# Chapter 5- Testing

Testing is the process used to identify the correctness completeness and quality of the developed computer software. Or we can say the testing is an activity to check whether actual results match the expected results and to ensure that software system is defect free. Testing software is operating the software under controlled conditions, to verify that it behaves as specified, detect errors, and validate that what has been specified is what the user actually wanted.

* 1. **Black Box Testing**

Black-Box testing is a strategy for programming testing that analyzes the usefulness of an application without peering into its inside structures or functions. This technique for the test can be applied for all intents and purposes to each degree of programming testing: unit, integration, system, and acceptance. It is some of the time alluded to as particular based testing.

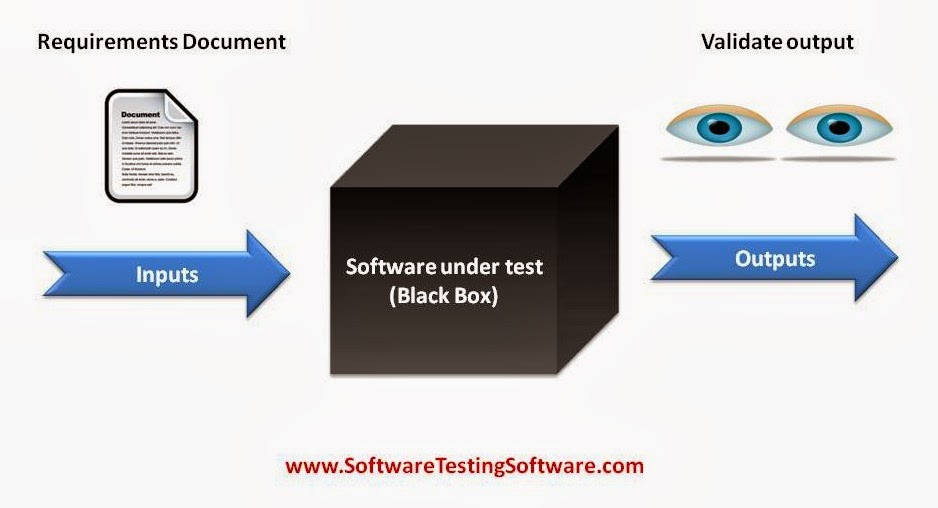
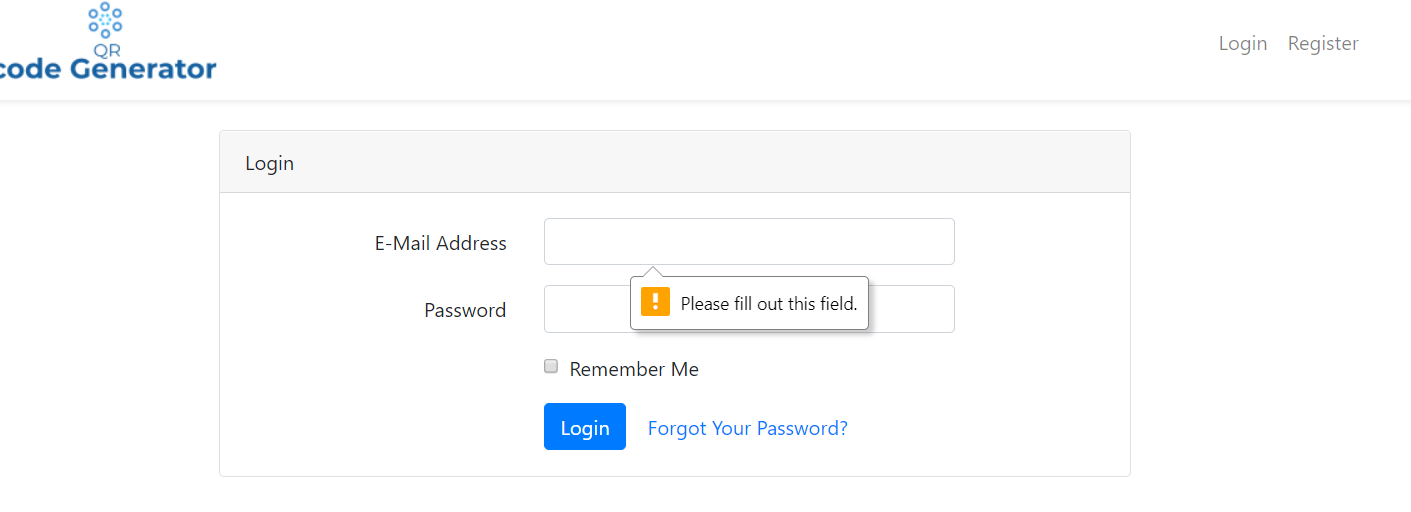


