updates when station is changed	Multiple stations available	Select Station A → observe chart → select Station B	Chart should refresh and display data relevant to the newly selected station	High
UI-CF-030	Negative	Verify chart behavior when selected station has no data	Station with no analytics data available	Select region → select station with no data	Chart should display an appropriate no-data/empty state and should not show unrelated data	Medium

Fleets

Fleet and vehicle management: listing, KPI cards, create/edit flows, vehicle groups, search and validations.

69 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
FLT-001	Fleet Page	Verify Fleet page loads successfully	User is logged in	Navigate to Fleets → Manage Fleets	Fleet page should load successfully with fleet list, search and Add New Fleet option	High
FLT-002	KPI Cards	Verify Total Fleets card is displayed	Fleet dashboard is loaded	Observe the Total Fleets card	Total Fleets card should be visible with a valid count	High
FLT-003	KPI Cards	Verify Active Vehicles card is displayed	Fleet dashboard is loaded	Observe the Active Vehicles card	Active Vehicles card should be visible with a valid count	High
FLT-004	KPI Cards	Verify Fleet Sessions card is displayed	Fleet dashboard is loaded	Observe the Fleet Sessions card	Fleet Sessions card should be visible with a valid count	High
FLT-005	KPI Cards	Verify Fleet Revenue card is displayed	Fleet dashboard is loaded	Observe the Fleet Revenue card	Fleet Revenue should be displayed with the correct currency format	High
FLT-006	KPI Cards	Verify Consumption card is displayed	Fleet dashboard is loaded	Observe the Consumption card	Consumption value should be displayed with the appropriate energy unit	High
FLT-007	KPI Cards	Verify Utilization card is displayed	Fleet dashboard is loaded	Observe the Utilization card	Utilization value should be displayed correctly; if no data is available, an appropriate empty value should be shown	Medium
FLT-008	Navigation	Verify Manage Fleets button is displayed	Fleet dashboard is loaded	Observe the Manage Fleets button	Manage Fleets button should be visible and clearly identifiable	High
FLT-009	Navigation	Verify Manage Vehicles button is displayed	Fleet dashboard is loaded	Observe the Manage Vehicles button	Manage Vehicles button should be visible and clearly identifiable	High
FLT-010	Fleet Revenue	Verify Fleet Revenue chart is displayed	Fleet dashboard is loaded	Scroll to the Fleet Revenue section	Fleet Revenue chart should be displayed with fleet names and revenue information	High
FLT-011	Fleet Revenue	Verify Fleet Revenue period selection	Fleet dashboard is loaded	Click 7D, 30D, and 3M options in the Fleet Revenue chart	Chart should update/display data according to the selected period	High
FLT-012	Energy & Utilization	Verify Energy & Utilization chart is displayed	Fleet dashboard is loaded	Scroll to Energy & Utilization section	Chart should be displayed correctly with fleet information and utilization/energy values	High
FLT-013	Fleet Sessions	Verify Fleet Sessions section is displayed	Fleet dashboard is loaded	Scroll below the charts	Fleet Sessions section should be displayed with the search field	High
FLT-014	Page Scrolling	Verify vertical scrolling on Fleet dashboard	Fleet dashboard is loaded	Scroll from the top to the bottom of the page	User should be able to scroll smoothly and access all dashboard sections	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
FLT-015	UI Validation	Verify KPI cards and charts are aligned correctly	Fleet dashboard is loaded	Observe all KPI cards and chart sections	No overlapping, clipping, broken alignment or distorted UI should be present	Medium
FLT-016	Empty Data Handling	Verify dashboard behavior when a section has no data	Test environment contains a fleet/section with no applicable data	Open Fleet dashboard and observe the relevant section	System should display an appropriate empty state instead of a broken chart or misleading data	Medium
FLT-017	Dashboard Refresh	Verify Fleet dashboard after browser refresh	Fleet dashboard is loaded	Refresh the browser page	Dashboard should reload successfully and all available sections should remain accessible	High
FLT-018	Add Fleet	Open Create Fleet form	User is logged in and on Fleets page	Click Add New Fleet	Create Fleet popup opens with all required fields	High
FLT-019	Add Fleet	Verify fields in Create Fleet form	Create Fleet popup is open	Check Fleet Name, Description, Owner Name, Status, Tariff Plan, Vehicle Group and Create Fleet button	All expected fields and controls are displayed correctly	High
FLT-020	Add Fleet	Create fleet with valid mandatory data	Create Fleet popup is open	Enter valid Fleet Name, select Status, Tariff Plan and Vehicle Group, then click Create Fleet	Fleet is created successfully and appears in fleet list	High
FLT-021	Add Fleet	Validate Fleet Name as mandatory	Create Fleet popup is open	Leave Fleet Name blank and click Create Fleet	Validation message is displayed and fleet is not created	High
FLT-022	Add Fleet	Validate Fleet Name minimum length	Create Fleet popup is open	Enter 1 character in Fleet Name and submit	Validation is displayed because minimum length is 2 characters	Medium
FLT-023	Add Fleet	Validate Fleet Name maximum length	Create Fleet popup is open	Enter more than 100 characters	Input should not accept more than 100 characters or proper validation should be shown	Medium
FLT-024	Add Fleet	Create fleet with optional Description	Create Fleet popup is open	Enter valid Fleet Name and Description with valid mandatory selections, then submit	Fleet is created with the entered description	Medium
FLT-025	Add Fleet	Validate Description character limit	Create Fleet popup is open	Enter more than 500 characters in Description	Input should restrict to 500 characters or show validation	Medium
FLT-026	Add Fleet	Verify default Status	Create Fleet popup is open	Check Status field	Status is displayed as Active by default	Medium
FLT-027	Add Fleet	Verify Tariff Plan dropdown	Create Fleet popup is open	Click Tariff Plan dropdown	Available tariff plans are displayed and user can select one	High
FLT-028	Add Fleet	Verify Vehicle Group dropdown	Create Fleet popup is open	Click Vehicle Group dropdown	Available vehicle groups are displayed and user can select one	High
FLT-029	Add Fleet	Submit without selecting Tariff Plan	Create Fleet popup is open	Enter other required data but leave Tariff Plan unselected and submit	Validation is displayed and fleet is not created	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
FLT-030	Add Fleet	Submit without selecting Vehicle Group	Create Fleet popup is open	Enter other required data but leave Vehicle Group unselected and submit	Validation is displayed and fleet is not created	High
FLT-031	Add Fleet	Create duplicate fleet/tariff combination	Existing tariff mapping already exists	Enter data using an existing tariff combination and submit	Appropriate duplicate validation/error message is displayed	High
FLT-032	Add Fleet	Verify duplicate validation visibility	Duplicate validation is triggered	Submit duplicate fleet data	Error/validation message should be displayed inside or clearly associated with the Create Fleet popup, not hidden behind the popup	Medium
FLT-033	Add Fleet	Close Create Fleet popup	Create Fleet popup is open	Click X	Popup closes and no fleet is created	Low
FLT-034	Add Fleet	Verify newly created fleet in list	Fleet created successfully	Return/check Fleet list	Newly created fleet is displayed with correct name, owner, tariff, vehicle group and status	High
FLT-035	Back	Verify Back button navigation	User is on Fleet page	Click Back	User should be redirected to the previous page	Medium
FLT-036	Search	Search fleet using valid fleet name	Fleet page contains existing fleets	1. Click Search field 2. Enter an existing fleet name	Matching fleet(s) should be displayed	High
FLT-037	Search	Search fleet using partial name	Existing fleet available	Enter partial fleet name in Search	Matching fleets containing the search text should be displayed	Medium
FLT-038	Search	Search using non-existing fleet name	User is on Fleet page	Enter a non-existing fleet name	No matching fleet should be displayed with appropriate empty-state message	Medium
FLT-039	Search	Clear search text	Search results are displayed	1. Enter fleet name 2. Remove/clear search text	Full fleet list should be displayed again	Medium
FLT-040	Actions	Verify Actions menu	Fleet records are displayed	Click  under Actions	Actions menu should open with View, Edit, Delete options	High
FLT-041	Actions	Verify View option	Actions menu is open	Click View	Selected fleet details should be displayed	High
FLT-042	Actions	Verify Edit option	Actions menu is open	Click Edit	Edit Fleet form should open with existing fleet details populated	High
FLT-043	Actions	Verify Delete option	Actions menu is open	Click Delete	Delete confirmation should be displayed before deleting the fleet	High
FLT-044	Delete	Cancel fleet deletion	Delete confirmation is displayed	Click Cancel/Close	Fleet should not be deleted and should remain in the list	High
FLT-045	Delete	Confirm fleet deletion	Existing fleet available	1. Click  → Delete 2. Confirm deletion	Fleet should be deleted successfully and removed from the list	High
FLT-046	Sorting	Sort fleet list by Fleet name	Fleet list contains multiple records	Click Fleet column sort icon	Fleet records should be sorted accordingly	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
FLT-047	Sorting	Sort by Description	Multiple fleet records available	Click Description sort icon	Records should be sorted accordingly	Low
FLT-048	Sorting	Sort by Owner	Multiple fleet records available	Click Owner sort icon	Records should be sorted accordingly	Low
FLT-049	Sorting	Sort by Status	Fleet records have different statuses	Click Status sort icon	Records should be sorted according to status	Low
FLT-050	Navigation	Open Add New Fleet	User is on Fleet page	Click Add New Fleet	Create Fleet popup should open	High
FLT-051	UI	Verify Fleet table columns	User is on Fleet page	Observe fleet listing	Fleet, Description, Owner, Tariff Plans, Vehicle Groups, Status and Actions columns should be displayed	Medium
FLT-052	Add Vehicle	Open Add Vehicle form	User is logged in and on Vehicles page	Click Add Vehicle	Add Vehicle popup opens	High
FLT-053	Add Vehicle	Verify Add Vehicle fields	Add Vehicle popup is open	Check Vehicle Name, License Plate, Driver Name, Driver Phone, Vehicle Group, Connector Type, Fleet and Vehicle Status	All expected fields are displayed correctly	High
FLT-054	Add Vehicle	Create vehicle with valid data	Add Vehicle popup is open	Enter valid Vehicle Name, License Plate, select Fleet and other required values, then click Add Vehicle	Vehicle is created successfully	High
FLT-055	Add Vehicle	Validate Vehicle Name as mandatory	Add Vehicle popup is open	Leave Vehicle Name blank and submit	Validation is displayed and vehicle is not created	High
FLT-056	Add Vehicle	Validate License Plate as mandatory	Add Vehicle popup is open	Leave License Plate blank and submit	Validation is displayed and vehicle is not created	High
FLT-057	Add Vehicle	Validate Fleet as mandatory	Add Vehicle popup is open	Leave Fleet as "Select fleet" and submit	Validation is displayed and vehicle is not created	High
FLT-058	Add Vehicle	Verify Vehicle Group dropdown	Add Vehicle popup is open	Click Vehicle Group dropdown	Available vehicle groups are displayed	Medium
FLT-059	Add Vehicle	Verify Connector Type dropdown	Add Vehicle popup is open	Click Connector Type dropdown	Available connector types such as CCS2/GB-T are displayed	Medium
FLT-060	Add Vehicle	Verify Fleet dropdown	Add Vehicle popup is open	Click Fleet dropdown	Available fleets are displayed for selection	High
FLT-061	Add Vehicle	Verify default Vehicle Status	Add Vehicle popup is open	Check Vehicle Status	Vehicle Status is Active by default	Medium
FLT-062	Add Vehicle	Validate Driver Phone	Add Vehicle popup is open	Enter invalid phone characters/format	Appropriate validation is displayed	Medium
FLT-063	Add Vehicle	Create vehicle with optional Driver details	Add Vehicle popup is open	Enter valid Driver Name and Driver Phone along with required fields	Vehicle is created with driver details	Medium
FLT-064	Add Vehicle	Create vehicle without optional Driver details	Add Vehicle popup is open	Leave Driver Name and Driver Phone blank, fill required fields and submit	Vehicle is created successfully if driver fields are optional	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
FLT-065	Add Vehicle	Create duplicate License Plate	Vehicle with same license plate already exists	Enter existing License Plate and submit	Duplicate license plate validation/error is displayed and vehicle is not created	High
FLT-066	Add Vehicle	Close Add Vehicle popup	Add Vehicle popup is open	Click X	Popup closes without creating vehicle	Low
FLT-067	Add Vehicle	Verify newly created vehicle	Vehicle created successfully	Check Vehicles list	Newly created vehicle appears with correct fleet, license plate, connector type and status	High
FLT-068	Add Vehicle	Verify vehicle-fleet mapping	Valid fleet exists	Create vehicle and assign it to a fleet	Vehicle is associated with the selected fleet correctly	High
FLT-069	Add Vehicle	Verify form scroll behavior	Add Vehicle popup is open	Scroll within popup from Vehicle Name to Add Vehicle button	Popup content scrolls correctly and all fields/button remain accessible	Medium

Stations

Station lifecycle (create, view, update, delete), field validations, security-input checks, connectors and persistence.

