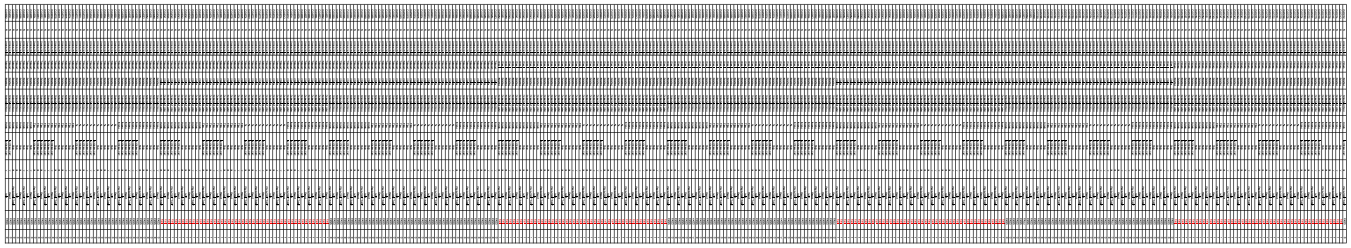

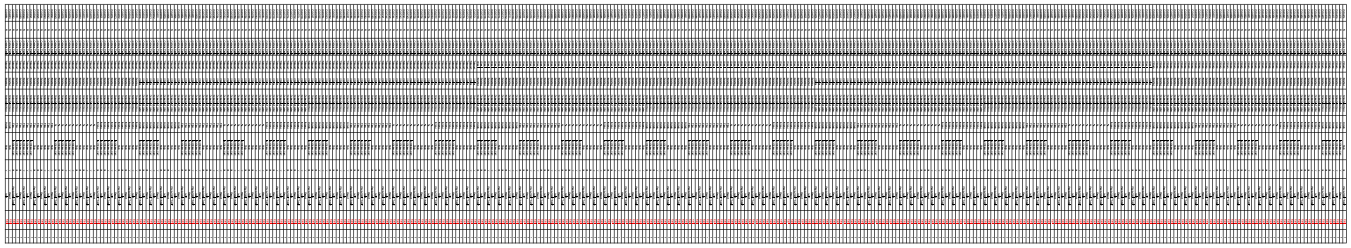

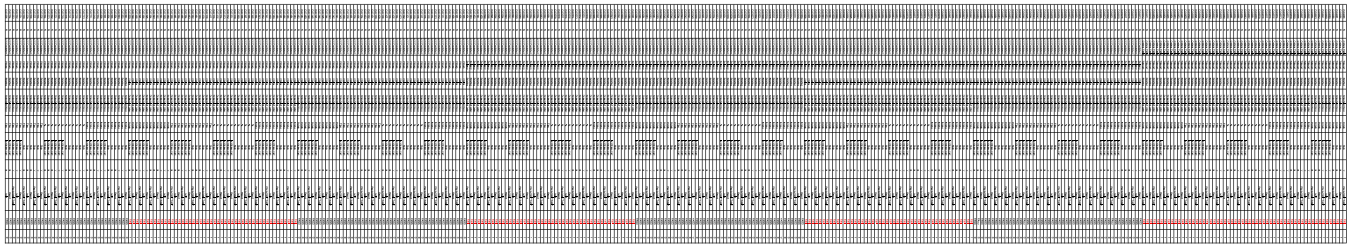

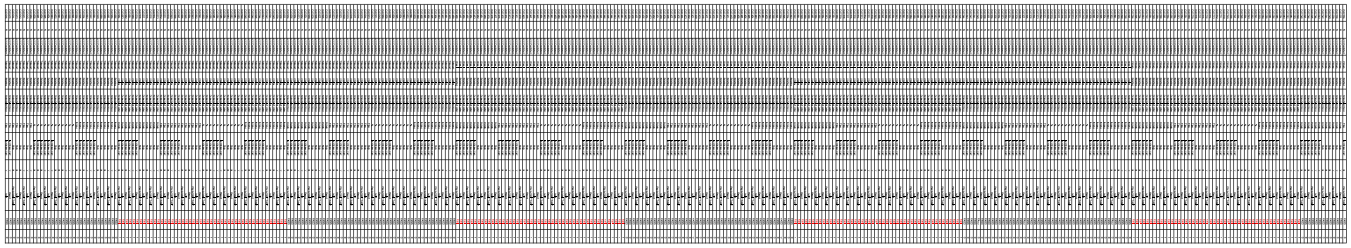

All User-BC

TC#	Area	Data Field / Control	Test Objective	Test Data / Setup	Expected Result
UL01	User List	Number of Users	Lower bound – 0 records	System has **0 users** in DB	Grid shows "No data / No users found", no rows, no JS errors, export buttons disabled or export empty file.
UL02	User List	Number of Users	Lower bound – 1 record	System has **1 user**	Exactly 1 row displayed, no pagination controls shown or pagination disabled.
UL03	User List	Number of Users	Page size boundary – exactly 10	System has **10 users**; "Show 10 entries"	10 rows displayed; **no** next page link.
UL04	User List	Number of Users	Page size boundary – 10 + 1	System has **11 users**; "Show 10 entries"	10 rows on page 1, 1 row on page 2; pagination controls visible and working.
UL05	User List	Number of Users	Upper bound – max supported users	Populate list with **max allowed records** (e.g., 10,000)	List loads within acceptable time, pagination works, no UI break or memory error.
UL06	Search	Search text	Lower bound – empty search	Leave Search box blank, press Enter / click icon	List shows default set (first page of all users); no filter applied.
UL07	Search	Search text	Lower bound – 1 character	Type "J" and search	Returns all users whose name / email / username contains "J"; case-handling as per spec.
UL08	Search	Search text	Upper bound – max length	Type **max allowed characters** (e.g., 255) and search	System accepts input, performs search; no truncation error / crash.
UL09	Search	Search text	Upper bound invalid – length + 1	Paste text **longer than max**	Field prevents extra characters OR shows validation message; search not executed with invalid length.
UL10	Search	Search text	Special characters boundary	Search using *@#%_'- mixed string	No crash or SQL / JS error; either matches correctly or shows "No results found".
UL11	Search + Pagination	Combined boundary	Search result count = 0	Term that matches no users	Grid shows "No users found"; pagination hidden/disabled; export handles empty result.
UL12	Search + Pagination	Combined boundary	Search result count = exactly page size	Term that returns exactly 10 users	10 rows, no next-page; paging consistent with filtered set.
UL13	Show entries	Page size selector	Lower bound option	Change "Show entries" to **smallest** value (e.g., 10) with >10 users	Only that many rows shown; pagination updated accordingly.
UL14	Show entries	Page size selector	Upper bound option	Change "Show entries" to **largest** value (e.g., 100)	Up to 100 users listed; if fewer exist, all shown on a single page.
UL15	Status badge	Status values	Boundary – each allowed status	Have at least one user for each status: Active, Suspended, Pending, Expired, Deleted, Blocked	Correct badge text and color shown for each; no status renders as plain text or breaks layout.
UL16	Name column	Text length	Lower bound valid – 1 char name	User with first name = "J", last name = "S"	Name column displays correctly without layout break.
UL17	Name column	Text length	Upper bound valid – max name length	User whose name length = max allowed	Name is shown or neatly truncated with tooltip / ellipsis; row height remains consistent.
UL18	Avatar	Image presence	Lower bound – no avatar	User without profile image	Default placeholder avatar is shown; no broken image icon.
UL19	Avatar	Image presence	Invalid / large avatar	Avatar URL invalid or huge file size	Graceful fallback to placeholder or handled error; page still loads.
UL20	Actions – Edit	First / last row boundary	Edit user in first and last row of page	Click pencil icon on **top row** and **bottom row**	Navigates to correct user's edit page both times.
UL21	Actions – Delete	Boundary – confirmation	Delete user on first page and last page	Click trash icon, confirm deletion	Row removed, count and pagination updated; can't access deleted user via edit.
UL22	Export (Excel/CSV/PDF)	Record count	Export with 0 users	No users in list (or filtered to zero) then click each export	System generates empty but valid file (or disables export) without errors.
UL23	Export (Excel/CSV/PDF)	Record count	Export with max users	Export when list has maximum allowed number of rows	File is generated successfully; size within limits; all rows present.
UL24	Role column	Text length	Upper bound – long role name	Role name at max length (e.g., "Senior Regional Sales Representative …")	Column displays or truncates cleanly without overlapping other columns.