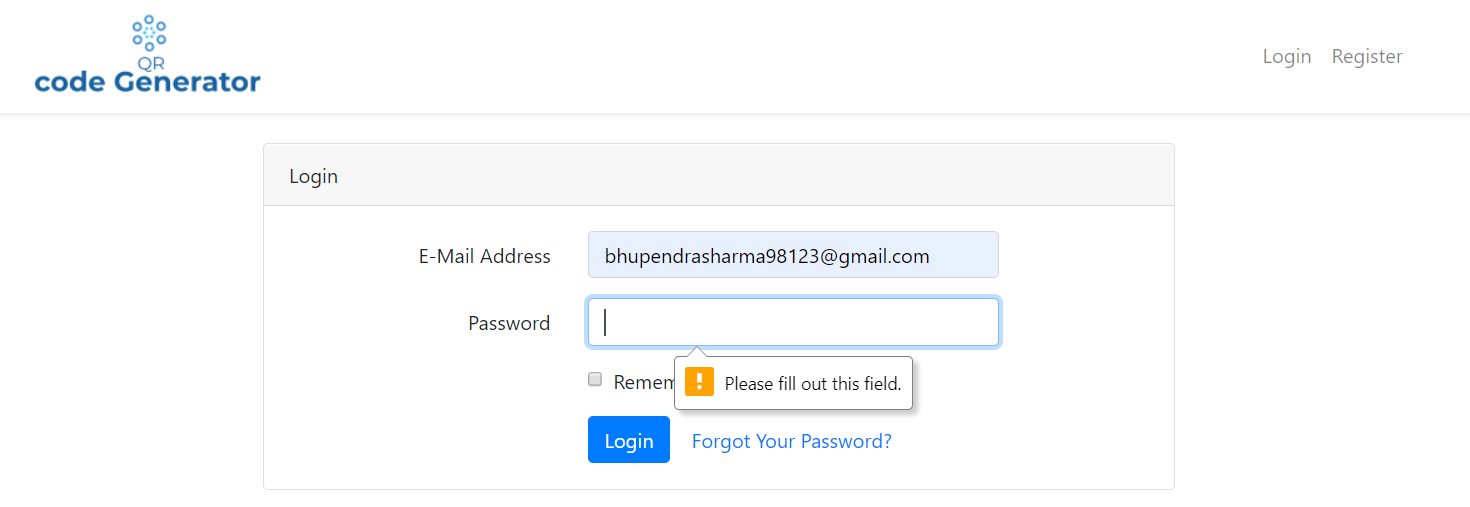
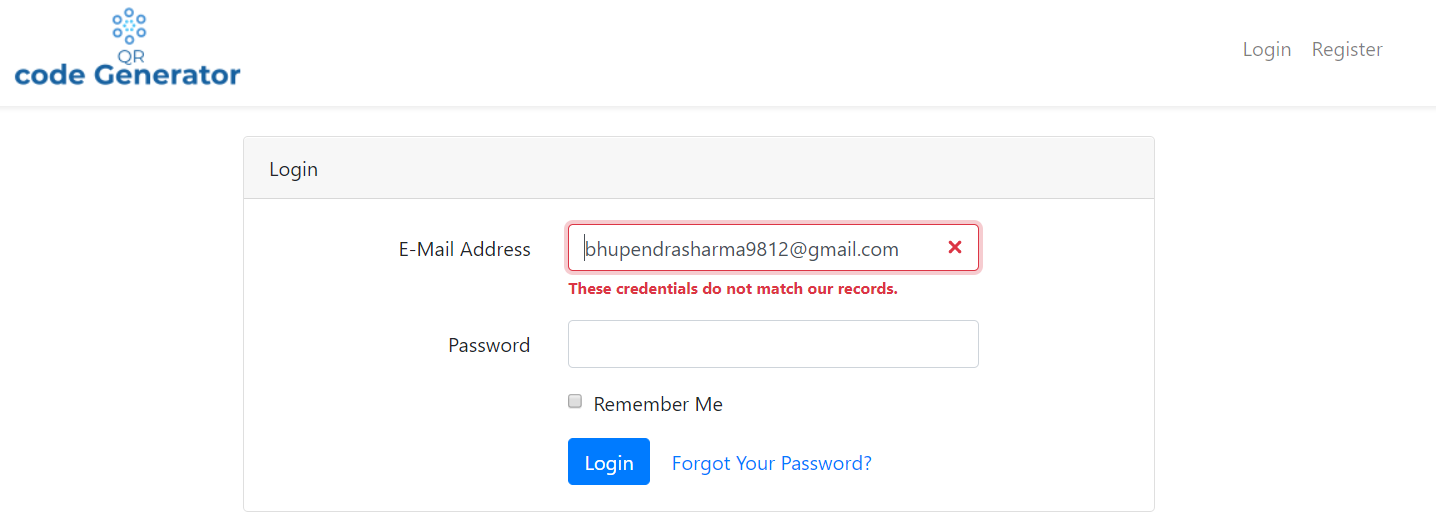
Figure: Black Box Testing