101 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-STN-001	Create Station	Create station with valid data	User logged in with permission	Enter all mandatory fields and save	Station should be created successfully	High
TC-STN-002	Create Station	Create station with empty mandatory fields	Create station page open	Leave mandatory fields empty and save	Validation messages should display	High
TC-STN-003	Create Station	Verify duplicate station creation	Existing station available	Create station using existing station ID/name	Duplicate station should not be created	High
TC-STN-004	Create Station	Verify field length validations	Create station page open	Enter max/min character values	System should validate field limits	Medium
TC-STN-005	Create Station	Verify invalid input characters	Create station page open	Enter special characters/scripts	Invalid input should be restricted	High
TC-STN-006	Get Stations	Verify stations list loading	Stations available	Open stations list page	Stations should load correctly	High
TC-STN-007	Get Stations	Verify search functionality	Stations available	Search using station name/ID	Relevant stations should display	Medium
TC-STN-008	Get Stations	Verify pagination/filter functionality	Multiple stations available	Apply filters/pagination	Filtered data should display correctly	Medium
TC-STN-009	Get Station Detail	Verify station detail page	Station exists	Open station detail page	Correct station details should display	High
TC-STN-010	Get Station Detail	Verify invalid station access	Invalid station ID	Open invalid station detail URL	Error/Not Found message should display	Medium
TC-STN-011	Get Station Detail	Verify UI alignment on detail page	Station detail page open	Observe page UI	UI should display properly	Low
TC-STN-012	Update Station	Update station with valid data	Existing station available	Edit station details and save	Station should update successfully	High
TC-STN-013	Update Station	Verify update validation messages	Existing station available	Remove mandatory fields and save	Validation should display	Medium
TC-STN-014	Update Station	Verify unauthorized station update	User without edit permission	Attempt station update	Access should be denied	High
TC-STN-015	Delete Station	Delete existing station	Existing station available	Click delete and confirm	Station should be deleted	High
TC-STN-016	Delete Station	Verify delete confirmation popup	Existing station available	Click delete	Confirmation popup should appear	Medium
TC-STN-017	Delete Station	Verify deleted station access	Station deleted	Search/open deleted station	Deleted station should not appear	High
TC-STN-018	Connector Mapping	Map connector to station	Station available	Add connector mapping	Connector should map successfully	High
TC-STN-019	Connector Mapping	Verify duplicate connector mapping	Existing mapping available	Add same connector again	Duplicate mapping should not allow	Medium
TC-STN-020	Connector Mapping	Verify connector removal	Connector mapped	Remove connector mapping	Connector should remove successfully	Medium
TC-STN-021	Availability	Verify station availability status	Station available	Check availability indicator	Correct availability status should display	High
TC-STN-022	Availability	Verify real-time status refresh	Station active	Refresh/reload page	Updated status should display	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-STN-023	Tenant Isolation	Verify tenant-specific station visibility	Multiple tenants exist	Login with Tenant A	Only Tenant A stations should display	High
TC-STN-024	Tenant Isolation	Verify cross-tenant access restriction	Multiple tenants exist	Access another tenant station URL	Access should be denied	High
TC-STN-025	Tenant Isolation	Verify tenant data segregation	Multiple tenants exist	Perform search/filter	Only tenant-specific data should display	High
TC-STN-026	Security	Verify route guard for station pages	User logged out	Access station URL directly	Redirect to login page	High
TC-STN-027	Security	Verify XSS prevention in station fields	Create station page open	Enter script tags in fields	Scripts should not execute	High
TC-STN-028	Security	Verify SQL injection prevention	Create/update page open	Enter SQL payload in fields	Malicious input should be blocked	High
TC-STN-029	Data Persistence	Verify created station data persistence after refresh	Station created successfully	Refresh browser/relogin	Created station data should remain intact	—
TC-STN-030	Station Count	Verify All Stations count	Multiple stations available	Open Stations page	All Stations count should match total available stations	High
TC-STN-031	Station Count	Verify Online stations count	Online stations available	Click Online filter	Count should match number of online stations	High
TC-STN-032	Station Count	Verify Offline stations count	Offline stations available	Click Offline filter	Count should match number of offline stations	High
TC-STN-033	Station Count	Verify Faulted stations count	Faulted stations available	Click Faulted filter	Count should match number of faulted stations	High
TC-STN-034	Status Filter	Verify Online station filtering	Online and offline stations available	Select Online	Only online stations should be displayed	High
TC-STN-035	Status Filter	Verify Offline station filtering	Online and offline stations available	Select Offline	Only offline stations should be displayed	High
TC-STN-036	Status Filter	Verify Faulted station filtering	Faulted stations available	Select Faulted	Only faulted stations should be displayed	High
TC-STN-037	Status Filter	Verify filter reset	Any status filter applied	Select All Stations	Complete station list should be displayed	Medium
TC-STN-038	Search	Search by partial station name	Stations available	Enter partial station name	Matching stations should be displayed	Medium
TC-STN-039	Search	Search by exact Station ID	Station ID available	Enter exact Station ID	Corresponding station should be displayed	High
TC-STN-040	Search	Search with non-existing station	Stations not available	Enter invalid/non-existing station name	No matching records should be displayed	Medium
TC-STN-041	Search	Verify search case sensitivity	Station available	Search using different letter cases	Relevant station should be returned irrespective of case, if search is intended to be case-insensitive	Low
TC-STN-042	Search	Clear search results	Search text entered	Clear search field	Complete applicable station list should be restored	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-STN-043	Sorting	Sort stations by Station Name	Multiple stations available	Sort Station column ascending/descending	Stations should be sorted correctly	Medium
TC-STN-044	Sorting	Sort stations by CPO	Multiple CPOs available	Sort CPO column	Stations should be sorted correctly by CPO	Low
TC-STN-045	Sorting	Sort stations by Station ID	Multiple stations available	Sort Station ID column	Station IDs should be sorted correctly	Low
TC-STN-046	Sorting	Sort stations by Status	Stations with different statuses available	Sort Status column	Stations should be ordered according to selected sort direction	Low
TC-STN-047	Station List	Verify station column data	Stations available	Observe Station Name, CPO, Station ID, Status and Location	Correct data should be displayed under respective columns	High
TC-STN-048	Station List	Verify long station name display	Station with long name available	Open Stations page	Long name should display without breaking the layout	Medium
TC-STN-049	Station List	Verify long CPO name display	CPO with long name available	Open Stations page	CPO name should display correctly without overlapping other columns	Medium
TC-STN-050	Station List	Verify location display	Stations with different locations available	Open Stations page	Correct city and state should be displayed for each station	Medium
TC-STN-051	Station List	Verify station status accuracy	Stations with different statuses available	Compare displayed status with actual station state	UI status should match the current station state	High
TC-STN-052	Refresh	Verify station list after browser refresh	Stations available	Refresh page	Station data and selected/default state should load correctly	High
TC-STN-053	Refresh	Verify updated station status after refresh	Station status changed	Refresh Stations page	Latest station status should be displayed	High
TC-STN-054	Actions	Verify View action	Existing station available	Open Actions menu → Click View	Station detail page should open with correct station information	High
TC-STN-055	Actions	Verify View Sessions action	Existing station with sessions available	Open Actions menu → Click View Sessions	Sessions related to the selected station should be displayed	High
TC-STN-056	Actions	Verify Edit action	Existing station available with edit permission	Open Actions menu → Click Edit	Edit station page/form should open with existing station data populated	High
TC-STN-057	Actions	Verify Delete action	Existing station available with delete permission	Open Actions menu → Click Delete	Delete confirmation popup should be displayed	High
TC-STN-058	Actions	Verify View displays correct station	Existing station available	Click View for a station	Station name, CPO, Station ID, status, location and connector details should match the selected station	High
TC-STN-059	Actions	Verify View Sessions opens sessions for correct station	Station with sessions available	Select View Sessions for a specific station	Only sessions associated with the selected station should be displayed	High
TC-STN-060	Actions	Verify Edit retains existing station data	Existing station available	Click Edit	Existing station information should be pre-populated correctly	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-STN-061	Actions	Verify Delete cancellation	Existing station available	Click Delete → Cancel/Close confirmation	Station should not be deleted and should remain in the list	High
TC-STN-062	Actions	Verify Delete confirmation	Existing station available	Click Delete → Confirm deletion	Station should be deleted successfully and removed from the applicable list	High
TC-STN-063	Actions	Verify Actions menu for each station	Multiple stations available	Open Actions menu for different stations	Actions should be available for the correct selected station without affecting other stations	Medium
TC-STN-064	Responsive UI	Verify Stations page in reduced screen width	Application open	Reduce browser width/split screen	All important controls and station data should remain accessible	Medium
TC-STN-065	UI Validation	Verify table alignment	Stations available	Observe station table	Headers and corresponding data should remain properly aligned	Low
TC-STN-066	UI Validation	Verify status indicator styling	Stations with different statuses available	Observe status indicators	Status should be clearly distinguishable and correctly labeled	Low
TC-STN-067	Navigation	Verify Stations navigation	User logged in with permission	Click Stations from navigation	Stations module should open successfully	High
TC-STN-068	Navigation	Verify browser back navigation	Stations page opened from another module	Navigate to Stations and click browser Back	Previous page should open without application errors	Low
TC-STN-069	Security	Verify direct station detail access without permission	User lacks Station permission	Open station detail URL directly	Access should be denied or user redirected appropriately	High
TC-STN-070	Session	Verify station operations after session expiry	User session expires	Attempt station operation	User should be redirected to login/session-expired handling	High
TC-STN-071	API Validation	Verify station list API response matches UI	Stations API available	Inspect Network response and compare with UI	Station name, CPO, ID, status and location should match API data	High
TC-STN-072	Connector Configuration	Verify minimum 1 connector requirement	Create Station page is open	Enter valid station details and configure 1 connector	Station should allow configuration with exactly 1 connector	High
TC-STN-073	Connector Configuration	Verify connector count starts correctly	Create Station page is open	Observe Connectors section	Connector count should display the configured connector count correctly, e.g. 1/4	Medium
TC-STN-074	Connector Configuration	Add second connector	One valid connector configured	Click Add Connector and enter valid details	Second connector should be added and count should become 2/4	High
TC-STN-075	Connector Configuration	Add third connector	Two valid connectors configured	Click Add Connector and enter valid details	Third connector should be added and count should become 3/4	High
TC-STN-076	Connector Configuration	Add fourth connector	Three valid connectors configured	Click Add Connector and enter valid details	Fourth connector should be added and count should become 4/4	High
TC-STN-077	Connector Configuration	Verify maximum 4 connector limit	Four connectors configured	Observe Connectors section	System should not allow more than 4 connectors	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-STN-078	Connector Configuration	Verify Add Connector button disabled at maximum limit	Four connectors configured	Observe Add Connector button	Add Connector button should be disabled when connector count reaches 4/4	High
TC-STN-079	Connector Configuration	Attempt to add fifth connector	Four connectors configured	Attempt to click Add Connector	Fifth connector should not be added	High
TC-STN-080	Connector Configuration	Remove connector from maximum count	Four connectors configured	Delete one connector	Connector should be removed and count should change from 4/4 to 3/4	High
TC-STN-081	Connector Configuration	Verify Add Connector re-enabled after deletion	Four connectors configured	Delete one connector	Add Connector button should become enabled again	Medium
TC-STN-082	Connector Configuration	Verify connector count after multiple additions/deletions	Multiple connectors configured	Add and remove connectors	Connector count should always accurately reflect the number of configured connectors	Medium
TC-STN-083	Connector Validation	Verify Charger Name mandatory validation	Connector form open	Leave Charger Name empty and save	Validation message should be displayed and connector should not be saved	High
TC-STN-084	Connector Validation	Verify Connector ID mandatory/valid value	Connector form open	Enter valid Connector ID	Connector ID should be accepted and retained correctly	High
TC-STN-085	Connector Validation	Verify duplicate Connector ID	Existing Connector ID available	Enter the same Connector ID in another connector	Duplicate Connector ID should not be accepted if uniqueness is required	High
TC-STN-086	Connector Validation	Verify connector Type selection	Connector form open	Open Type dropdown and select a valid type such as CCS2	Selected connector type should be displayed correctly	Medium
TC-STN-087	Connector Validation	Verify Max kW mandatory validation	Connector form open	Leave Max kW empty and save	Validation message should be displayed	High
TC-STN-088	Connector Validation	Verify valid Max kW value	Connector form open	Enter a valid numeric Max kW value, e.g. 60	Value should be accepted and retained correctly	High
TC-STN-089	Connector Validation	Verify invalid Max kW value	Connector form open	Enter alphabetic, negative or invalid value in Max kW	Invalid value should be rejected or validation should be displayed	High
TC-STN-090	Connector Validation	Verify Price mandatory validation	Connector form open	Leave Price empty and save	Validation message should be displayed	High
TC-STN-091	Connector Validation	Verify valid Price value	Connector form open	Enter a valid numeric price, e.g. 18	Price should be accepted and retained correctly	High
TC-STN-092	Connector Validation	Verify invalid Price value	Connector form open	Enter alphabetic, negative or invalid price	Invalid value should be rejected or validation should be displayed	High
TC-STN-093	Connector Configuration	Verify connector Status selection	Connector form open	Open Status dropdown	Available status options should be displayed	Medium
TC-STN-094	Connector Configuration	Verify Active connector status	Connector form open	Select Active status and save	Connector should be saved with Active status	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-STN-095	Connector Configuration	Verify connector data persistence	Valid connector configured	Enter Charger Name, Connector ID, Type, Max kW, Price and Status → Save station	Saved connector details should remain correct after saving/reopening the station	High
TC-STN-096	Connector Configuration	Verify all 4 connectors can have independent values	Create Station page open	Configure 4 connectors with different valid values	Each connector should retain its own Charger Name, Connector ID, Type, Max kW, Price and Status	High
TC-STN-097	Connector Configuration	Verify connector deletion	Multiple connectors configured	Click delete icon for a connector	Selected connector should be removed without affecting other connectors	High
TC-STN-098	Connector Configuration	Verify minimum connector restriction after deletion	Only 1 connector configured	Click delete icon on the only connector	System should prevent deletion or require at least 1 connector before saving	High
TC-STN-099	Connector Configuration	Verify connector count does not exceed maximum after deletion/addition	Four connectors configured	Delete one connector → Add Connector	Count should return to 4/4 and no fifth connector should be created	High
TC-STN-100	Connector Configuration	Verify connector fields remain independent	Multiple connectors configured	Modify Max kW/Price/Type of one connector	Only the selected connector's values should change	Medium
TC-STN-101	Connector Configuration	Verify maximum connector configuration with valid values	Create Station page open	Configure exactly 4 connectors with valid values in all fields	All 4 connectors should be accepted and station should be saved successfully	High

EV Charging Connector

Test scenarios for connector status handling, real-time synchronization (WebSocket), API and database consistency, security and performance.