UL25	Device/viewport	Horizontal space	Boundary – narrow desktop width	Resize browser to minimum supported width	Table horizontally scrolls or adapts; no columns overlap, buttons remain clickable.

All User Page Traceability Matrix Test Cases

TC#	INPUT									RESULTS			Issue#
	Show entries	Search	Export (Excel/CSV/PDF)	Avatar	Name column	Status badge	Role column	Actions – Delete	Device/viewport	Expected Results	Actual Results	Pass/Failed	
ALU01	0 Users	None	None	None	None	None	None	None	None	0 Users Displayed	0 Users Displayed	Pass	0
ALU02	1 User	None	None	None	Sam	Active	Manager	None	None	1 Users Displayed	1 Users Displayed	Pass	0
ALU03	10 Users	None	None	None	10 User Names in List	Active	Varied 10 User Roles as assigned	None	None	10 Users Displayed	10 Users Displayed	Pass	0
ALU04	10+1 Users	None	None	None	11 User Names in List	Active	Varied 11 User Roles as assigned	None	None	10 Users + 1 User on Next Page Displayed	11 Users + 1 User on Next Page Displayed	Pass	0
ALU05	100 Users	None	None	None	100 User Names in List	Active	Varied 100 User Roles as assigned	None	None	100 Users Displayed	101 Users Displayed	Pass	0
ALU06	10 Users	Search for 1 character	None	None	10 User Names in List	Active	Varied 10 User Roles as assigned	None	None	All Users with 1 Char Searched for Displayed	No Results	Fail	1
ALU07	10 Users	Search for max length character	None	None	10 User Names in List	Active	Varied 10 User Roles as assigned	None	None	All Users with Max Char Searched for Displayed	No Results	Fail	1
ALU08	10 Users	Search for max length+1 character	None	None	10 User Names in List	Active	Varied 10 User Roles as assigned	None	None	All Users with Max Chars + 1 Searched for Displayed	No Results	Fail	1
ALU09	10 Users	Special characters Search	None	None	10 User Names in List	Active	Varied 10 User Roles as assigned	None	None	Users with Special Chars Displayed or Search returned as invalid	No Results	Fail	1
ALU10	25 Users	Search result count = 25	None	None	25 User Names in List	Active	Varied 25 User Roles as assigned	None	None	25 Users Displayed	No Results	Fail	1
ALU11	50 Users	Search result count = 50	None	None	50 User Names in List	Active	Varied 50 User Roles as assigned	None	None	50 Users Displayed	No Results	Fail	1
ALU12	Users list/ Data Record that contain 1 Char in their name	None	None	None	Text length 1 char	Active	Varied 10 User Roles as assigned	None	None	All Users with 1 Char Searched for Displayed	All Users with 1 Char Searched for Displayed	Pass	0
ALU13	Users list/ Data Record that contain 1000 Char in their name	None	None	None	Text length 1000 chars	Active	Varied 10 User Roles as assigned	None	None	All Users with Max Char Searched for Displayed	All Users with Max Char Searched for Displayed	Pass	0
ALU14	Record count	None	Export with 0 users	None	None	Active	Manager	None	None	Export with 0 users	Export with 0 users	Pass	0
ALU15	Record count	None	Export with max users	None	Max Users	Active	Manager	None	None	Export with max users	Export with max users	Pass	0
ALU16	1 User	Search for no avatar	None	no avatar	Sam	Active	Manager	None	None	Users Displayed with no Avatar	No Results	Fail	1
ALU17	1 User	Search for Invalid / large avatar	None	Invalid / large avatar	Sam	Active	Manager	None	None	Users Displayed with Invalid/ Large Avatar	No Results	Fail	1
ALU18	10 Users	None	None	None	10 User Names in List	Active	Varied 10 User Roles as assigned	None	None	All Active Users Displayed	All Active Users Displayed	Pass	0
ALU19	10 Users	None	None	None	10 User Names in List	Blocked/ Deleted/ Expired/ Pending for approval/ Suspended	Varied 10 User Roles as assigned	None	None	All Blocked/ Deleted/ Expired/ Pending for approval/ Suspended Users Displayed	All Blocked/ Deleted/ Expired/ Pending for approval/ Suspended Users Displayed	Pass	0
ALU20	1 User	None	None	None	Sam	Active	Manager	Edit user in first and last row of page	None	Users edited in first and last row of page in the Display	Users edited in first and last row of page in the Display	Pass	0
ALU21	1 User	None	None	None	Sam	Active	Manager	Delete user on first page and last page	None	Users deleted in first and last row of page in the Display	Users deleted in first and last row of page in the Display	Pass	0
ALU22	1 User	None	None	None	None	Active	long role name	None	None	Users displayed with long role name	Users displayed with long role name	Pass	0
ALU23	1 User	None	None	None	None	Active	narrow desktop width	None	None	Users displayed with Boundary – narrow desktop width	Users displayed with Boundary – narrow desktop width	Pass	0