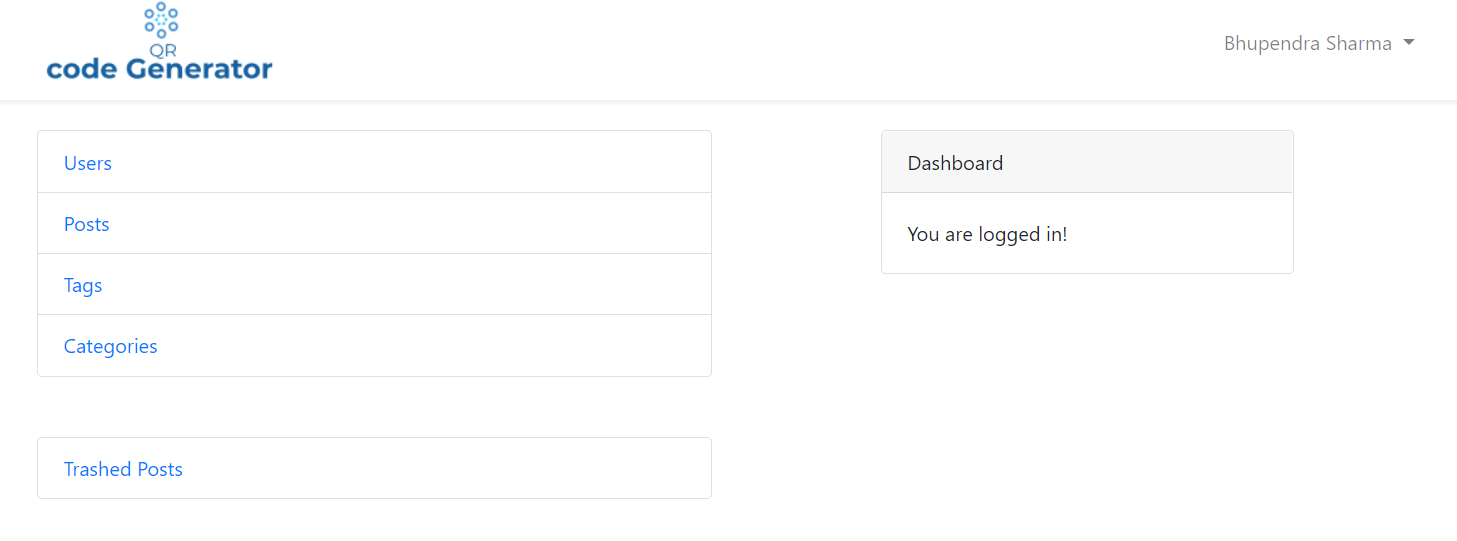
Black box testing was performed for the some of the functionality for our developed system and their tests and test cases are mentioned with detailed:

Login:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case ID** | **Test Scenario** | **Test Description** | **Test Data** | **Expected Result** | **Actual Result** | **Status** |
| T01login | Login validation | Without email and password | Email=””  Password=”” | Login failed message email required | Message displayed email required | Pass |
| T02login | Login validation | Providing email and leaving password field empty | [Email=bhupendrasharma98123@gmail.com](mailto:Email=bhupendrasharma98123@gmail.com)  Password=”” | Login failed message password require | Message displayed password required | Pass |
| T03login | Login validation | Providing invalid email and password | [Email=bhupendra@gmail.com](mailto:Email=bhupendra@gmail.com)  Password=bhupendra12 | Login failed message credentials do not match our record | Message displayed credentials do not match record | Pass |
| T04login | Verification | Providing valid email and password | Email= [bhupendrasharma98123@gmail.com](mailto:bhupendrasharma98123@gmail.com)  Password=”sharma77” | Login success show dashboard | Login succeed displayed dashboard | Pass |

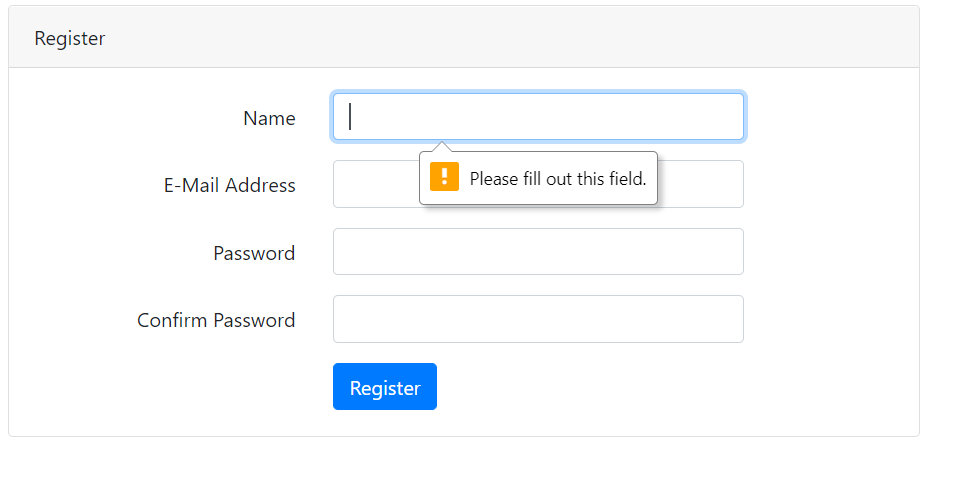


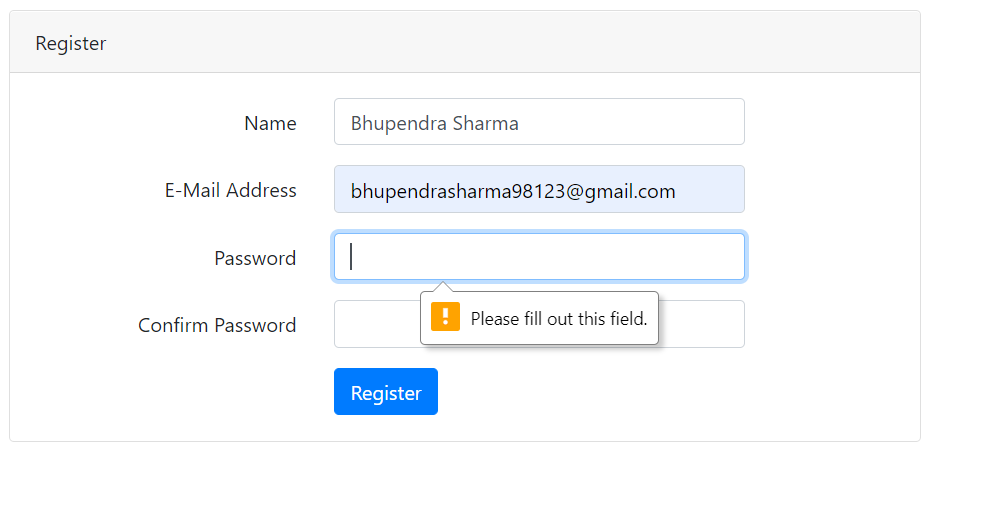


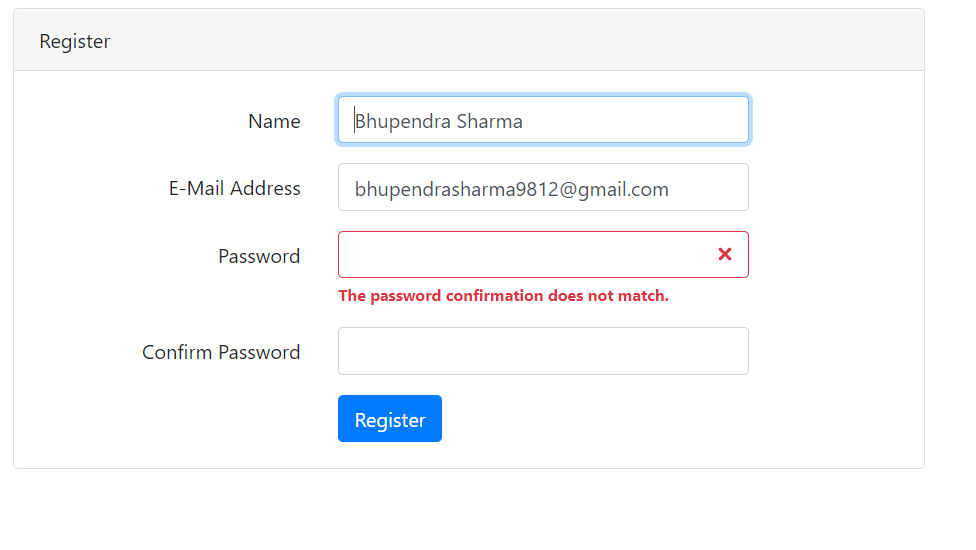


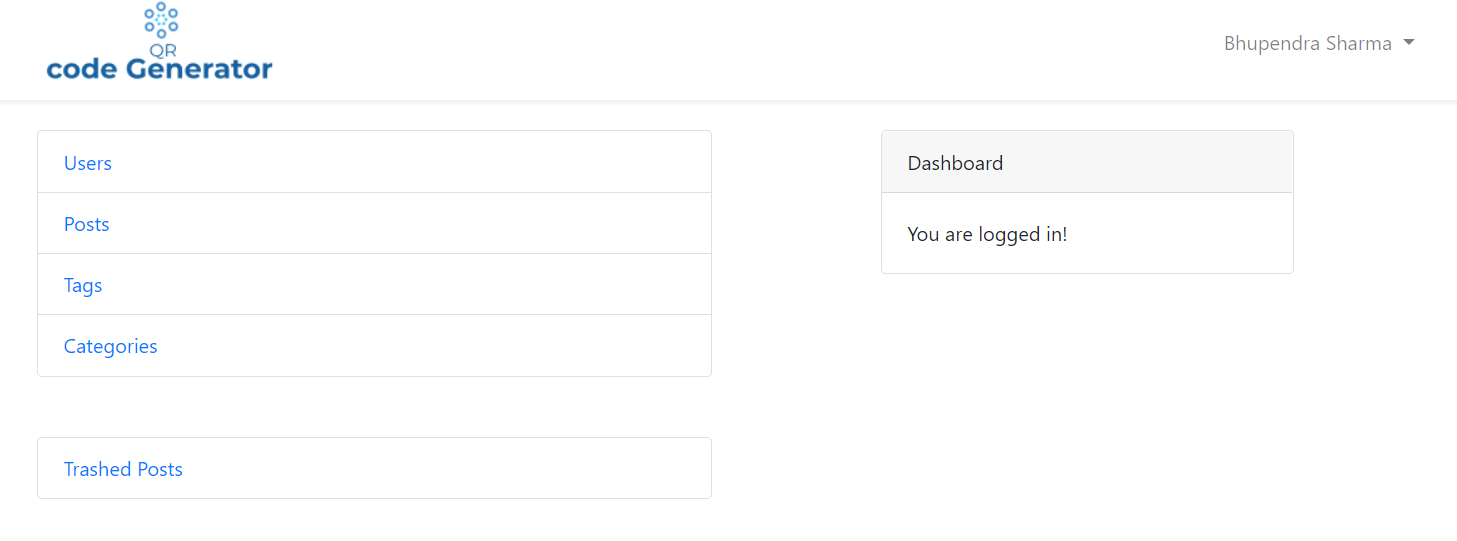
Registration:

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| **Test case ID** | **Test Scenario** | **Test Description** | **Test Data** | **Expected Result** | **Actual Result** | **Status** |
| T05registration | Registration validation | Without name, email, password | Name=””  Email=””  Password=”” | Failed display validation required details | Message displayed | Pass |
| T06registration | Registration validation | Providing name, email and leaving password field empty | Name=Bhupendra Sharma  [Email=bhupendrasharma98123@gmail.com](mailto:Email=bhupendrasharma98123@gmail.com)  Password=”” | Registration failed message password require | Message displayed password required | Pass |
| T07registration | Registration validation | Providing name, email and password and wrong confirm password | Name=Bhupendra Sharma  [Email=bhupendrasharma98123@gmail.com](mailto:Email=bhupendrasharma98123@gmail.com)  Password=”sharma77”  Confirm password=”sharma78” | Display Message the password you entered does not match | Message displayed password does not match | Pass |
| T08registration | registration | Providing valid name, email and password | Name=Bhupendra Sharma  [Email=bhupendrasharma98123@gmail.com](mailto:Email=bhupendrasharma98123@gmail.com)  Password=”sharma77”  Confirm password=”sharma77” | Registration should success and show user dashboard | Registration succeed and it shows user dashboard | Pass |
| T09registration | Registration | Email validation providing email without @ | Email=”bhupendrasharma98123 gmail.com” | Display the message showing email need to have @ in | Message displayed successfully | pass |