40 test cases

Test Case ID	Module	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
CON-001	Stations	Connector	Verify connector is displayed for a station	Station exists with configured connector	1. Open Stations 2. Select station 3. Open connector details	Connector ID, status and required details are displayed correctly	High
CON-002	Stations	Connector Status	Verify connector displays AVAILABLE status	Connector is online and available	1. Open station 2. Check connector status	Connector status should display AVAILABLE	High
CON-003	Stations	Connector Status	Verify connector changes from AVAILABLE to OCCUPIED when charging starts	Connector is AVAILABLE	1. Start charging session 2. Monitor connector status	Status should change to OCCUPIED in real time	Critical
CON-004	Stations	Connector Status	Verify connector changes from OCCUPIED to AVAILABLE after session completion	Active charging session exists	1. Stop/complete session 2. Monitor connector	Connector should change back to AVAILABLE	Critical
CON-005	Stations	Connector Status	Verify connector changes to FAULTED when charger reports a fault	Connector is connected	1. Trigger/report charger fault 2. Monitor the EV Charging CMS	Connector should display FAULTED	Critical
CON-006	Stations	Connector Status	Verify connector changes to OFFLINE when charger disconnects	Connector is online	1. Disconnect charger/network 2. Monitor the EV Charging CMS	Connector should change to OFFLINE within configured timeout	Critical
CON-007	Stations	Connector Status	Verify connector returns to AVAILABLE after recovering from fault	Connector is FAULTED	1. Resolve charger fault 2. Reconnect charger 3. Monitor status	Connector should return to the appropriate available state	High
CON-008	Stations	Connector ID	Verify connector ID format	Station and connector are configured	Open connector details	Connector ID should follow configured format, e.g. DEMO-STN-001-C1	Medium
CON-009	Stations	Connector Mapping	Verify connector is mapped to the correct station	Station and connector mapping exists	1. Open station 2. Check connector	Correct connector should be displayed under the correct station	High
CON-010	Stations	Connector Mapping	Verify connector cannot be mapped to an invalid/non-existing station	Valid user access available	Try mapping connector to invalid station	System should reject the request with proper validation message	High
CON-011	Stations	Connector	Verify duplicate connector ID is not allowed	Connector already exists	Create/map another connector with same ID	System should prevent duplicate connector creation/mapping	High
CON-012	Stations	Connector	Verify connector status is synchronized between API and UI	Connector status available through API	1. Get connector/station API response 2. Open the EV Charging CMS UI	UI status should match API status	High

Test Case ID	Module	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
CON-013	WebSocket	Real-Time Status	Verify connector status update is received through WebSocket	WebSocket connection is active	1. Connect to the EV Charging CMS 2. Change connector status 3. Monitor WebSocket	Correct connector status event should be received	Critical
CON-014	WebSocket	Real-Time Status	Verify EV Charging CMS UI updates without page refresh	WebSocket connection is active	1. Open station page 2. Change connector status externally	UI should update automatically without refreshing	Critical
CON-015	WebSocket	Event Validation	Verify correct station and connector IDs are received in event	WebSocket connected	1. Trigger connector status change 2. Inspect WebSocket message	Event should contain correct station ID and connector ID	High
CON-016	WebSocket	Event Validation	Verify incorrect/invalid connector event is not reflected in UI	WebSocket connected	Send/trigger invalid connector event	Invalid event should be rejected/ignored and UI should remain unchanged	High
CON-017	WebSocket	Reconnection	Verify connector updates after WebSocket reconnection	WebSocket connected	1. Disconnect network 2. Change connector status 3. Restore network	WebSocket should reconnect and UI should receive the latest valid status	High
CON-018	WebSocket	Multiple Clients	Verify connector status is synchronized across multiple EV Charging CMS users	Two users are logged in	1. Open same station on two browsers 2. Change connector status	Both clients should receive the updated status	High
CON-019	Sessions	Connector	Verify charging session starts on the selected connector	Connector is AVAILABLE	1. Start session 2. Select connector	Session should start on the selected connector only	Critical
CON-020	Sessions	Connector	Verify a second session cannot start on an OCCUPIED connector	Connector already has active session	Attempt to start another session on same connector	System should prevent duplicate active session	Critical
CON-021	Sessions	Connector	Verify session displays correct connector ID	Active session exists	Open session details	Correct connector ID should be displayed	High
CON-022	Sessions	Stop Session	Verify stopping a session changes connector status	Active session exists	1. Stop session 2. Monitor connector	Session should stop successfully and connector should become AVAILABLE when appropriate	Critical
CON-023	Sessions	Session Failure	Verify connector remains OCCUPIED when stop command fails	Active session exists	Trigger stop command failure	Session/connector state should remain consistent with actual charger state and error should be displayed	Critical
CON-024	Stations	Fault Handling	Verify FAULTED connector is not available for a new session	Connector is FAULTED	Attempt to start charging	System should prevent charging on the faulted connector	Critical
CON-025	Stations	Offline Handling	Verify OFFLINE connector cannot start a session	Connector is OFFLINE	Attempt to start session	Start action should be disabled/rejected with proper message	High
CON-026	Stations	Connector	Verify connector details after page refresh	Connector has a known status	1. Change connector status 2. Refresh page	Latest connector status should be displayed	High

Test Case ID	Module	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
CON-027	Stations	Connector	Verify connector status after backend restart	Connector exists	1. Restart backend/service 2. Open the EV Charging CMS	Connector status should recover correctly based on latest charger state	High
CON-028	Security	Connector Access	Verify unauthorized user cannot modify connector configuration	User has read-only/no connector permission	1. Open connector 2. Attempt modification	Modification controls should be hidden/disabled and API should reject unauthorized request	Critical
CON-029	Security	Connector Access	Verify authorized user can modify connector configuration	User has required permission	1. Open connector 2. Update allowed configuration	Update should succeed and reflect correctly	High
CON-030	API	Connector	Verify connector API returns correct status	Valid authentication token	1. Call connector/station API 2. Check response	API should return correct connector ID, status and station mapping	High
CON-031	API	Connector	Verify invalid connector ID returns proper error	Valid authentication token	Request invalid connector ID	API should return appropriate 4xx error and meaningful message	Medium
CON-032	API	Connector	Verify connector status accepts only valid enum values	API access available	Send invalid status such as ACTIVE if not supported	API should reject invalid status with validation error	High
CON-033	API	Connector	Verify connector status transition is persisted correctly	Connector exists	1. Change status 2. Call GET API 3. Check DB if available	API/DB should contain the latest valid status	High
CON-034	Database	Connector	Verify connector belongs to the correct station	DB access available	1. Query connector mapping 2. Compare with the EV Charging CMS	Connector should be associated with the correct station	High
CON-035	Database	Connector	Verify duplicate connector records are not created during repeated updates	DB access available	1. Update connector multiple times 2. Check DB	Only the expected connector record should exist; duplicate records should not be created	High
CON-036	Performance	Connector	Verify multiple connector status changes are processed correctly	Multiple connectors are active	Trigger status changes on multiple connectors simultaneously	All valid events should be processed without data loss or incorrect mapping	High
CON-037	Performance	WebSocket	Verify WebSocket handles multiple simultaneous connector updates	Multiple active connections	1. Connect multiple EV Charging CMS clients 2. Trigger multiple connector events	Events should be delivered to relevant clients without significant delay	High
CON-038	WebSocket	Duplicate Events	Verify duplicate connector events do not create duplicate UI updates	WebSocket active	Send same event multiple times	UI should remain in correct final state without duplicate records/actions	Medium
CON-039	WebSocket	Event Ordering	Verify connector events are processed in correct order	WebSocket active	Trigger AVAILABLE → OCCUPIED → AVAILABLE	UI/backend should reflect the correct final state and event sequence	High

Test Case ID	Module	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
CON-040	End-to-End	Connector Lifecycle	Verify complete connector lifecycle	Connector configured and charger online	1. Connector AVAILABLE 2. Start session 3. Connector OCCUPIED 4. Stop session 5. Connector AVAILABLE 6. Disconnect charger 7. Connector OFFLINE 8. Reconnect charger	Connector state, session state, WebSocket events, API response and EV Charging CMS UI should remain synchronized throughout the lifecycle	Critical

Sessions

Session listing, filters, detail views, export options and data accuracy checks.

48 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SES-001	Get Sessions	Verify Sessions page loads successfully	User logged in with Sessions permission	Open Sessions module	Sessions page should load successfully with session records	High
TC-SES-002	Session List	Verify session records are displayed	Sessions available	Open Sessions page	Available sessions should be displayed in the list	High
TC-SES-003	Session List	Verify session ID display	Sessions available	Observe Session ID column	Correct Session IDs should be displayed	High
TC-SES-004	Session List	Verify user information display	Sessions with users available	Observe User Name column	Correct user ID/name should be displayed	High
TC-SES-005	Session List	Verify station information display	Sessions associated with stations	Observe Station column	Correct station should be displayed for each session	High
TC-SES-006	Session List	Verify connector ID display	Sessions with connector data	Observe Connector ID column	Correct connector ID should be displayed	High
TC-SES-007	Session List	Verify payment method display	Sessions with payment data	Observe Payment Method column	Correct payment method should be displayed	Medium
TC-SES-008	Session List	Verify session date/time display	Sessions available	Observe session date/time	Correct date and time should be displayed in the expected format	High
TC-SES-009	Session ID Search	Search using valid Session ID	Existing Session ID available	Enter valid Session ID	Matching session should be displayed	High
TC-SES-010	Session ID Search	Search using partial Session ID	Existing Session ID available	Enter partial Session ID	Relevant matching session(s) should be displayed if partial search is supported	Medium
TC-SES-011	Session ID Search	Search using invalid Session ID	Sessions available	Enter non-existing Session ID	No matching session should be displayed	Medium
TC-SES-012	Session ID Search	Verify Session ID search with empty value	Sessions available	Leave search field empty	Complete applicable session list should be displayed	Medium
TC-SES-013	User Search	Search using valid User ID	User sessions available	Enter valid User ID	Sessions associated with the user should be displayed	High
TC-SES-014	User Search	Search using valid User Name	User sessions available	Enter valid User Name	Sessions associated with the user should be displayed	High
TC-SES-015	User Search	Search using invalid user	Sessions available	Enter non-existing User ID/Name	No matching sessions should be displayed	Medium
TC-SES-016	Period Filter	Verify Last 7 Days filter	Sessions available for different dates	Select Last 7 days	Only sessions within the last 7 days should be displayed	High
TC-SES-017	Period Filter	Verify Last 30 Days filter	Sessions available for different dates	Select Last 30 days	Only sessions within the last 30 days should be displayed	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SES-018	Period Filter	Verify Last 3 Months filter	Sessions available for different dates	Select Last 3 months	Only sessions within the last 3 months should be displayed	High
TC-SES-019	Period Filter	Verify Custom date filter	Sessions available	Select Custom and provide valid date range	Sessions within the selected date range should be displayed	High
TC-SES-020	Period Filter	Verify custom date validation	Custom filter available	Enter invalid/reversed date range	Appropriate validation should be displayed and invalid range should not be applied	High
TC-SES-021	Status Filter	Verify All Statuses option	Sessions with different statuses available	Select All Statuses	Sessions of all applicable statuses should be displayed	Medium
TC-SES-022	Status Filter	Verify individual status filtering	Sessions with different statuses available	Select a specific status	Only sessions with the selected status should be displayed	High
TC-SES-023	Station Filter	Verify station dropdown	Multiple stations available	Open Station dropdown	Available stations should be listed correctly	Medium
TC-SES-024	Station Filter	Verify filtering by station	Multiple stations available	Select a station	Only sessions belonging to the selected station should be displayed	High
TC-SES-025	Station Filter	Verify station filter with no sessions	Station has no applicable sessions	Select station	Appropriate empty-state/no-record message should be displayed	Medium
TC-SES-026	Combined Filters	Verify Session ID with period filter	Matching sessions available	Enter Session ID and select period	Results should satisfy both Session ID and period criteria	High
TC-SES-027	Combined Filters	Verify User with station filter	Matching sessions available	Enter User and select station	Results should satisfy both user and station criteria	High
TC-SES-028	Combined Filters	Verify multiple filters together	Matching data available	Apply Session ID/User/Period/Status/Station filters	Only records matching all applied filters should be displayed	High
TC-SES-029	Clear Filters	Verify Clear Filters functionality	One or more filters applied	Click Clear filters	All applied filters should be cleared and default session list should be restored	High
TC-SES-030	Clear Filters	Verify Clear Filters after multiple filters	Multiple filters applied	Apply multiple filters → Click Clear filters	All filter fields should reset correctly	Medium
TC-SES-031	Export	Verify Export menu	Sessions available	Click Export	Export options such as CSV and PDF should be displayed	Medium
TC-SES-032	Export CSV	Export sessions in CSV format	Sessions available	Click Export → CSV	Session data should be downloaded successfully in CSV format	High
TC-SES-033	Export PDF	Export sessions in PDF format	Sessions available	Click Export → PDF	Session data should be downloaded successfully in PDF format	High
TC-SES-034	Export	Verify exported data matches UI	Sessions available	Export CSV/PDF and compare with displayed records	Exported data should match the applicable session data displayed in UI	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SES-035	Export	Verify export with filters applied	Filtered session records available	Apply filters → Export CSV/PDF	Export should contain only the filtered/applicable session records	High
TC-SES-036	Data Consistency	Verify Session ID consistency	Session exists	Compare Session ID across session list/detail/API if available	Session ID should remain consistent	High
TC-SES-037	Data Consistency	Verify user-session mapping	Session associated with user	Compare displayed user with session data	Correct user should be associated with the session	High
TC-SES-038	Data Consistency	Verify station-session mapping	Session associated with station	Compare displayed station with session data	Correct station should be associated with the session	High
TC-SES-039	Data Consistency	Verify connector-session mapping	Session associated with connector	Compare Connector ID with source data	Correct connector should be displayed	High
TC-SES-040	Data Consistency	Verify payment method mapping	Payment information available	Compare payment method with source data	Correct payment method should be displayed	Medium
TC-SES-041	Refresh	Verify session data after page refresh	Sessions available	Refresh browser	Latest applicable session data should be displayed without errors	High
TC-SES-042	Loading	Verify loading state	Session data loading	Open/refresh Sessions page	Appropriate loading indicator should be displayed while data is loading	Medium
TC-SES-043	Error Handling	Verify Sessions API failure handling	Sessions API unavailable	Open Sessions page	User-friendly error message should be displayed	High
TC-SES-044	Empty State	Verify empty session list	No sessions available	Open Sessions page/apply filter with no results	Appropriate no-record/empty-state message should be displayed	Medium
TC-SES-045	Security	Verify Sessions module access permission	User without Sessions permission	Login and attempt to access Sessions	Access should be denied or Sessions module should not be available	High
TC-SES-046	Security	Verify direct Sessions URL access	User without Sessions permission	Access Sessions URL directly	User should not be able to access the module	High
TC-SES-047	Security	Verify logged-out access	User logged out	Open Sessions URL directly	User should be redirected to login	High
TC-SES-048	Responsive UI	Verify Sessions page on reduced screen width	Sessions page available	Reduce browser width/split screen	Filters, export controls and session data should remain usable and accessible	Medium

Settlements

Settlement listing, period and status filters, summaries, revenue KPIs and role-scoped data visibility.