Add User Page Boundary Conditions					
TC#	Data Field	Test Objective	Test Data	Expected Result	Expected Result value
AU01	First Name	Test for Lower Bound valid	1 char	Accept	User Created
AU02	First Name	Test for Lower Bound Invalid	None	Reject	User Creation failed with Warning
AU03	First Name	Test for Upper Bound valid & Invalid	5000 char	Accept	User Created
AU04	First Name	Test for Nominal	Nominal Name	Accept	User Created
AU05	Last Name	Test for Lower Bound valid	1 char	Accept	User Created
AU06	Last Name	Test for Lower Bound Invalid	None	Reject	User Creation failed with Warning
AU07	Last Name	Test for Upper Bound valid & Invalid	5000 char	Accept	User Created
AU08	Last Name	Test for Nominal	Nominal Name	Accept	User Created
AU09	Email	Test for Lower Bound Invalid	None	Reject	User Creation failed with Warning
AU10	Email	Test for Upper Bound valid & Invalid	1 Char	Accept	User Created
AU11	Email	Test for Nominal	88 Char	Accept	User Created
AU12	Contact #	Test for Lower Bound valid & Invalid	None	Accept	User Created
AU13	Contact #	Test for Upper Bound valid & Invalid	9 Char	Accept	User Created
AU14	Username	Test for Lower Bound Invalid	None	Reject	User Creation failed with Warning
AU15	Username	Test for Upper Bound valid & Invalid	1 Char	Accept	User Created
AU16	Username	Test for Nominal	1000 Char	Accept	User Created
AU17	Avatar	Test for Lower Bound valid & Invalid	Uploaded	Accept	User Created
AU18	Avatar	Test for Upper Bound valid & Invalid	Not Uploaded	Accept	User Created with Warning
AU19	Status	Test for Lower Bound valid & Invalid	Active	Accept	User Created
AU20	Status	Test for Upper Bound valid & Invalid	Blocked/ Deleted/ Expired/ Pending for approval/ Suspended	Accept	User Created
AU21	Role	Test for Lower Bound valid & Invalid	Not Assigned	Reject	User Creation failed with Warning
AU22	Role	Test for Upper Bound valid & Invalid	Assigned	Accept	User Created
AU23	Password	Test for Lower Bound valid & Invalid	Blank	Reject	User Creation failed with Warning
AU24	Password	Test for Upper Bound valid & Invalid	5000 Char	Accept	User Created
AU25	Password Confirmation	Test for Lower Bound valid & Invalid	Blank	Reject	User Creation failed with Warning
AU26	Password Confirmation	Test for Upper Bound valid & Invalid	5000 Char	Accept	User Created
AU27	Password Confirmation	Test for Nominal Invalid	Password not matching	Reject	User Creation failed with Warning
AU28	Password Confirmation	Test for Nominal valid	Password matching	Accept	User Created

Add User Page Traceability Matrix Test Cases															
TC#	INPUT FACTORS											RESULTS			Issue#
	First Name	Last Name	Email Address	Contact number	Username	Avatar	Status	Role	Password	Password Confirmation	Save	Expected Results	Actual Results	Pass/Failed	
AU01	John	Smith	user@mail.com	1234567890	JohnSmith_12	Y	Active	Assigned	abc@123	abc@123	Y	Pass	Pass	Pass	0
AU02	blank	Smith	user@mail.com	1234567890	blankSmith_34	Y	Active	Assigned	abc@123	abc@123	N	Warning "First name cannot be blank"	Warning "First name cannot be blank"	Pass	0
AU03	J	Smith	user@mail.com	1234567890	JSmith_34	Y	Active	Assigned	abc@123	abc@123	Y	Pass	Pass	Pass	0
AU04	"J" X 5000 times	Smith	user@mail.com	1234567890	JJSmith_34	Y	Active	Assigned	abc@123	abc@123	N	Warning "First name cannot have more than X characters"	Failure in which system does not have upper bound for First name	Fail	1
AU05	John	blank	user@mail.com	1234567890	Johnblank_56	Y	Active	Assigned	abc@123	abc@123	N	Warning "Last name cannot be blank"	Warning "Last name cannot be blank"	Pass	0
AU06	John	S	user@mail.com	1234567890	JohnS_56	Y	Active	Assigned	abc@123	abc@123	Y	Pass	Pass	Pass	0
AU07	John	"S" X 5000 times	user@mail.com	1234567890	JJSS_34	Y	Active	Assigned	abc@123	abc@123	N	Warning "Last name cannot have more than X characters"	Failure in which system does not have upper bound for Last name	Fail	1
AU08	John	Smith	blank	1234567890	JohnSmith_78	Y	Active	Assigned	abc@123	abc@123	N	Warning "Email address cannot be blank"	Pass	Pass	0
AU09	John	Smith	"M" X 1 times	1234567890	JohnSmith_78	Y	Active	Assigned	abc@123	abc@123	N	Warning "Email address is not a valid email address."	Pass	Pass	0
AU10	John	Smith	"M" X 88 times	1234567890	JohnSmith_78	Y	Active	Assigned	abc@123	abc@123	N	Warning "Email address is not a valid email address."	Pass	Pass	0
AU11	John	Smith	user@mail.com	blank	JohnSmith_96	Y	Active	Assigned	abc@123	abc@123	Y	Pass	Pass	Pass	0
AU12	John	Smith	user@mail.com	"9"X9 times	JohnSmith_96	Y	Active	Assigned	abc@123	abc@123	Y	Pass Does not allow for characters in this data field more than "9" X 9 times	Pass	Pass	0
AU13	John	Smith	user@mail.com	1234567890	blank	Y	Active	Assigned	abc@123	abc@123	N	Warning "Username cannot be blank"	Pass	Pass	0
AU14	John	Smith	user@mail.com	1234567890	ty	Y	Active	Assigned	abc@123	abc@123	Y	Pass	Pass	Pass	0
AU15	John	Smith	user@mail.com	1234567890	"ty"X 1000 times	Y	Active	Assigned	abc@123	abc@123	N	Warning "Username is not a valid Username"	Failure in which Page comes up with "String too long error"	Fail	0
AU16	John	Smith	user@mail.com	1234567890	JohnSmith_cd	blank	Active	Assigned	abc@123	abc@123	Y	Pass	Pass	Pass	0
AU17	John	Smith	user@mail.com	1234567890	JohnSmith_ef	Y	Blocked/ Deleted/ Expired/ Pending for approval/ Suspended	Assigned	abc@123	abc@123	Y	Pass	Pass	Pass	0
AU18	John	Smith	user@mail.com	1234567890	JohnSmith_gh	Y	Active	Not Assigned	abc@123	abc@123	Y	Pass	Pass	Pass	0
AU19	John	Smith	user@mail.com	1234567890	JohnSmith_jj	Y	Active	Assigned	blank	abc@123	N	Warning " Password confirmation cannot be blank"	New User is created despite Passwords not matching	Fail	1
AU20	John	Smith	user@mail.com	1234567890	JohnSmith_jj	Y	Active	Assigned	abc@123	blank	N	Warning " Password confirmation cannot be blank"	New User is created despite Passwords not matching	Fail	1
AU21	John	Smith	user@mail.com	1234567890	JohnSmith_12	Y	Active	Assigned	abc@123	abc@124	N	Warning " Password confirmation fiekis do not match"	New User is created despite Passwords not matching	Fail	1

Update User Page Boundary Conditions						
TC#	Page	Data Field	Test Objective	Test Data	Expected Result	Expected Result value
AU01	Basic Details	First Name	Test for Lower Bound valid	1 char	Accept	User Created
AU02	Basic Details	First Name	Test for Lower Bound Invalid	None	Reject	User Creation failed with Warning
AU03	Basic Details	First Name	Test for Upper Bound valid & Invalid	5000 char	Accept	User Created
AU04	Basic Details	First Name	Test for Nominal	Nominal Name	Accept	User Created
AU05	Basic Details	Last Name	Test for Lower Bound valid	1 char	Accept	User Created
AU06	Basic Details	Last Name	Test for Lower Bound Invalid	None	Reject	User Creation failed with Warning
AU07	Basic Details	Last Name	Test for Upper Bound valid & Invalid	5000 char	Accept	User Created
AU08	Basic Details	Last Name	Test for Nominal	Nominal Name	Accept	User Created
AU09	Basic Details	Email	Test for Lower Bound Invalid	None	Reject	User Creation failed with Warning
AU10	Basic Details	Email	Test for Upper Bound valid & Invalid	1 Char	Accept	User Created
AU11	Basic Details	Email	Test for Nominal	88 Char	Accept	User Created
AU12	Basic Details	Contact #	Test for Lower Bound valid & Invalid	None	Accept	User Created
AU13	Basic Details	Contact #	Test for Upper Bound valid & Invalid	9 Char	Accept	User Created
AU14	Basic Details	Username	Test for Lower Bound Invalid	None	Reject	User Creation failed with Warning
AU15	Basic Details	Username	Test for Upper Bound valid & Invalid	1 Char	Accept	User Created
AU16	Basic Details	Username	Test for Nominal	1000 Char	Accept	User Created
AU17	Basic Details	Avatar	Test for Lower Bound valid & Invalid	Uploaded	Accept	User Created
AU18	Basic Details	Avatar	Test for Upper Bound valid & Invalid	Not Uploaded	Accept	User Created with Warning
AU19	Basic Details	Status	Test for Lower Bound valid & Invalid	Active	Accept	User Created
AU20	Basic Details	Status	Test for Upper Bound valid & Invalid	Blocked/ Deleted/ Expired/ Pending for approval/ Suspended	Accept	User Created
AU21	Basic Details	Role	Test for Lower Bound valid & Invalid	Not Assigned	Reject	User Creation failed with Warning
AU22	Basic Details	Role	Test for Upper Bound valid & Invalid	Assigned	Accept	User Created
AU23	Update Password	Password	Test for Lower Bound valid & Invalid	Blank	Reject	User Creation failed with Warning
AU24	Update Password	Password	Test for Upper Bound valid & Invalid	5000 Char	Accept	User Created
AU25	Update Password	Password Confirmation	Test for Lower Bound valid & Invalid	Blank	Reject	User Creation failed with Warning
AU26	Update Password	Password Confirmation	Test for Upper Bound valid & Invalid	5000 Char	Accept	User Created
AU27	Update Password	Password Confirmation	Test for Nominal Invalid	Password not matching	Reject	User Creation failed with Warning
AU28	Update Password	Password Confirmation	Test for Nominal valid	Password matching	Accept	User Created