55 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SET-001	Page Load	Verify Settlements page loads successfully	User logged in with Settlements permission	Open Settlements module	Settlements page should load successfully	High
TC-SET-002	Page Load	Verify default filter values	Settlements page opened	Observe Period, Status, Station and CPO filters	Default filter values should be displayed correctly	Medium
TC-SET-003	Period Filter	Verify Last 7 Days filter	Settlement data available	Select Last 7 days	Data should be displayed for the last 7 days	High
TC-SET-004	Period Filter	Verify Last 30 Days filter	Settlement data available	Select Last 30 days	Data should be displayed for the last 30 days	High
TC-SET-005	Period Filter	Verify Last 3 Months filter	Settlement data available	Select Last 3 months	Data should be displayed for the last 3 months	High
TC-SET-006	Period Filter	Verify Custom date filter	Settlement data available	Select Custom → Enter valid From and To dates	Settlement data for the selected date range should be displayed	High
TC-SET-007	Period Filter	Verify custom date validation	Custom filter available	Enter invalid/reversed date range	Appropriate validation should be displayed	High
TC-SET-008	Period Filter	Verify same date selection	Custom filter available	Select the same date as From and To	System should handle the single-day range correctly	Medium
TC-SET-009	Status Filter	Verify Status dropdown	Settlement data available	Open Status dropdown	Available settlement statuses should be displayed	Medium
TC-SET-010	Status Filter	Verify All Statuses filter	Settlement data available	Select All Statuses	Data for all applicable statuses should be displayed	High
TC-SET-011	Status Filter	Verify individual status filter	Settlement records with different statuses available	Select a specific status	Only records matching the selected status should be considered	High
TC-SET-012	Station Filter	Verify Station dropdown	Multiple stations available	Open Station dropdown	Available stations should be displayed	Medium
TC-SET-013	Station Filter	Verify filtering by station	Multiple stations available	Select a specific station	Settlement data should be filtered for the selected station	High
TC-SET-014	Station Filter	Verify All Stations option	Multiple stations available	Select All Stations	Settlement data from all applicable stations should be displayed	High
TC-SET-015	CPO Filter	Verify CPO dropdown	Multiple CPOs available	Open CPO dropdown	Available CPOs should be displayed	Medium
TC-SET-016	CPO Filter	Verify filtering by CPO	Multiple CPOs available	Select a specific CPO	Settlement data should be filtered for the selected CPO	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SET-017	CPO Filter	Verify All CPOs option	Multiple CPOs available	Select All CPOs	Settlement data across all applicable CPOs should be displayed	High
TC-SET-018	Session Filter	Verify Charging Session field	Settlement/session data available	Enter a valid Session ID	Matching settlement/session data should be displayed	High
TC-SET-019	Session Filter	Verify invalid Session ID	Settlement data available	Enter a non-existing Session ID	No matching record should be displayed	Medium
TC-SET-020	Combined Filters	Verify Period + Status filter	Settlement data available	Select period and status	Results should satisfy both selected filters	High
TC-SET-021	Combined Filters	Verify CPO + Station filter	Multiple CPOs/stations available	Select CPO and Station	Results should match the selected CPO and station	High
TC-SET-022	Combined Filters	Verify Session + Period filter	Settlement data available	Enter Session ID and select period	Results should satisfy both conditions	High
TC-SET-023	Combined Filters	Verify all filters together	Relevant settlement data available	Apply Period, Status, Station, CPO and Session filters	Only records matching all applicable filters should be reflected	High
TC-SET-024	Clear Filters	Verify Clear Filters functionality	One or more filters applied	Click Clear filters	All filters should reset to their default values	High
TC-SET-025	Clear Filters	Verify data after clearing filters	Filters applied	Apply multiple filters → Click Clear filters	Default settlement data should be restored correctly	Medium
TC-SET-026	Gross Revenue	Verify Gross Revenue calculation	Settlement data available	Observe Gross Revenue KPI	Gross Revenue should match the applicable settlement data/calculation	High
TC-SET-027	Net Payable	Verify Net Payable calculation	Settlement data available	Observe Net Payable KPI	Net Payable should display the correct calculated amount	High
TC-SET-028	Pending Settlement	Verify Pending Settlement amount	Pending settlement data available	Observe Pending Settlement KPI	Correct pending settlement amount should be displayed	High
TC-SET-029	Lifetime Revenue	Verify Total Lifetime Revenue	Revenue data available	Observe Total Lifetime Revenue KPI	Correct lifetime revenue should be displayed	High
TC-SET-030	KPI Consistency	Verify KPI values after period change	Settlement data available	Change period from 7D to 30D/3M	Applicable period-based KPI values should update correctly	High
TC-SET-031	KPI Consistency	Verify KPI values after CPO filter	Multiple CPOs available	Select a CPO	Applicable KPI values should reflect the selected CPO	High
TC-SET-032	KPI Consistency	Verify KPI values after station filter	Multiple stations available	Select a station	Applicable KPI values should reflect the selected station	High
TC-SET-033	Revenue Trend	Verify Revenue Trend display	Revenue data available	Open Settlements page	Revenue Trend chart should be displayed correctly	High
TC-SET-034	Revenue Trend	Verify 7D Revenue Trend	Revenue data available	Select 7D in Revenue Trend	Chart should display revenue data for the last 7 days	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SET-035	Revenue Trend	Verify 30D Revenue Trend	Revenue data available	Select 30D	Chart should display revenue data for the last 30 days	High
TC-SET-036	Revenue Trend	Verify 3M Revenue Trend	Revenue data available	Select 3M	Chart should display revenue data for the last 3 months	High
TC-SET-037	Revenue Trend	Verify Revenue Trend total	Revenue data available	Compare chart total with applicable revenue data	Displayed chart total should match the corresponding revenue calculation	High
TC-SET-038	Revenue Trend	Verify chart updates after filters	Settlement data available	Apply CPO/Station/Status filter	Revenue Trend should update according to the applicable filter	High
TC-SET-039	Revenue Trend	Verify no-data chart state	No revenue available for selected criteria	Apply filter/date range with no revenue	Appropriate empty/no-data state should be displayed	Medium
TC-SET-040	Data Consistency	Verify Gross Revenue against source data	Settlement data available	Compare UI Gross Revenue with API/source data	UI value should match source data	High
TC-SET-041	Data Consistency	Verify Net Payable against source data	Settlement data available	Compare UI Net Payable with API/source data	UI value should match source data	High
TC-SET-042	Data Consistency	Verify Pending Settlement against source data	Settlement data available	Compare UI value with API/source data	UI value should match source data	High
TC-SET-043	Data Consistency	Verify Lifetime Revenue against source data	Revenue data available	Compare UI value with API/source data	UI value should match source data	High
TC-SET-044	Data Consistency	Verify selected CPO data consistency	Multiple CPOs available	Select CPO and compare displayed data with source response	Only applicable CPO data should be reflected	High
TC-SET-045	Data Consistency	Verify selected station data consistency	Multiple stations available	Select station and compare displayed data with source response	Only applicable station data should be reflected	High
TC-SET-046	Refresh	Verify settlement data after refresh	Settlement data available	Refresh browser	Latest applicable data should load without errors	High
TC-SET-047	Loading	Verify loading state	Settlement data loading	Open/refresh page	Appropriate loading indicator should be displayed while data loads	Medium
TC-SET-048	Error Handling	Verify API failure handling	Settlement API unavailable	Open Settlements page	User-friendly error message should be displayed	High
TC-SET-049	Empty State	Verify no settlement data state	No settlement data available	Apply applicable filter/date range	Appropriate empty-state message should be displayed	Medium
TC-SET-050	Permission	Verify Settlements module access	User without Settlements permission	Login and attempt to access Settlements	User should not be able to access the module	High
TC-SET-051	Security	Verify direct URL access	User without Settlements permission	Open Settlements URL directly	Access should be denied or user should be redirected	High
TC-SET-052	Security	Verify logged-out access	User logged out	Open Settlements URL directly	User should be redirected to login	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SET-053	Responsive UI	Verify Settlements page on reduced screen	Settlements page available	Reduce browser width/split screen	Filters, KPI cards and chart should remain usable and accessible	Medium
TC-SET-054	Navigation	Verify navigation to Settlements	User has permission	Click Settlements from navigation	Settlements module should open successfully	High
TC-SET-055	Filter Persistence	Verify filters after page refresh	Filters applied	Apply filters → Refresh page	Filter behavior should follow the defined application behavior and data should remain consistent	Medium

Tariff

Tariff creation, validation, edit/cancel flows, activation handling and mapping checks.

61 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-TRF-001	Create Tariff	Create tariff with valid data	User logged in with tariff permission	Enter valid tariff details and save	Tariff should be created successfully	High
TC-TRF-002	Create Tariff	Create tariff with empty mandatory fields	Create tariff page open	Leave required fields empty and save	Validation messages should display	High
TC-TRF-003	Create Tariff	Create tariff with duplicate tariff name	Existing tariff available	Enter existing tariff name and save	Duplicate tariff should not be created	High
TC-TRF-004	Create Tariff	Verify invalid rate value handling	Create tariff page open	Enter negative/invalid tariff rate	Validation error should display	High
TC-TRF-005	Create Tariff	Verify decimal tariff values	Create tariff page open	Enter decimal rate values	System should accept valid decimal values	Medium
TC-TRF-006	Create Tariff	Verify maximum/minimum field limits	Create tariff page open	Enter max/min values in fields	Field validations should work correctly	Medium
TC-TRF-007	Create Tariff	Verify tariff creation for EVM machine	EVM machine available	Select EVM machine and create tariff	Tariff should map successfully to selected machine	High
TC-TRF-008	Create Tariff	Verify tariff without selecting machine	Create tariff page open	Do not select machine and save	Validation should display	High
TC-TRF-009	Create Tariff	Verify start and end date validation	Create tariff page open	Enter invalid date range	System should prevent invalid dates	Medium
TC-TRF-010	Create Tariff	Verify tariff activation status	Tariff created	Enable/disable tariff	Status should update correctly	Medium
TC-TRF-011	Create Tariff	Verify overlapping tariff prevention	Existing active tariff available	Create tariff with overlapping time/range	System should restrict overlap	High
TC-TRF-012	Create Tariff	Verify tariff visibility in tariff list	Tariff created	Open tariff listing page	Newly created tariff should display	Medium
TC-TRF-013	Create Tariff	Verify tariff search functionality	Tariffs available	Search using tariff name/machine	Matching tariffs should display	Low
TC-TRF-014	Create Tariff	Verify edit tariff functionality	Existing tariff available	Update tariff details and save	Tariff should update successfully	High
TC-TRF-015	Create Tariff	Verify delete tariff functionality	Existing tariff available	Delete tariff	Tariff should remove successfully	High
TC-TRF-016	Security	Verify route guard protection	User logged out	Access tariff URL directly	Redirect to login page	High
TC-TRF-018	Security	Verify SQL injection prevention	Create tariff page open	Enter SQL payload in fields	Malicious input should be blocked	High
TC-TRF-019	Performance	Verify tariff save response time	Tariff page open	Create tariff with valid data	Tariff should save within expected response time	Medium
TC-TRF-020	Actions	Verify Actions menu options for active tariff	Active tariff exists	Click Actions (:) for an active tariff	View, Edit, Delete and Deactivate options should be displayed	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-TRF-021	View Tariff	View tariff details	Existing tariff available	Click Actions → View	Correct tariff details should be displayed	High
TC-TRF-022	View Tariff	Verify viewed tariff data matches list	Existing tariff available	Note list values → View tariff	Plan Name, Station, Type, Rate, Minimum Charge, Status and dates should match	High
TC-TRF-023	View Tariff	Verify View does not allow unintended modification	Existing tariff available	Open View and try modifying displayed information	Fields should be read-only or modification should not be possible	Medium
TC-TRF-024	Edit Tariff	Edit tariff plan name with valid value	Existing tariff available	Actions → Edit → change name → Save	Tariff should be updated successfully	High
TC-TRF-025	Edit Tariff	Edit tariff rate with valid value	Existing tariff available	Actions → Edit → change rate → Save	Updated rate should be saved and displayed correctly	High
TC-TRF-026	Edit Tariff	Edit minimum charge with valid value	Existing tariff available	Actions → Edit → change minimum charge → Save	Updated minimum charge should be saved correctly	High
TC-TRF-027	Edit Tariff	Edit tariff with invalid rate	Existing tariff available	Edit tariff → enter negative/invalid rate → Save	Validation should be displayed and update should be prevented	High
TC-TRF-028	Edit Tariff	Clear mandatory field during edit	Existing tariff available	Edit tariff → clear mandatory field → Save	Appropriate validation should be displayed	High
TC-TRF-029	Edit Tariff	Cancel tariff edit	Existing tariff available	Edit tariff → modify data → Cancel	Changes should be discarded and original data should remain unchanged	Medium
TC-TRF-030	Edit Tariff	Verify edited data after page refresh	Existing tariff available	Edit and save tariff → refresh page	Updated values should persist after refresh	High
TC-TRF-031	Status	Deactivate active tariff	Active tariff exists	Actions → Deactivate → confirm	Tariff status should change from Active to Inactive	High
TC-TRF-032	Status	Cancel tariff deactivation	Active tariff exists	Actions → Deactivate → Cancel	Tariff should remain Active	Medium
TC-TRF-033	Status	Verify deactivated tariff appears under Inactive	Tariff successfully deactivated	Click Inactive filter	Deactivated tariff should be displayed under Inactive	High
TC-TRF-034	Status	Verify deactivation persists after refresh	Tariff deactivated	Refresh Tariff page	Tariff should remain Inactive	High
TC-TRF-035	Status	Verify actions menu for inactive tariff	Inactive tariff exists	Click Actions (:)	Activate option should be available instead of Deactivate	High
TC-TRF-036	Status	Activate inactive tariff	Inactive tariff exists	Actions → Activate → confirm	Tariff status should change to Active	High
TC-TRF-037	Status	Cancel tariff activation	Inactive tariff exists	Actions → Activate → Cancel	Tariff should remain Inactive	Medium
TC-TRF-038	Status	Verify activation persists after refresh	Tariff activated	Refresh page	Tariff should remain Active	High
TC-TRF-039	Delete	Delete tariff with confirmation	Existing tariff available	Actions → Delete → Confirm	Tariff should be deleted successfully and removed from list	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-TRF-040	Delete	Cancel tariff deletion	Existing tariff available	Actions → Delete → Cancel	Tariff should not be deleted	High
TC-TRF-041	Delete	Verify deleted tariff cannot be searched	Tariff deleted	Search using deleted tariff name	Deleted tariff should not appear in search results	Medium
TC-TRF-042	Delete	Verify tariff count after deletion	Existing tariff available	Note count → delete tariff	Appropriate All/Active/Inactive count should be updated	Medium
TC-TRF-043	Delete	Delete already inactive tariff	Inactive tariff exists	Actions → Delete → Confirm	Inactive tariff should be deleted successfully	High
TC-TRF-044	Actions	Verify Actions menu closes when clicking outside	Actions menu open	Click outside menu	Actions menu should close without performing any action	Low
TC-TRF-045	Actions	Verify only selected tariff is affected	Multiple tariffs available	Open Actions for one tariff → perform Edit/Deactivate	Only the selected tariff should be modified	High
TC-TRF-046	Actions	Verify action after search filtering	Multiple tariffs available	Search for tariff → open Actions → View/Edit	Action should apply to the selected search result only	Medium
TC-TRF-047	Actions	Verify action after status filtering	Active/inactive tariffs available	Select Active/Inactive → open Actions	Actions should operate correctly on the selected filtered tariff	Medium
TC-TRF-048	Data Integrity	Verify tariff data remains consistent after status change	Existing tariff available	Deactivate → Activate tariff	Plan details, rate, minimum charge and other data should remain unchanged	High
TC-TRF-049	End-to-End	Complete tariff lifecycle through Actions	User has full tariff permissions	Create tariff → View → Edit → Deactivate → Activate → Delete	Each action should execute successfully and tariff data/status should remain consistent throughout the lifecycle	High
TC-TRF-050	Edit Tariff	Edit tariff name	Existing tariff available	Open Edit → modify plan name → save	Updated name should be saved and displayed in list	High
TC-TRF-051	Edit Tariff	Edit tariff rate	Existing tariff available	Modify rate and save	Updated rate should be reflected correctly	High
TC-TRF-052	Edit Tariff	Edit minimum charge	Existing tariff available	Modify minimum charge and save	Updated minimum charge should be reflected correctly	High
TC-TRF-054	Status	Disable active tariff	Active tariff available	Open Actions → disable/deactivate tariff	Tariff status should change to Inactive	High
TC-TRF-055	Status	Enable inactive tariff	Inactive tariff available	Open Actions → enable/activate tariff	Tariff status should change to Active	High
TC-TRF-056	Status	Verify status persistence after refresh	Tariff status changed	Refresh page	Updated status should persist after refresh	High
TC-TRF-057	Delete Tariff	Delete tariff	Existing tariff available	Select Delete → confirm deletion	Tariff should be removed from the list	High
TC-TRF-058	Delete Tariff	Cancel delete operation	Existing tariff available	Select Delete → cancel confirmation	Tariff should remain unchanged	Medium
TC-TRF-059	Delete Tariff	Verify deleted tariff cannot be found	Tariff deleted	Search for deleted tariff	Deleted tariff should not be returned	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-TRF-060	Data Persistence	Verify tariff data after logout/login	Tariff created/updated	Logout → login → open Tariffs	Previously saved tariff data should remain correct	High
TC-TRF-061	Data Consistency	Verify list data matches tariff details	Existing tariff available	Note list values → open details	Plan name, station, type, rate, minimum charge, status and dates should match	High
TC-TRF-062	Data Integrity	Verify newly created tariff appears with correct values	Valid tariff created	Create tariff → return to list	Newly created record should show correct values in all applicable columns	High
TC-TRF-063	End-to-End	Complete tariff lifecycle	User has full tariff permission	Create tariff → verify list → search → view → edit → disable → enable → delete	Each operation should work successfully and data should remain consistent throughout the lifecycle	High

Offers & Promotions

Offer and campaign listing, KPIs, search, creation, targeting, scheduling and lifecycle management.

83 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-OFP-001	Offer List	Verify Offers page loads successfully	User logged in with offer permission	Navigate to Offers & Promotions	Page should load successfully with search, KPIs, filters and offers	High
TC-OFP-002	Offer List	Verify Active Offers KPI	Offers available	Open Offers page	Active Offers count should match active campaigns	Medium
TC-OFP-003	Offer List	Verify Scheduled KPI	Scheduled offers available	Open Offers page	Scheduled count should match scheduled campaigns	Medium
TC-OFP-004	Offer List	Verify Total Redemptions KPI	Offers available	Open Offers page	Total redemption count should be displayed correctly	Medium
TC-OFP-005	Offer List	Verify Discount Given KPI	Offers with redemptions available	Open Offers page	Total discount amount should be displayed correctly	Medium
TC-OFP-006	Search	Search using exact offer name	Existing offer available	Enter exact offer name	Matching offer should be displayed	Medium
TC-OFP-007	Search	Search using partial offer name	Existing offer available	Enter partial name	Relevant matching offers should be displayed	Medium
TC-OFP-008	Search	Search using promo code	Existing promo code available	Enter promo code	Matching offer should be displayed	Medium
TC-OFP-009	Search	Search with non-existing offer/code	Offers available	Enter random text	No offers found state should be displayed	Low
TC-OFP-010	Search	Search with leading/trailing spaces	Existing offer available	Enter offer name with spaces	Search should handle leading/trailing spaces correctly	Low
TC-OFP-011	Filters	Filter offers by Active	Active offers available	Click Active	Only active offers should be displayed	High
TC-OFP-012	Filters	Filter offers by Scheduled	Scheduled offers available	Click Scheduled	Only scheduled offers should be displayed	High
TC-OFP-013	Filters	Filter offers by Expired	Expired offers available	Click Expired	Only expired offers should be displayed	High
TC-OFP-014	Filters	Filter offers by Paused	Paused offers available	Click Paused	Only paused offers should be displayed	High
TC-OFP-015	Filters	Filter offers by Draft	Draft offers available	Click Draft	Only draft offers should be displayed	High
TC-OFP-016	Filters	Verify All status filter	Multiple offer statuses available	Click All	Offers from all applicable statuses should be displayed	Medium
TC-OFP-017	Filters	Filter by Festive type	Festive offers available	Click Festive	Only Festive offers should be displayed	Medium
TC-OFP-018	Filters	Filter by Promotional type	Promotional offers available	Click Promotional	Only Promotional offers should be displayed	Medium
TC-OFP-019	Filters	Filter by Corporate type	Corporate offers available	Click Corporate	Only Corporate offers should be displayed	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-OFP-020	Filters	Combine status and offer-type filters	Matching offers available	Select status + type	Results should satisfy both selected filters	High
TC-OFP-021	Create Campaign	Open Create New Campaign	User has create permission	Click Create New Campaign	Campaign creation panel should open	High
TC-OFP-022	Create Campaign	Create campaign with valid mandatory data	Create panel open	Enter valid Offer Name, Type, Discount and other required fields → Publish	Offer should be created successfully	High
TC-OFP-023	Create Campaign	Submit campaign with all mandatory fields empty	Create panel open	Click Publish without entering data	Required-field validations should be displayed	High
TC-OFP-024	Offer Identity	Verify minimum Offer Name length	Create panel open	Enter 2-character name	Validation should prevent submission	Medium
TC-OFP-025	Offer Identity	Verify valid minimum Offer Name	Create panel open	Enter 3-character name	Name should be accepted	Medium
TC-OFP-026	Offer Identity	Verify maximum Offer Name length	Create panel open	Enter 60-character name	Name should be accepted	Medium
TC-OFP-027	Offer Identity	Enter more than maximum Offer Name length	Create panel open	Enter more than 60 characters	Input should be restricted or validation should be displayed	Medium
TC-OFP-028	Offer Identity	Verify Offer Type selection	Create panel open	Select Festive	Festive type should be selected successfully	Medium
TC-OFP-029	Offer Identity	Verify Promotional offer creation	Create panel open	Select Promotional	Promotional type should be selected successfully	High
TC-OFP-030	Offer Identity	Verify Corporate offer creation	Create panel open	Select Corporate	Corporate type should be selected successfully	High
TC-OFP-031	Offer Identity	Verify Loyalty offer creation	Create panel open	Select Loyalty	Loyalty type should be selected successfully	High
TC-OFP-032	Description	Enter valid description	Create panel open	Enter valid description within allowed limit	Description should be accepted	Low
TC-OFP-033	Description	Exceed description character limit	Create panel open	Enter more than 300 characters	Input should be restricted or validation should be displayed	Medium
TC-OFP-034	Discount	Create percentage discount	Create panel open	Select Percentage → enter valid percentage	Discount should be accepted	High
TC-OFP-035	Discount	Enter 0% discount	Percentage selected	Enter 0	System should accept/reject according to defined business rule with appropriate validation	Medium
TC-OFP-036	Discount	Enter 100% discount	Percentage selected	Enter 100	100% should be accepted if maximum is 100%	High
TC-OFP-037	Discount	Enter percentage above 100%	Percentage selected	Enter >100	Validation should prevent invalid discount	High
TC-OFP-038	Discount	Enter negative percentage	Percentage selected	Enter negative value	Negative discount should not be accepted	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-OFP-039	Discount	Enter alphabetic value in discount field	Percentage selected	Enter letters/special invalid characters	Invalid input should be rejected/validated	High
TC-OFP-040	Discount	Create Flat Amount discount	Create panel open	Select Flat Amount → enter valid amount	Flat discount should be accepted	High
TC-OFP-041	Discount	Enter negative Flat Amount	Flat Amount selected	Enter negative amount	Validation should prevent submission	High
TC-OFP-042	Discount	Create kWh Free Units offer	Create panel open	Select kWh Free Units → enter valid units	Offer should accept valid free-unit value	High
TC-OFP-043	Discount	Enter zero/negative free units	kWh Free Units selected	Enter 0/negative value	Invalid value should be rejected according to business rules	High
TC-OFP-044	Discount	Verify Min Session Amount	Discount configured	Enter valid minimum session amount	Value should be accepted and applied correctly	Medium
TC-OFP-045	Discount	Verify negative Min Session Amount	Discount configured	Enter negative amount	Validation should prevent invalid value	High
TC-OFP-046	Discount	Verify Max Discount Cap	Percentage discount selected	Enter valid cap	Maximum discount cap should be accepted	Medium
TC-OFP-047	Discount	Verify negative Max Discount Cap	Percentage discount selected	Enter negative value	Validation should prevent invalid value	High
TC-OFP-048	Validity	Create offer with valid start/end dates	Create panel open	Select valid start and future end date	Dates should be accepted	High
TC-OFP-049	Validity	End date earlier than start date	Create panel open	Select end date before start date	Validation should prevent creation	High
TC-OFP-050	Validity	Start and end date same day	Create panel open	Select same start/end date	System should handle according to defined validity rule	Medium
TC-OFP-051	Validity	Create offer with past validity period	Create panel open	Select past dates	System should prevent or correctly classify the offer according to business rules	Medium
TC-OFP-052	Validity	Verify quick validity selection	Create panel open	Select available quick-select validity option	Correct dates should be populated	Medium
TC-OFP-053	Station Targeting	Apply offer to All Stations	Create panel open	Select All Stations	Offer should apply to all applicable stations	High
TC-OFP-054	Station Targeting	Apply offer to selected stations	Stations available	Select specific stations	Only selected stations should be associated with offer	High
TC-OFP-055	Station Targeting	Create offer without station selection	Station selection required	Do not select station → submit	Appropriate validation should be displayed	High
TC-OFP-056	Draft	Save valid campaign as Draft	Valid campaign data entered	Click Save as Draft	Campaign should be saved with Draft status	High
TC-OFP-057	Draft	Save incomplete campaign as Draft	Create panel open	Enter partial data → Save as Draft	Draft should be saved if incomplete drafts are supported	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-OFP-058	Publish	Publish valid campaign	All mandatory data valid	Click Publish Offer	Campaign should be created with appropriate status	High
TC-OFP-059	Publish	Prevent publishing incomplete campaign	Mandatory data missing	Click Publish	Campaign should not be published and validation should display	High
TC-OFP-060	Cancel	Close campaign creation without saving	Create panel open	Enter data → close panel	Unsaved campaign should not be created, or confirmation should appear if applicable	Medium
TC-OFP-061	Lifecycle	Verify newly created offer appears in list	Offer successfully created	Return to Offers list	New offer should appear with correct name, type, discount, dates and status	High
TC-OFP-062	Lifecycle	Verify active offer can be paused	Active offer available	Click Pause	Offer status should change to Paused	High
TC-OFP-063	Lifecycle	Verify paused offer can be resumed	Paused offer available	Click Resume	Offer status should change back to Active	High
TC-OFP-064	Lifecycle	Verify expired offer cannot be incorrectly activated	Expired offer available	Attempt available lifecycle action	System should follow defined expired-offer rules and prevent invalid activation if applicable	High
TC-OFP-065	Edit	Edit active offer	Active offer available	Click Edit → modify valid data → Save	Changes should be saved successfully	High
TC-OFP-066	Edit	Edit offer with invalid discount	Existing offer available	Edit → enter invalid discount → Save	Validation should prevent invalid update	High
TC-OFP-067	Edit	Cancel offer edit	Existing offer available	Edit → modify data → Cancel	Original data should remain unchanged	Medium
TC-OFP-068	Edit	Verify edited offer after refresh	Offer edited	Refresh page	Updated data should persist	High
TC-OFP-069	Duplicate	Duplicate existing offer	Existing offer available	Click Duplicate	New campaign should be created/populated using original offer data as intended	High
TC-OFP-070	Duplicate	Verify duplicated offer has unique identity/code	Existing offer available	Duplicate offer → save/publish	Duplicate should not unintentionally reuse a unique promo code/identity where uniqueness is required	High
TC-OFP-071	Delete	Delete offer	Existing offer available	Click Delete → confirm	Offer should be deleted successfully	High
TC-OFP-072	Delete	Cancel offer deletion	Existing offer available	Click Delete → Cancel	Offer should remain unchanged	Medium
TC-OFP-073	Delete	Verify deleted offer cannot be searched	Offer deleted	Search deleted offer name/code	Deleted offer should not appear	Medium
TC-OFP-074	Offer Details	Open offer details	Existing offer available	Open offer	Correct details page should be displayed	High
TC-OFP-075	Offer Details	Verify offer list data matches details	Existing offer available	Note list data → open details	Name, type, discount, promo code, dates and stations should match	High
TC-OFP-076	Offer Details	Verify redemption count	Offer available	Open details	Total redemptions should be displayed correctly	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-OFP-077	Offer Details	Verify Discount Given	Offer available	Open details	Discount Given should be displayed correctly	Medium
TC-OFP-078	Offer Details	Verify Avg Discount/Session	Offer available	Open details	Average discount should be calculated/displayed correctly	Medium
TC-OFP-079	Offer Details	Verify Validity Period	Offer available	Open details	Start/end dates and current status should be correct	High
TC-OFP-080	Offer Details	Verify Applicable Stations	Offer associated with stations	Open details	Correct applicable stations should be displayed	High
TC-OFP-081	Offer Details	Verify Redemption Trend	Offer has redemption data	Open details	Redemption trend should represent the offer's redemption data correctly	Medium
TC-OFP-082	Data Integrity	Verify data persistence after logout/login	Offer created/updated	Logout → login → open Offers	Offer data should remain unchanged	High
TC-OFP-083	End-to-End	Complete offer lifecycle	Full offer permissions available	Create Draft → Edit → Publish → Verify Active → Pause → Resume → View Details → Duplicate → Delete	Each operation should work correctly and data/status should remain consistent	High