Update User Page Boundary Conditions Test Cases

TC#	Input Factors												RESULTS			Issue#
		First Name	Last Name	Email Address	Contact number	Username	Avatar	Status	Role	Password	Password Confirmation	Save	Expected Results	Actual Results	Pass/Failed	
UD01	Basic Details	John	Smith	user@mail.com	1234567890	JohnSmith_12	Y	Active	Assigned	Password Information is in the "Change Password" section		Y	Pass	Pass	Pass	0
UD02		blank	Smith	user@mail.com	1234567890	blankSmith_34	Y	Active	Assigned			N	Warning "First name cannot be blank"	Warning "First name cannot be blank"	Pass	0
UD03		J	Smith	user@mail.com	1234567890	JSmith_34	Y	Active	Assigned			Y	Pass	Pass	Pass	0
UD04		"J" X 5000 times	Smith	user@mail.com	1234567890	JJSmith_34	Y	Active	Assigned			N	Warning "First name cannot have more than X characters"	Failure in which an error page opens that states string is too long	Fail	1
UD05		John	blank	user@mail.com	1234567890	Johnblank_56	Y	Active	Assigned			N	Warning "Last name cannot be blank"	Warning "Last name cannot be blank"	Pass	0
UD06		John	S	user@mail.com	1234567890	JohnS_56	Y	Active	Assigned			Y	Pass	Pass	Pass	0
UD07		John	"S" X 5000 times	user@mail.com	1234567890	JJSS_34	Y	Active	Assigned			N	Warning "Last name cannot have more than X characters"	Failure in which an error page opens that states string is too long	Fail	1
UD08		John	Smith	blank	1234567890	JohnSmith_78	Y	Active	Assigned			N	Warning "Email address cannot be blank"	Pass	Pass	0
UD09		John	Smith	"M" X 1 times	1234567890	JohnSmith_78	Y	Active	Assigned			N	Warning "Email address is not a valid email address."	Pass	Pass	0
UD10		John	Smith	"M" X 88 times	1234567890	JohnSmith_78	Y	Active	Assigned			N	Warning "Email address is not a valid email address."	Pass	Pass	0
UD11		John	Smith	user@mail.com	blank	JohnSmith_96	Y	Active	Assigned			Y	Pass	Pass	Pass	0
UD12		John	Smith	user@mail.com	"9"X9 times	JohnSmith_96	Y	Active	Assigned			Y	Pass Does not allow for characters in this data field more than "9" X 9 times	Pass	Pass	0
UD13		John	Smith	user@mail.com	1234567890	blank	Y	Active	Assigned			N	Warning "Username cannot be blank"	Fail	Fail	0
UD14		John	Smith	user@mail.com	1234567890	ty	Y	Active	Assigned			Y	Pass	Pass	Pass	0
UD15		John	Smith	user@mail.com	1234567890	"ty"X 1000 times	Y	Active	Assigned			N	Warning "Username is not a valid Username"	Failure in which Page comes up with "String too long error"	Fail	0
UD16		John	Smith	user@mail.com	1234567890	JohnSmith_cd	blank	Active	Assigned			Y	Pass	Pass	Pass	0
UD17		John	Smith	user@mail.com	1234567890	JohnSmith_ef	Y	Blocked/ Deleted/ Expired/ Pending for approval/ Suspended	Assigned			Y	Pass	Pass	Pass	0
UD18		John	Smith	user@mail.com	1234567890	JohnSmith_gh	Y	Active	Not Assigned			Y	Pass	Pass	Pass	0
UD19	In "Change Password" section									blank	abc@123	N	Warning " Password confirmation cannot be blank"	New User is created despite Passwords not matching	Fail	1
UD20										abc@123	blank	N	Warning " Password confirmation cannot be blank"	New User is created despite Passwords not matching	Fail	1
UD21										abc@123	abc@124	N	Warning " Password confirmation fields do not match"	New User is created despite Passwords not matching	Fail	1

All Role BC					
TC#	**Section**	**Data Field / Function**	**Test Objective**	**Test Data / Setup**	**Expected Result**
RD01	Roles List	Total Records	Lower Bound – 0 roles	System contains **0 roles**	Table displays "No data / No roles found". Pagination hidden. No UI errors.
RD02	Roles List	Total Records	Lower Bound – 1 role	System contains **1 role**	Only 1 row shown. No pagination.
RD03	Roles List	Total Records	Page size boundary (10 roles)	Exactly **10 roles** exist	All shown on page 1, pagination hidden.
RD04	Roles List	Total Records	Page size +1 (11 roles)	11 roles in DB	Page 1 shows 10, Page 2 shows 1. Pagination appears.
RD05	Roles List	Total Records	Upper Bound – max allowed (e.g., 5000)	Insert large number of roles	Table loads correctly, no performance crash, pagination works.
RD06	Role Name Column	Name length	Lower Bound – 1 character	Role = "A"	UI shows "A" correctly, no column break.
RD07	Role Name Column	Name length	Upper Bound – max allowed	Role Name = max length (e.g., 255 chars)	Displays properly or truncates with ellipsis, no overflow.
RD08	Role Name Column	Name length	Above max limit	Role name > allowed limit	Should reject in Add Role page; List page must still display safely (truncate/no break).
RD09	Access Count Column	Access permission number	Lower bound – 0 permissions	Role exists with **0 permissions assigned**	Shows "0 permission", no crash.
RD10	Access Count Column	Access permission number	Upper bound – very large count	Role with hundreds (or max allowed) permissions	List displays count correctly, no overflow.
RD11	Search	Input field	Lower Bound – empty search	Leave search blank	List resets to show all roles.
RD12	Search	Input field	1 character	Search = "M"	Filters roles starting with/containing M.
RD13	Search	Input field	Max length allowed	Paste long string (e.g., 255 chars)	Field allows input, returns no results or match. No errors.
RD14	Search	Special characters	Search "@#$%^&*()"	Should not break UI; show "no results".	No Results
RD15	Search + Pagination	Search result boundary = 0	Search non-existing term	Displays "No roles found". Pagination hidden.	No roles found
RD16	Search + Pagination	Search result = exact page size	Search returns exactly 10 items	No pagination.	No pagination.
RD17	Search + Pagination	Search result > page size	Search returns >10 items	Pagination enabled.	Pagination enabled.
RD18	Actions – Edit	First row boundary	Click edit on top row	Opens correct role edit page.	Opens correct role edit page.
RD19	Actions – Edit	Last row boundary	Click edit on last row	Opens correct role edit page.	Opens correct role edit page.
RD20	Actions – Delete	Confirmation boundary	Delete role from first page	Role successfully removed; table refreshes, pagination adjusts.	Role successfully removed; table refreshes, pagination adjusts.
RD21	Actions – Delete	Trying to delete last remaining role	Only 1 role exists	Must delete successfully; list shows "no roles" afterward.	Must delete successfully; list shows "no roles" afterward.
RD22	Actions – Delete	Attempt to delete a role assigned to active users	Role mapped to users	System should show validation error OR prevent deletion (business rule).	System should show validation error OR prevent deletion (business rule).
RD23	Pagination	Navigation	Lower bound – first page	"Previous" disabled or does nothing.	"Previous" disabled or does nothing.
RD24	Pagination	Navigation	Upper bound – last page	"Next" disabled or does nothing.	"Next" disabled or does nothing.
RD25	Pagination	Rapid navigation	Fast clicking Next/Previous repeatedly	No glitch, no duplicate records, no console errors.	No glitch, no duplicate records, no console errors.
RD26	Show Entries	Dropdown boundaries	Change to smallest page size	UI correctly limits rows.	UI correctly limits rows.
RD27	Show Entries	Dropdown boundaries	Change to largest page size	Shows all or max rows allowed on one page, no overflow.	Shows all or max rows allowed on one page, no overflow.
RD28	Add New Button	Function boundary	Click Add New with no roles selected	Opens Add Role page. No dependency on list content.	Opens Add Role page. No dependency on list content.
RD29	Column Sorting	Name column	Lower bound	Sort ascending	Alphabetical ordering correct.
RD30	Column Sorting	Access column	Numerical sort boundary	Sort ascending/descending	Permissions count sorted numerically, not alphabetically ("2" < "12" < "100").