Support

Support ticket listing, KPI counts, creation validations, replies, resolution and full ticket lifecycle.

79 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SUP-001	Ticket List	Verify Support page loads successfully	User logged in with Support access	Navigate to Support	Support page should load with search, KPIs, filters and ticket list	High
TC-SUP-002	Dashboard KPIs	Verify Active Tickets count	Tickets available	Open Support page	Active Tickets count should match active tickets	High
TC-SUP-003	Dashboard KPIs	Verify Awaiting Your Reply count	Tickets available	Open Support page	Awaiting Your Reply count should be displayed correctly	Medium
TC-SUP-004	Dashboard KPIs	Verify SLA Breached count	SLA-breached tickets available	Open Support page	SLA Breached count should match applicable tickets	High
TC-SUP-005	Dashboard KPIs	Verify Resolved count	Resolved tickets available	Open Support page	Resolved count should match resolved tickets	High
TC-SUP-006	Ticket Filters	Filter by All	Tickets available	Click All	All applicable tickets should be displayed	Medium
TC-SUP-007	Ticket Filters	Filter by New	New tickets available	Click New	Only New tickets should be displayed	High
TC-SUP-008	Ticket Filters	Filter by Open	Open tickets available	Click Open	Only Open tickets should be displayed	High
TC-SUP-009	Ticket Filters	Filter by Resolved	Resolved tickets available	Click Resolved	Only Resolved tickets should be displayed	High
TC-SUP-010	Ticket Filters	Filter by SLA Breached	SLA-breached tickets available	Click SLA Breached	Only SLA-breached tickets should be displayed	High
TC-SUP-011	Ticket Filters	Verify filter with no matching tickets	No tickets match selected filter	Select filter	Appropriate empty state such as "No tickets match your filters" should be displayed	Medium
TC-SUP-012	Search	Search by exact ticket title	Existing ticket available	Enter exact title	Matching ticket should be displayed	High
TC-SUP-013	Search	Search by partial ticket title	Existing ticket available	Enter partial title	Relevant matching tickets should be displayed	Medium
TC-SUP-014	Search	Search by ticket ID	Existing ticket available	Enter ticket ID	Matching ticket should be displayed	High
TC-SUP-015	Search	Search using non-existing text	Tickets available	Enter random text	No matching tickets should be displayed	Medium
TC-SUP-016	Search	Search with leading/trailing spaces	Existing ticket available	Search with spaces before/after keyword	Search should handle accidental spaces appropriately	Low
TC-SUP-017	Search	Clear search	Search results displayed	Enter search text → clear search	Full applicable ticket list should be restored	Medium
TC-SUP-018	Create Ticket	Open New Ticket form	User has ticket creation access	Click New Ticket	Raise a Support Ticket form should open	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SUP-019	Create Ticket	Create ticket with valid mandatory data	New Ticket form open	Enter valid Title, Category, Priority and Description → Submit	Ticket should be created successfully	High
TC-SUP-020	Create Ticket	Submit with all mandatory fields empty	New Ticket form open	Click Submit Ticket	Validation should be displayed for mandatory fields	High
TC-SUP-021	Title	Enter valid minimum title length	New Ticket form open	Enter valid 3-character title	Title should be accepted if 3 is the defined minimum	Medium
TC-SUP-022	Title	Enter more than maximum title length	New Ticket form open	Enter more than 100 characters	Input should be restricted or validation should be displayed	Medium
TC-SUP-023	Title	Enter valid title with numbers/special characters	New Ticket form open	Enter valid title containing supported characters	Title should be accepted	Medium
TC-SUP-024	Title	Enter only spaces in Title	New Ticket form open	Enter spaces → Submit	Validation should prevent ticket creation	High
TC-SUP-025	Category	Verify Category is mandatory	New Ticket form open	Leave Category unselected → Submit	Category validation should be displayed	High
TC-SUP-026	Category	Select valid category	New Ticket form open	Open Category dropdown → select category	Selected category should be displayed correctly	Medium
TC-SUP-027	Priority	Verify Priority is mandatory	New Ticket form open	Leave Priority unselected → Submit	Priority validation should be displayed	High
TC-SUP-028	Priority	Create ticket with each available priority	New Ticket form open	Select each available priority and submit valid ticket	Ticket should be created with the selected priority	High
TC-SUP-029	Description	Enter valid description	New Ticket form open	Enter description with 15+ characters	Description should be accepted	High
TC-SUP-030	Description	Enter less than 15 characters	New Ticket form open	Enter fewer than 15 characters	Validation should be displayed and submission prevented	High
TC-SUP-031	Description	Enter exactly 15 characters	New Ticket form open	Enter exactly 15 characters	Description should be accepted if 15 is the minimum	Medium
TC-SUP-032	Description	Enter more than maximum description length	New Ticket form open	Enter more than 2000 characters	Input should be restricted or validation should be displayed	Medium
TC-SUP-033	Description	Enter only spaces in Description	New Ticket form open	Enter spaces → Submit	Validation should prevent ticket creation	High
TC-SUP-034	Station	Create ticket without selecting Station	New Ticket form open	Enter other valid data → Submit	Ticket should be created because Station is optional	Medium
TC-SUP-035	Station	Select valid Station	New Ticket form open	Open Station dropdown → select station	Selected station should be displayed	Medium
TC-SUP-036	Charger	Verify Charger disabled before Station selection	New Ticket form open	Observe Charger field	Charger should remain disabled and indicate that Station must be selected first	High
TC-SUP-037	Charger	Verify Charger becomes enabled after Station selection	New Ticket form open	Select Station → open Charger dropdown	Charger field should become enabled and show chargers associated with selected station	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SUP-038	Charger	Verify only selected Station chargers are displayed	Multiple stations/chargers available	Select Station A → open Charger	Only chargers belonging to Station A should be displayed	High
TC-SUP-039	Charger	Change Station after selecting Charger	Station and Charger selected	Select Station A → Charger A → change to Station B	Previously selected Charger should be cleared/updated appropriately	High
TC-SUP-040	Charger	Create ticket with valid Station and Charger	Valid station/charger available	Select both → enter remaining valid data → Submit	Ticket should be created with correct Station and Charger association	High
TC-SUP-041	Attachment	Create ticket without attachment	New Ticket form open	Enter valid ticket data → Submit	Ticket should be created successfully	Medium
TC-SUP-042	Attachment	Upload valid file below 5 MB	New Ticket form open	Attach valid file below 5 MB	File should upload successfully	Medium
TC-SUP-043	Attachment	Upload file exactly 5 MB	New Ticket form open	Attach 5 MB file	File should be accepted if 5 MB is the maximum allowed	Medium
TC-SUP-044	Attachment	Upload file greater than 5 MB	New Ticket form open	Attach file >5 MB	File should be rejected with appropriate validation	High
TC-SUP-045	Attachment	Upload unsupported file type	New Ticket form open	Attach unsupported file	System should reject it if file type restrictions are defined	Medium
TC-SUP-046	Attachment	Verify attachment is associated with created ticket	Valid attachment available	Create ticket with attachment → open ticket	Uploaded attachment should be available against the correct ticket	High
TC-SUP-047	Create Ticket	Submit valid ticket	Valid mandatory data entered	Click Submit Ticket	Ticket should be created and confirmation should be displayed	High
TC-SUP-048	Create Ticket	Prevent duplicate submission	Valid ticket data entered	Double-click Submit Ticket quickly	Only one ticket should be created	High
TC-SUP-049	Create Ticket	Cancel ticket creation	New Ticket form open	Enter data → click Cancel	Form should close and ticket should not be created	Medium
TC-SUP-050	Create Ticket	Close form using X	New Ticket form open	Enter data → click X	Form should close; unsaved data should not be submitted	Medium
TC-SUP-051	Create Ticket	Verify validation clears after correcting invalid input	Invalid data entered	Correct invalid field → Submit	Previous validation should disappear and ticket should submit if all data is valid	Medium
TC-SUP-052	Ticket Details	Open existing ticket	Ticket available	Click ticket row/arrow	Ticket details should open	High
TC-SUP-053	Ticket Details	Verify ticket information	Existing ticket available	Open ticket details	Ticket ID, title, category, priority, status and related information should be correct	High
TC-SUP-054	Ticket Details	Verify Station and Charger information	Ticket associated with station/charger	Open ticket	Correct Station and Charger should be displayed	High
TC-SUP-055	Ticket Details	Verify ticket description	Existing ticket available	Open ticket	Original description should be displayed correctly	Medium
TC-SUP-056	Ticket Details	Verify attachment	Ticket has attachment	Open ticket → view attachment	Correct attachment should be available	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SUP-057	Ticket Conversation	Verify conversation thread	Ticket exists	Open ticket details	Existing conversation/messages should be displayed in correct order	High
TC-SUP-058	Ticket Conversation	Add valid reply/comment	Open ticket available	Enter valid response → Send	Response should be added to conversation	High
TC-SUP-059	Ticket Conversation	Submit empty reply	Open ticket available	Leave response empty → Send	Empty response should not be submitted	Medium
TC-SUP-060	Ticket Conversation	Submit reply containing only spaces	Open ticket available	Enter spaces → Send	Blank response should be rejected	Medium
TC-SUP-061	Ticket Resolution	Resolve an open ticket	Open ticket available	Perform Resolve action	Ticket status should change to Resolved/Closed according to application workflow	High
TC-SUP-062	Ticket Resolution	Verify resolved ticket appears under Resolved	Ticket resolved	Navigate to Resolved filter	Resolved ticket should be displayed	High
TC-SUP-063	Ticket Resolution	Verify resolved ticket removed from Open	Ticket resolved	Navigate to Open filter	Resolved ticket should not appear as Open	High
TC-SUP-064	Search & Filter	Search within selected status filter	Matching ticket available	Select Open → search ticket	Search should return only matching Open tickets	High
TC-SUP-065	Search & Filter	Search within SLA Breached filter	Matching ticket available	Select SLA Breached → search	Only matching SLA-breached tickets should be displayed	High
TC-SUP-066	Search & Filter	Change filter after search	Search results displayed	Search → change status filter	Results should update according to the new filter	Medium
TC-SUP-067	Search & Filter	Clear search after filter	Filter selected + search active	Clear search	All tickets matching selected filter should return	Medium
TC-SUP-068	Data Consistency	Verify ticket count matches displayed records	Tickets available	Select each status filter	Displayed ticket count should correspond to records returned	High
TC-SUP-069	SLA	Verify SLA breached ticket identification	SLA-breached ticket exists	Open SLA Breached filter	Applicable tickets should show SLA Breached status	High
TC-SUP-070	SLA	Verify non-breached ticket is not marked SLA Breached	Valid non-breached ticket exists	Open ticket/list	Ticket should not incorrectly show SLA Breached	High
TC-SUP-071	SLA	Verify SLA status after ticket resolution	SLA-breached/open ticket available	Resolve ticket	Ticket status and SLA indication should update consistently	Medium
TC-SUP-072	E2E Ticket Lifecycle	Create → Reply → Resolve → Verify	Valid ticket created	Create ticket → open → add reply → resolve	Ticket should be created, reply saved and ticket successfully resolved	High
TC-SUP-073	E2E Ticket Lifecycle	Create → Attachment → Open → Verify attachment	Valid attachment available	Create ticket with attachment → open ticket	Correct attachment should be associated with the correct ticket	High
TC-SUP-074	E2E Ticket Lifecycle	Create → Resolve → Verify status filters	Valid ticket created	Create → resolve → check Open → check Resolved	Ticket should move correctly from Open to Resolved	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-SUP-075	E2E Ticket Lifecycle	Create → Search → Edit/Update → Verify	Update functionality available	Create ticket → search → update/reply → refresh	Updated information should persist after refresh	High
TC-SUP-076	E2E Negative	Invalid ticket should not be created	New Ticket form open	Leave mandatory fields invalid/empty → Submit	No ticket should be created and proper validations should appear	High
TC-SUP-077	E2E Negative	Oversized attachment should not be submitted	New Ticket form open	Enter valid data → attach >5 MB file → Submit	File should be rejected and ticket should not be submitted with invalid attachment	High
TC-SUP-078	E2E Negative	Duplicate submission prevention	Valid ticket data entered	Click Submit multiple times rapidly	Only one ticket should be created	High
TC-SUP-079	E2E	Complete Support ticket lifecycle	User has Support permission	Create → Search → Open → Verify → Reply → Resolve → Verify Resolved	Complete ticket lifecycle should work successfully with correct data/status at every stage	Critical / High