Add Roles Boundary Conditions						
TC#	Page	Data Field	Test Objective	Test Data	Expected Result	Expected Result value
AR01	Add Role	Description	Test for Lower Bound valid	None (blank – if optional)	Accept	Role Created
AR02	Add Role	Description	Test for Lower Bound Invalid	None (blank – if description is mandatory)	Reject	Role Creation failed with Warning
AR03	Add Role	Description	Test for Upper Bound valid	MaxLen(Description) chars	Accept	Role Created
AR04	Add Role	Description	Test for Upper Bound Invalid	MaxLen(Description) + 1 chars	Reject	Role Creation failed with Warning
AR05	Add Role	Description	Test for Nominal	Typical sentence (20–100 chars)	Accept	Role Created
AR06	Add Role	Permissions	Test for Lower Bound Invalid – none	No module / permission checkbox selected	Reject	Role Creation failed with Warning
AR07	Add Role	Permissions	Test for Lower Bound valid – minimum	Exactly 1 lowest-level permission checked	Accept	Role Created
AR08	Add Role	Permissions	Test for Upper Bound valid – all selected	“Check All” selected for all modules	Accept	Role Created with all permissions
AR09	Add Role	Permissions	Test for Upper Bound valid – many selected	All permissions for one module, none for others	Accept	Role Created, permissions limited to one module
AR10	Add Role	Permissions	Test for mixed selection	Random mix of Create/Update/Delete/View across modules	Accept	Role Created, permissions saved correctly
AR11	Add Role	Permissions	Test parent/child relationship – parent only	Parent module checkbox checked, children unchecked (if supported)	As per spec (auto-select children or reject)	Parent/child rule enforced correctly
AR12	Add Role	Permissions	Test parent/child relationship – child only	Only child menu item checked, parent unchecked	Accept / Auto-check parent (per spec)	Parent/child rule enforced correctly
AR13	Add Role	Check All	Test global “Check All” lower bound	Click “Check All” once (select all)	Accept	All permission checkboxes are selected
AR14	Add Role	Check All	Test global “Check All” toggle	Click “Check All” twice (select + deselect all)	Accept	All permission checkboxes deselected
AR15	Add Role	Status (if any)	Test for Lower Bound valid	Status = Active	Accept	Role Created – Active
AR16	Add Role	Status (if any)	Test for Upper Bound valid	Status = Inactive / Disabled	Accept	Role Created – Inactive
AR17	Add Role	Save action	Test for mandatory fields combination	Blank Role Name + at least one permission	Reject	Role Creation failed with Warning
AR18	Add Role	Save action	Test for mandatory fields combination	Valid Role Name + no permissions	Reject	Role Creation failed with Warning
AR19	Add Role	Save action	Test for nominal successful save	Valid Role Name + Nominal Description + some permissions	Accept	Role Created

Add Roles Page Boundary Conditions Test Cases

TC#	Input Factors								RESULTS			Issue#
	Description	Permissions	Check All	Create	Update	Delete	View	Save	Expected Results	Actual Results	Pass/Failed	
AR01	"Basic"	All	Yes	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR02	blank	All	Yes	Yes	Yes	Yes	Yes	Yes	Warning	Warning	Pass	0
AR03	"m" X 10000 times	All	Yes	Yes	Yes	Yes	Yes	Yes	Warning	Role Created	Fail	1
AR04	m	All	Yes	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR05	"Basic"	None	Yes	Yes	Yes	Yes	Yes	Yes	Warning	No Warning but no Role creation either	Fail	1
AR06	"Basic"	Selected only "Order Summary"	Yes	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR08	"Basic"	All permissions for one module, none for others	Yes	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR09	"Basic"	All	Not selected for any field	Yes	Yes	Yes	Yes	Yes	Warning	No Warning but no Role creation either	Fail	1
AR10	blank	All	Selected only Dashboard checkbox and none of its children	Yes	Yes	Yes	Yes	Yes	Warning	Role Created	Fail	1
AR11	blank	All	Selected only "Order Summary" checkbox and not "Dashboard"	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR12	"Basic"	No	No	No	No	No	No	No	Warning	No Warning but no Role creation either	Fail	1
AR13	"Basic"	All	Yes	Not selected for any field	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR14	"Basic"	All	Yes	Yes	Not selected for any field	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR15	"Basic"	All	Yes	Yes	Yes	Not selected for any field	Yes	Yes	Role Created	Role Created	Pass	0
AR16	"Basic"	All	Yes	Yes	Yes	Yes	Not selected for any field	Yes	Role Created	Role Created	Pass	0
AR17	"Basic"	All	Selected only Dashboard checkbox and none of its children	Yes	Yes	Yes	Yes	Yes	Warning	Role Created	Fail	1
AR18	"Basic"	All	Selected only "Order Summary" checkbox and not "Dashboard"	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0