Alerts

Alert dashboard KPIs, search and filters, alert details and navigation checks.

39 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-ALR-001	Alerts Dashboard	Verify Alerts page loads successfully	User logged in with Alerts access	Navigate to Alerts	Alerts page should load with KPI cards, filters, search and alert list	High
TC-ALR-002	KPI	Verify Open Alerts count	Open alerts available	Open Alerts page	Open Alerts count should match the number of open alerts	High
TC-ALR-003	KPI	Verify Critical alert count	Critical alerts available	Open Alerts page	Critical count should match critical alerts	High
TC-ALR-004	KPI	Verify Warning count	Warning alerts available	Open Alerts page	Warning count should match warning alerts	High
TC-ALR-005	KPI	Verify Average Resolution time	Resolved alert data available	Open Alerts page	Average resolution should be calculated/displayed correctly	Medium
TC-ALR-006	KPI	Verify zero-state KPI values	No alerts/resolution data available	Open Alerts	KPI values should display 0 / 0h appropriately without errors	Medium
TC-ALR-007	Status Filter	Filter Open alerts	Open alerts available	Click OPEN	Only OPEN alerts should be displayed	High
TC-ALR-008	Status Filter	Filter Acknowledged alerts	Acknowledged alerts available	Click ACKNOWLEDGED	Only ACKNOWLEDGED alerts should be displayed	High
TC-ALR-009	Status Filter	Filter Resolved alerts	Resolved alerts available	Click RESOLVED	Only RESOLVED alerts should be displayed	High
TC-ALR-010	Status Filter	Verify status filter with no records	Selected status has no records	Select status	No alerts found should be displayed	Medium
TC-ALR-011	Status Filter	Switch between status filters	Multiple statuses available	All → Open → Acknowledged → Resolved → All	Correct records should be displayed for each filter	Medium
TC-ALR-012	Type Filter	Verify All Types filter	Alerts available	Click All Types	All alert types should be displayed	Medium
TC-ALR-013	Type Filter	Filter Faulted alerts	Faulted alerts available	Click FAULTED	Only Faulted alerts should be displayed	High
TC-ALR-014	Type Filter	Filter Offline alerts	Offline alerts available	Click OFFLINE	Only Offline alerts should be displayed	High
TC-ALR-015	Type Filter	Type filter with no matching alerts	No matching alerts available	Select type	Empty state should be displayed	Medium
TC-ALR-016	Filter Combination	Combine status and type filters	Matching data available	Select OPEN + FAULTED	Only alerts satisfying both conditions should be displayed	High
TC-ALR-017	Filter Combination	Combine station + status + type	Matching data available	Select station + status + type	Results should satisfy all selected filters	High
TC-ALR-018	Search	Search exact station/charger reference	Alert for DEMO_CH_003 exists	Search DEMO_CH_003	Corresponding alert should be displayed	High
TC-ALR-019	Search	Search exact alert type/name	GROUND_FAILURE alert exists	Search GROUND_FAILURE	Corresponding alert should be displayed	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-ALR-020	Search	Search partial alert text	Alert available	Enter partial alert text	Matching alerts should be displayed	Medium
TC-ALR-021	Search	Search using uppercase/lowercase variation	Alert available	Search using different letter case	Search should behave according to case-sensitivity requirements	Low
TC-ALR-022	Search	Search non-existing alert	Alerts available	Enter random text	No alerts found should be displayed	Medium
TC-ALR-023	Search	Clear search	Search result displayed	Clear search field	Original alert list should be restored	Medium
TC-ALR-024	Search	Search using only spaces	Alerts available	Enter spaces	Search should return no unintended results and handle the input gracefully	Low
TC-ALR-025	Search	Rapidly type search text	Alert available	Quickly type DEMO_CH_003	Final search result should correspond to the complete entered value without stale/intermediate results	High
TC-ALR-026	Search	Verify search result stability	DEMO_CH_003 alert exists	Search DEMO_CH_003 and wait for results	Matching alert should remain displayed after search processing completes	High
TC-ALR-027	Alert List	Verify alert record is displayed	Alert exists	Open Alerts	Alert row should display correctly	High
TC-ALR-028	Alert List	Verify station information	DEMO_CH_003 alert exists	Search/open alert	Station/charger reference should display correctly	High
TC-ALR-029	Alert List	Verify alert type	GROUND_FAILURE exists	Search/open alert	Alert type should display as GROUND_FAILURE	High
TC-ALR-030	Alert List	Verify severity	Critical alert exists	Open alert list	Critical alert should show CRITICAL severity	High
TC-ALR-031	Alert List	Verify status	Open alert exists	Open alert list	Alert should show OPEN status	High
TC-ALR-032	Alert List	Verify timestamp	Alert has known timestamp	Open alert	Displayed date/time should correspond to the alert record	High
TC-ALR-033	Alert List	Verify multiple alerts are displayed independently	Multiple alerts available	Open All Status	Each alert should have its own correct station/type/severity/status/time	High
TC-ALR-034	Alert Details	Open alert details	Alert available	Click an alert record	Correct alert details should open	High
TC-ALR-035	Alert Details	Verify selected alert details	Alert available	Open DEMO_CH_003 alert	Details should correspond to the selected alert	High
TC-ALR-036	Refresh	Refresh Alerts page	Alerts available	Refresh page	Latest alert data should load correctly	High
TC-ALR-037	Persistence	Verify selected filter after refresh	Filter applied	Apply filter → refresh	Behavior should follow defined filter-persistence requirement	Medium
TC-ALR-038	Empty State	Verify empty-state message	No matching records	Apply filter/search with no result	No alerts found should be displayed correctly	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
TC-ALR-039	Loading	Verify loading state	Alerts API loading	Open Alerts page under slow network	Appropriate loading indicator should be displayed until data loads	Medium

Admin Access (Role-Based Access Control)

Role and user creation, mandatory and duplicate validations, permission matrix behavior and access enforcement.

78 test cases

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
RBAC-001	Create Role	Verify Admin can create a new role	Admin is logged in	1. Open Admin Access 2. Navigate to Roles 3. Click Create Role 4. Enter valid role name 5. Save	Role should be created successfully and displayed in the role list	High
RBAC-002	Create Role	Verify role name is mandatory	Admin is on Create Role screen	1. Leave role name blank 2. Click Save	Validation message should be displayed and role should not be created	High
RBAC-003	Create Role	Verify duplicate role cannot be created	Existing role is available	1. Create a role using an existing role name 2. Save	System should reject duplicate role and display appropriate validation	High
RBAC-004	Role Permissions	Verify Admin can assign modules to a role	Role exists	1. Select role 2. Select Dashboard, Fleets, Stations 3. Save	Selected modules should be mapped to the role	High
RBAC-005	Feature Access	Verify modules can be assigned while creating a role	Create New Role screen open	Create a role → select required modules such as Dashboard, Tariffs and Settlements → submit	Selected modules should be associated with the created role	High
RBAC-006	Permissions Matrix	Verify permissions can be configured for a role	Role exists	Select the role → configure required module/permission checkboxes → save/update	Selected permissions should be saved for the role	High
RBAC-007	Role Assignment	Verify a role can be assigned to a user	Role exists and test user is available	Select the role → click Assign Users → select a test user → assign	User should be assigned to the selected role	High
RBAC-008	User Login	Verify assigned user can log in	Test user has valid credentials and assigned role	Log in using the assigned user's credentials	User should log in successfully and the backend should identify the assigned role	High
RBAC-009	Allowed Modules	Verify assigned modules are returned after login	User assigned FINANCE_MANAGER-type role with Dashboard, Tariffs and Settlements	Log in → inspect login/API response	Response should contain the user's role and only the modules assigned to that role	High
RBAC-010	Navigation Menu	Verify frontend displays allowed modules	User has limited module access	Log in with the assigned user	Frontend should display the modules returned/allowed for the user	High
RBAC-011	Restricted Module	Verify unassigned module is not displayed	User role does not have Stations permission	Log in with the user	Stations module should not be displayed to the user	High
RBAC-012	Backend API Security	Verify backend rejects unauthorized module API access	User role does not have Stations permission	Log in as restricted user → directly call the Stations API	Backend should reject the request because the user is not authorized	Critical

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
RBAC-013	Role Update	Verify changing role permissions affects assigned user access	User already assigned to a role	Remove one module/permission from the role → save → log in again as assigned user	Removed module/permission should no longer be available to the user	High
RBAC-014	Role Assignment Removal	Verify removing a user from a role	User is assigned to a role	Open role → remove assigned user → save → log in again	User should no longer receive access granted by that role	High
RBAC-015	Multiple Users	Verify one role can be assigned to multiple users	Role exists and multiple test users are available	Assign the same role to multiple users	All assigned users should receive the role's configured access	Medium
RBAC-016	Module Isolation	Verify users with different roles receive different modules	Two test users have different roles	Log in with each user → compare returned modules and navigation	Each user should receive only the modules/permissions configured for their own role	High
RBAC-017	Direct URL Access	Verify restricted users cannot access an unauthorized screen through direct URL	User does not have access to the target module	Log in → directly open the URL of an unauthorized module	Application should deny access and should not expose protected data	High
RBAC-018	Role Visibility	Verify created role appears in System Roles	New role has been created	Refresh Admin Access → search for the created role	Created role should be visible with its configured information	Medium
RBAC-019	Permission Persistence	Verify configured permissions remain after refresh/re-login	Role has configured permissions and assigned user	Save permissions → refresh Admin Access → log in again as assigned user	Previously configured permissions should remain effective	High
RBAC-020	Complete RBAC Flow	Verify complete role-to-user authorization flow	Admin user, test user and required modules available	Create role → assign modules/permissions → assign role to user → log in as user → inspect API response → verify navigation → attempt unauthorized API access	User should see/use only authorized modules and backend should reject unauthorized operations	Critical
RBAC-021	CPO Selector	Verify CPO dropdown displays available CPO organizations	Admin is logged in	1. Open Admin Access 2. Click CPO dropdown	Dropdown should display available CPO organizations and Select CPO option	High
RBAC-022	CPO Selector	Verify switching CPO updates Admin Access data	Multiple CPOs are available	1. Select CPO A 2. Note roles/users 3. Switch to CPO B	Roles, assigned users and permission configuration should refresh according to the selected CPO	High
RBAC-023	CPO Selector	Verify roles from one CPO are not incorrectly displayed for another CPO	Multiple CPOs with different roles	1. Select CPO A 2. Note available roles 3. Select CPO B	Only roles belonging to the selected CPO should be displayed	High
RBAC-024	Refresh	Verify Refresh button reloads latest Admin Access data	Admin Access page is open	1. Create/update a role or permission 2. Click Refresh	Latest role, user and permission data should be loaded without displaying stale data	Medium
RBAC-025	Role Search	Verify role search with exact role name	Multiple roles exist	Enter an existing role name in Search Roles	Matching role should be displayed	Medium
RBAC-026	Role Search	Verify role search with partial role name	Multiple roles exist	Enter partial text of an existing role	All matching roles should be displayed	Medium