Update Roles Boundary Conditions

TC#	Page	Data Field	Test Objective	Test Data	Expected Result	Expected Result value
UR01	Update Role	Description	Test for Lower Bound valid	None (blank – if optional)	Accept	Role Created
UR02	Update Role	Description	Test for Lower Bound Invalid	None (blank – if description is mandatory)	Reject	Role Creation failed with Warning
UR03	Update Role	Description	Test for Upper Bound valid	MaxLen(Description) chars	Accept	Role Created
UR04	Update Role	Description	Test for Upper Bound Invalid	MaxLen(Description) + 1 chars	Reject	Role Creation failed with Warning
UR05	Update Role	Description	Test for Nominal	Typical sentence (20–100 chars)	Accept	Role Created
UR06	Update Role	Permissions	Test for Lower Bound Invalid – none	No module / permission checkbox selected	Reject	Role Creation failed with Warning
UR07	Update Role	Permissions	Test for Lower Bound valid – minimum	Exactly 1 lowest-level permission checked	Accept	Role Created
UR08	Update Role	Permissions	Test for Upper Bound valid – all selected	“Check All” selected for all modules	Accept	Role Created with all permissions
UR09	Update Role	Permissions	Test for Upper Bound valid – many selected	All permissions for one module, none for others	Accept	Role Created, permissions limited to one module
UR10	Update Role	Permissions	Test for mixed selection	Random mix of Create/Update/Delete/View across modules	Accept	Role Created, permissions saved correctly
UR11	Update Role	Permissions	Test parent/child relationship – parent only	Parent module checkbox checked, children unchecked (if supported)	As per spec (auto-select children or reject)	Parent/child rule enforced correctly
UR12	Update Role	Permissions	Test parent/child relationship – child only	Only child menu item checked, parent unchecked	Accept / Auto-check parent (per spec)	Parent/child rule enforced correctly
UR13	Update Role	Check All	Test global “Check All” lower bound	Click “Check All” once (select all)	Accept	All permission checkboxes are selected
UR14	Update Role	Check All	Test global “Check All” toggle	Click “Check All” twice (select + deselect all)	Accept	All permission checkboxes deselected
UR15	Update Role	Status (if any)	Test for Lower Bound valid	Status = Active	Accept	Role Created – Active
UR16	Update Role	Status (if any)	Test for Upper Bound valid	Status = Inactive / Disabled	Accept	Role Created – Inactive
UR17	Update Role	Save action	Test for mandatory fields combination	Blank Role Name + at least one permission	Reject	Role Creation failed with Warning
UR18	Update Role	Save action	Test for mandatory fields combination	Valid Role Name + no permissions	Reject	Role Creation failed with Warning
UR19	Update Role	Save action	Test for nominal successful save	Valid Role Name + Nominal Description + some permissions	Accept	Role Created

Update Roles Page Boundary Conditions Test Cases

TC#	Input Factors								RESULTS			Issue#
	Description	Permissions	Check All	Create	Update	Delete	View	Save	Expected Results	Actual Results	Pass/Failed	
AR01	"Basic"	All	Yes	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR02	blank	All	Yes	Yes	Yes	Yes	Yes	Yes	Warning	Warning	Pass	0
AR03	"m" X 10000 times	All	Yes	Yes	Yes	Yes	Yes	Yes	Warning	Role Created	Fail	1
AR04	m	All	Yes	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR05	"Basic"	None	Yes	Yes	Yes	Yes	Yes	Yes	Warning	No Warning but no Role creation either	Fail	1
AR06	"Basic"	Selected only "Order Summary"	Yes	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR08	"Basic"	All permissions for one module, none for others	Yes	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR09	"Basic"	All	Not selected for any field	Yes	Yes	Yes	Yes	Yes	Warning	No Warning but no Role creation either	Fail	1
AR10	blank	All	Selected only Dashboard checkbox and none of its children	Yes	Yes	Yes	Yes	Yes	Warning	Role Created	Fail	1
AR11	blank	All	Selected only "Order Summary" checkbox and not "Dashboard"	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR12	"Basic"	No	No	No	No	No	No	No	Warning	No Warning but no Role creation either	Fail	1
AR13	"Basic"	All	Yes	Not selected for any field	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR14	"Basic"	All	Yes	Yes	Not selected for any field	Yes	Yes	Yes	Role Created	Role Created	Pass	0
AR15	"Basic"	All	Yes	Yes	Yes	Not selected for any field	Yes	Yes	Role Created	Role Created	Pass	0
AR16	"Basic"	All	Yes	Yes	Yes	Yes	Not selected for any field	Yes	Role Created	Role Created	Pass	0
AR17	"Basic"	All	Selected only Dashboard checkbox and none of its children	Yes	Yes	Yes	Yes	Yes	Warning	Role Created	Fail	1
AR18	"Basic"	All	Selected only "Order Summary" checkbox and not "Dashboard"	Yes	Yes	Yes	Yes	Yes	Role Created	Role Created	Pass	0