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
RBAC-027	Role Search	Verify role search with non-existing role	Multiple roles exist	Enter random/non-existing text	No matching role should be displayed and appropriate empty state should appear	Medium
RBAC-028	Role Actions	Verify Edit option is available for an existing role	Existing editable role is available	1. Click three-dot menu on role 2. Select Edit	Edit option should open the role configuration/form with existing data populated	High
RBAC-029	Role Edit	Verify edited role details are saved successfully	Existing role is available	1. Open Edit 2. Modify editable role details 3. Save	Updated role information should be saved and displayed correctly	High
RBAC-030	Role Edit	Verify cancelling role edit does not save changes	Existing role is available	1. Open Edit 2. Modify data 3. Cancel/close without saving	Changes should not be saved	Medium
RBAC-031	Role Clone	Verify Clone option creates a copy of an existing role	Existing role is available	1. Click three-dot menu 2. Select Clone 3. Enter/confirm required information 4. Save	A new role should be created with the cloned configuration without modifying the original role	High
RBAC-032	Role Clone	Verify cloned role can be modified independently	Cloned role exists	1. Modify permission of cloned role 2. Save 3. Open original role	Changes to cloned role should not affect the original role	High
RBAC-033	Role Delete	Verify Delete option is available from role action menu	Existing role is available	Click three-dot menu	Edit, Clone and Delete options should be displayed according to user authorization	Medium
RBAC-034	Role Delete	Verify delete confirmation is displayed before deleting a role	Existing role is available	Click Delete	System should display a confirmation before permanently deleting the role	High
RBAC-035	Role Delete	Verify cancelling role deletion keeps the role	Existing role is available	1. Click Delete 2. Select Cancel/No	Role should remain available in System Roles	High
RBAC-036	Role Delete	Verify deleting an unassigned role	Role has no assigned users	1. Delete the role 2. Refresh page	Role should be removed from the System Roles list	High
RBAC-037	Role Delete	Verify system handles deletion of a role having assigned users	Role has assigned users	Select Delete on assigned role	System should prevent deletion or clearly warn/handle the assigned users before deletion	High
RBAC-038	Matrix Visibility	Verify Matrix Visibility toggle hides permission matrix	Role is selected	Click Matrix Visibility toggle to OFF	Permission matrix should be hidden/collapsed without changing saved permissions	Medium
RBAC-039	Matrix Visibility	Verify Matrix Visibility toggle shows permission matrix again	Matrix is hidden	Turn Matrix Visibility ON	Permission matrix should become visible with the existing configuration	Medium
RBAC-040	Locked Module	Verify locked module cannot be modified	Role has a locked module	1. Select role 2. Locate module marked LOCKED	Locked module permission controls should be disabled and user should not be able to modify them	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
RBAC-041	Permission Reset	Verify Reset button restores unsaved permission changes	Role exists	1. Change one or more permissions 2. Click Reset	Unsaved changes should be reverted to the previously saved permission configuration	High
RBAC-042	Permission Reset	Verify Reset does not change already saved permissions	Role has saved permissions	Click Reset without making changes	Existing saved permission configuration should remain unchanged	Medium
RBAC-043	Save Changes	Verify Save Changes button becomes enabled after permission modification	Role exists	Change a module permission	Save Changes button should become enabled when there are unsaved changes	Medium
RBAC-044	Save Changes	Verify Save Changes is disabled when there are no changes	Role is selected and no modifications are made	Observe Save Changes button	Save Changes should remain disabled when there are no unsaved changes	Low
RBAC-045	Permission Update	Verify permission update confirmation message is displayed	Role exists	1. Modify permission 2. Click Save Changes	Permission should be saved and a confirmation message such as "Permissions updated for [Role]" should be displayed	Medium
RBAC-046	Permission Persistence	Verify saved permission changes remain after page refresh	Permission changes were saved	1. Change permission 2. Save 3. Refresh page 4. Select role	Previously saved permission configuration should remain unchanged	High
RBAC-047	Create Role	Verify Full Name is mandatory	Create New Role modal is open	1. Leave Full Name blank 2. Fill other required fields 3. Submit	Validation message should be displayed and role should not be created	High
RBAC-048	Create Role	Verify Phone number is mandatory	Create New Role modal is open	1. Leave Phone blank 2. Fill other required fields 3. Submit	Phone validation should be displayed and role should not be created	High
RBAC-049	Create Role	Verify Company Email field behavior	Create New Role modal is open	1. Observe Company Email field 2. Try to modify its value	Company Email should follow the defined behavior; if system-controlled, it should remain non-editable	Medium
RBAC-050	Create Role	Verify password visibility toggle	Create New Role modal is open	1. Enter password 2. Click eye icon	Password should switch between masked and visible states without changing its value	Medium
RBAC-051	Create Role	Verify Description accepts valid text	Create New Role modal is open	1. Enter valid description 2. Fill required fields 3. Submit	Role should be created successfully with the entered description	Low
RBAC-052	Create Role	Verify Create Role prevents submission with multiple mandatory fields blank	Create New Role modal is open	1. Leave Role Name, Full Name and Phone blank 2. Click Create Role Profile	Validation messages should be displayed for each required field and role should not be created	High

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
RBAC-053	Create Role	Verify whitespace-only input is rejected for mandatory fields	Create New Role modal is open	1. Enter spaces in Role Name/Full Name/Phone 2. Submit	System should treat whitespace-only values as invalid and display validation	High
RBAC-054	Create Role	Verify Cancel opens Discard Changes confirmation when data is entered	Create New Role modal is open	1. Enter data in one or more fields 2. Click Cancel	Discard Changes? confirmation should be displayed with options to continue editing or discard	Medium
RBAC-055	Create Role	Verify Continue Editing retains entered data	Discard Changes dialog is displayed	Click Continue Editing	Create Role modal should remain open and previously entered data should be retained	Medium
RBAC-056	Create Role	Verify discarding changes clears entered data	Discard Changes dialog is displayed	Select discard/cancel action	Create Role modal should close and entered unsaved data should be discarded	Medium
RBAC-057	Assign Users	Verify Assign Users modal displays available team members	Admin Access page is open	Click Assign Users	Modal should display available team members with their current role/access assignment	High
RBAC-058	Assign Users Search	Verify team member search by name	Multiple users are available	1. Open Assign Users 2. Search using a user's name	Matching team member should be displayed	Medium
RBAC-059	Assign Users Search	Verify team member search by email	Multiple users are available	Search using user's email	Matching team member should be displayed	Medium
RBAC-060	Assign Users Search	Verify search with invalid/non-existing user	Assign Users modal is open	Enter random/non-existing user text	No matching team member should be displayed	Low
RBAC-061	User Access	Verify No Access (Disabled) option disables user access	Assign Users modal is open	1. Select user 2. Select No Access (Disabled) 3. Click Done	User should have no role-based access and should be treated as disabled/no access	Critical
RBAC-062	User Role Assignment	Verify user can be changed from No Access to an active role	User currently has No Access	1. Open Assign Users 2. Select active role from dropdown 3. Click Done	Selected role should be assigned to the user	High
RBAC-063	User Role Assignment	Verify changing assigned user's role updates assignment correctly	User already has a role	1. Open Assign Users 2. Change role from Role A to Role B 3. Click Done	User should be associated with Role B and Role A access should no longer apply	Critical
RBAC-064	User Role Assignment	Verify assigned role remains after reopening Assign Users	User has an assigned role	1. Assign role 2. Close modal 3. Reopen Assign Users	User's current role should be displayed correctly	High
RBAC-065	User Role Assignment	Verify Done button saves user-role changes	Assign Users modal is open	1. Change a user's role 2. Click Done 3. Reopen modal	Updated role should persist after reopening the modal	High
RBAC-066	Permission Configuration	Verify turning module access OFF disables module access for selected role	Role has module access enabled	1. Select role 2. Turn Module Access OFF 3. Save Changes	Module should be disabled for that role after saving	Critical

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
RBAC-067	Permission Configuration	Verify module checkbox and Module Access state remain consistent	Role has module access enabled	1. Turn module access OFF 2. Save 3. Refresh 4. Reopen role	Module checkbox/toggle state should accurately represent the saved access configuration	High
RBAC-068	Permission Configuration	Verify locked module remains protected after refresh	A module is marked LOCKED	1. Refresh page 2. Select role	Locked module should remain locked and should not become editable after refresh	High
RBAC-069	UI	Verify role card displays assigned user count correctly	Role has one or more assigned users	1. Open Admin Access 2. Observe role card	Assigned user count on the role card should match the actual number of assigned users	Medium
RBAC-070	End-to-End Role & Permission Flow	Verify complete flow of creating a role, configuring permissions, assigning a user and validating access	Admin user is logged in; test user is available	1. Open Admin Access 2. Click Create Role 3. Enter valid Role Name, Full Name, Phone and required details 4. Create the role 5. Select the newly created role 6. Enable required modules/permissions such as Dashboard and Fleets 7. Click Save Changes 8. Click Assign Users 9. Assign the role to a test user 10. Click Done 11. Log out from Admin account 12. Log in using the assigned user's credentials 13. Verify the navigation menu and accessible modules	Role should be created successfully, configured permissions should be saved, user should be assigned to the role, and the user should be able to access only the configured modules	Critical
RBAC-071	Module Access Update	Verify disabling a module from a role removes that module from the assigned user's access	User is assigned to an existing role with multiple module permissions	1. Log in as Admin 2. Open Admin Access 3. Select the assigned user's role 4. Identify an enabled module 5. Turn Module Access OFF for that module 6. Click Save Changes 7. Log out 8. Log in using the assigned user's credentials 9. Check the navigation menu 10. Try accessing the disabled module	Disabled module should no longer be available to the assigned user, and direct access to the restricted module should also be prevented	Critical

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
RBAC-072	Role Reassignment	Verify changing a user's role from Role A to Role B updates the user's access correctly	Role A and Role B exist with different permissions; test user is assigned to Role A	1. Open Admin Access 2. Click Assign Users 3. Locate the test user 4. Verify Role A is currently assigned 5. Change the user's role to Role B 6. Click Done 7. Log out 8. Log in using the test user's credentials 9. Verify available modules and permissions	User should receive the permissions configured for Role B and should no longer receive permissions that are available only through Role A	Critical
RBAC-073	Role Permission Update	Verify updated role permissions are applied to assigned users after saving and refreshing	User is assigned to an existing role	1. Open Admin Access 2. Select the user's assigned role 3. Modify one or more module permissions 4. Click Save Changes 5. Refresh the Admin Access page 6. Reopen the same role 7. Verify the modified permissions 8. Log in as the assigned user 9. Verify the updated access	Modified permissions should remain saved after refresh and the assigned user should receive the updated access configuration	Critical
RBAC-074	Role Deletion	Verify the system handles deletion of a role that has an assigned user	Existing role is assigned to at least one test user	1. Open Admin Access 2. Identify a role with an assigned user 3. Open the three-dot menu 4. Select Delete 5. Observe the system response	System should prevent unsafe deletion or display an appropriate warning/confirmation explaining that the role has assigned users; user access should not be left in an undefined state	Critical
RBAC-075	User Access / No Access	Verify a user assigned with No Access (Disabled) cannot access the EV Charging CMS	Test user is available in Assign Users	1. Open Admin Access 2. Click Assign Users 3. Locate the test user 4. Select No Access (Disabled) from the role dropdown 5. Click Done 6. Log out from Admin account 7. Attempt to log in using the disabled user's credentials	User should not receive EV Charging CMS access after being set to No Access (Disabled), and protected modules/data should not be accessible	Critical
RBAC-076	CPO / Organization Isolation	Verify role and permission changes remain associated with the selected CPO	At least two CPOs are available in the CPO dropdown	1. Open Admin Access 2. Select CPO A 3. Create or modify a role and save the changes 4. Switch to CPO B 5. Check the System Roles and permissions 6. Switch back to CPO A 7. Verify the previously configured role and permissions	Changes made under CPO A should remain associated with CPO A and should not incorrectly appear or affect CPO B	Critical

Test Case ID	Feature	Test Scenario	Preconditions	Test Steps	Expected Result	Priority
RBAC-077	Permission Reset	Verify Reset discards unsaved permission changes without affecting saved configuration	Existing role has saved permissions	1. Open Admin Access 2. Select an existing role 3. Note the current saved permission configuration 4. Change one or more permissions 5. Do not click Save Changes 6. Click Reset 7. Observe the permission matrix 8. Refresh the page 9. Reopen the role	Unsaved changes should be discarded, the permission matrix should return to the last saved configuration, and saved permissions should remain unchanged after refresh	High
RBAC-078	Permission Persistence & Login	Verify saved permission changes remain effective after logout and re-login	Test user is assigned to a role; role has configurable permissions	1. Open Admin Access 2. Select the assigned user's role 3. Modify one or more permissions/modules 4. Click Save Changes 5. Verify the success confirmation message 6. Log out from Admin account 7. Log in using the assigned user's credentials 8. Verify the navigation menu 9. Open an allowed module 10. Attempt to access a restricted module	Saved permissions should persist after logout/login. Allowed modules should remain accessible, while restricted modules should not be available to the user	Critical

Integration Test Scenarios

Scenario-level cross-layer checks verifying that the UI, backend and database behave consistently.

4 test cases

Test Case ID	Module	Feature	Test Scenario	Expected Result
INT-001	Authentication	Frontend + API + DB	Verify login integration	User should authenticate successfully
INT-002	Stations	UI + Backend + Database	Verify station creation integration	Station data should save correctly
INT-003	Tariff	Tariff + EVM Mapping	Verify tariff integration with machine	Tariff should map correctly
INT-004	Notifications	Alerts + Station Module	Verify notification redirection	Correct station details should open

Regression Test Scenarios

Core regression checks to be re-run after changes.

4 test cases

Test Case ID	Module	Feature	Test Scenario	Expected Result
REG-001	Authentication	Login	Verify existing login functionality after changes	Login should work correctly
REG-002	Authentication	Change Password	Verify password update flow	New password should work
REG-003	Stations	CRUD Operations	Verify create/update/delete operations	All operations should work correctly
REG-004	Tariff	Tariff Mapping	Verify tariff assignment to EVM machines	Mapping should work correctly