AllUser-StateTransitions								
TC#	Page	Area / Section	Field / Control	Current State	Test Data	Event / Trigger	Next State	Expected Result (detail)
UL01	All Users – List	User List	Number of Users	User List page loaded	0 users	Filtering Results	Error state Page	"No data / No users found"
UL02	All Users – List	User List	Number of Users	User List page loaded	1 user	Filtering Results	1 Expected result Page	Exactly 1 row displayed
UL03	All Users – List	User List	Number of Users	User List page loaded	10 users	Filtering Results	10 Expected result Page	10 rows displayed; no next page link.
UL05	All Users – List	User List	Number of Users	User List page loaded	11 users	Filtering Results	10 Expected result Page + Next Page with 1 Additional attempt	10 rows displayed; 1 next page link.
UL06	All Users – List	Search	Search text	User List page loaded	Leave Search box blank, press Enter / click icon	User performs action / enters data as per Test Data: Leave Search box blank, press Enter / click icon	List navigated / paginated as per expected result	List shows default set (first page of all users); no filter applied.
UL07	All Users – List	Search	Search text	User List page loaded	Type "J" and search	User performs action / enters data as per Test Data: Type "J" and search	See Expected Result	Returns all users whose name / email / username contains "J"; case-handling as per spec.
UL08	All Users – List	Search	Search text	User List page loaded	Type max allowed characters (e.g., 255) and search	User performs action / enters data as per Test Data: Type max allowed characters (e.g., 255) and search	Operation succeeds (record saved or list shown as expected)	System accepts input, performs search; no truncation error / crash.
UL09	All Users – List	Search	Search text	User List page loaded	Paste text longer than max	User performs action / enters data as per Test Data: Paste text longer than max	See Expected Result	Field prevents extra characters OR shows validation message; search not executed with invalid length.
UL10	All Users – List	Search	Search text	User List page loaded	Search using "@#%_" – mixed string	User performs action / enters data as per Test Data: Search using "@#%_" – mixed string	See Expected Result	No crash or SQL / JS error; either matches correctly or shows "No results found".
UL11	All Users – List	Search + Pagination	Combined boundary	User List page loaded	Term that matches no users	User performs action / enters data as per Test Data: Term that matches no users	List navigated / paginated as per expected result	Grid shows "No users found"; pagination hidden/disabled; export handles empty result.
UL12	All Users – List	Search + Pagination	Combined boundary	User List page loaded	Term that returns exactly 10 users	User performs action / enters data as per Test Data: Term that returns exactly 10 users	List navigated / paginated as per expected result	10 rows, no next-page; paging consistent with filtered set.
UL13	All Users – List	Show entries	Page size selector	User List page loaded	Change "Show entries" to smallest value (e.g., 10) with >10 users	User performs action / enters data as per Test Data: Change "Show entries" to smallest value (e.g., 10) with >10 users	Operation succeeds (record saved or list shown as expected)	Only that many rows shown; pagination updated accordingly.
UL14	All Users – List	Show entries	Page size selector	User List page loaded	Change "Show entries" to largest value (e.g., 100)	User performs action / enters data as per Test Data: Change "Show entries" to largest value (e.g., 100)	List navigated / paginated as per expected result	Up to 100 users listed; if fewer exist, all shown on a single page.
UL15	All Users – List	Status badge	Status values	User List page loaded	Have at least one user for each status: Active, Suspended, Pending, Expired, Deleted, Blocked	User performs action / enters data as per Test Data: Have at least one user for each status: Active, Suspended, Pending, Expired, Deleted, Blocked	See Expected Result	Correct badge text and color shown for each; no status renders as plain text or breaks layout.
UL16	All Users – List	Name column	Text length	User List page loaded	User with first name = "J", last name = "S"	User performs action / enters data as per Test Data: User with first name = "J", last name = "S"	See Expected Result	Name column displays correctly without layout break.
UL17	All Users – List	Name column	Text length	User List page loaded	User whose name length = max allowed	User performs action / enters data as per Test Data: User whose name length = max allowed	See Expected Result	Name is shown or neatly truncated with tooltip / ellipsis; row height remains consistent.
UL18	All Users – List	Avatar	Image presence	User List page loaded	User without profile image	User performs action / enters data as per Test Data: User without profile image	See Expected Result	Default placeholder avatar is shown; no broken image icon.
UL19	All Users – List	Avatar	Image presence	User List page loaded	Avatar URL invalid or huge file size	User performs action / enters data as per Test Data: Avatar URL invalid or huge file size	List navigated / paginated as per expected result	Graceful fallback to placeholder or handled error; page still loads.
UL20	All Users – List	Actions – Edit	First / last row boundary	User List page loaded	Click pencil icon on top row and bottom row	User performs action / enters data as per Test Data: Click pencil icon on top row and bottom row	List navigated / paginated as per expected result	Navigates to correct user's edit page both times.
UL21	All Users – List	Actions – Delete	Boundary – confirmation	User List page loaded	Click trash icon, confirm deletion	User performs action / enters data as per Test Data: Click trash icon, confirm deletion	Operation succeeds (record saved or list shown as expected)	Row removed, count and pagination updated; can't access deleted user via edit.
UL22	All Users – List	Export (Excel/CSV/PDF)	Record count	User List page loaded	No users in list (or filtered to zero) then click each export	User performs action / enters data as per Test Data: No users in list (or filtered to zero) then click each export	See Expected Result	System generates empty but valid file (or disables export) without errors.
UL23	All Users – List	Export (Excel/CSV/PDF)	Record count	User List page loaded	Export when list has maximum allowed number of rows	User performs action / enters data as per Test Data: Export when list has maximum allowed number of rows	See Expected Result	File is generated successfully; size within limits; all rows present.
UL24	All Users – List	Role column	Text length	User List page loaded	Role name at max length (e.g., "Senior Regional Sales Representative …")	User performs action / enters data as per Test Data: Role name at max length (e.g., "Senior Regional Sales Representative …")	See Expected Result	Column displays or truncates cleanly without overlapping other columns.
UL25	All Users – List	Device/viewport	Horizontal space	User List page loaded	Resize browser to minimum supported width	User performs action / enters data as per Test Data: Resize browser to minimum supported width	See Expected Result	Table horizontally scrolls or adapts; no columns overlap, buttons remain clickable.