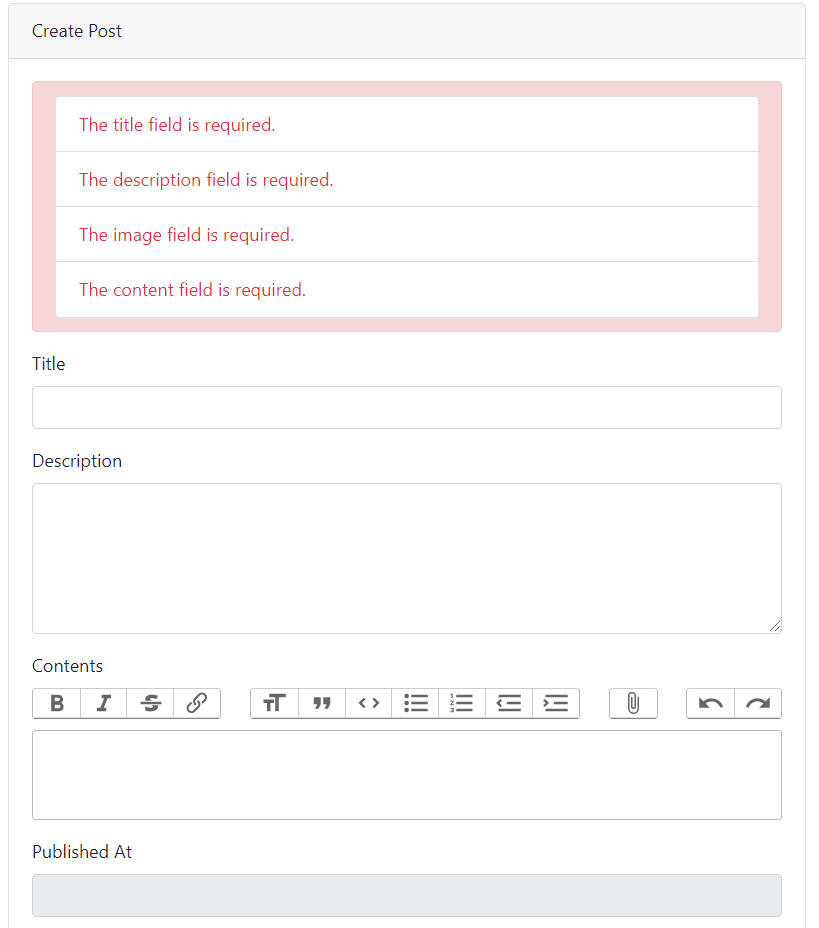


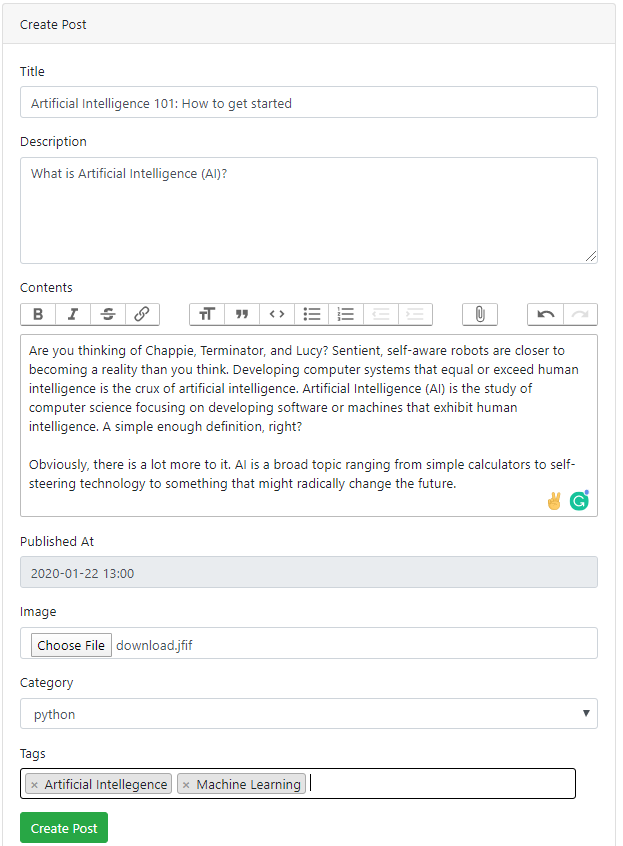


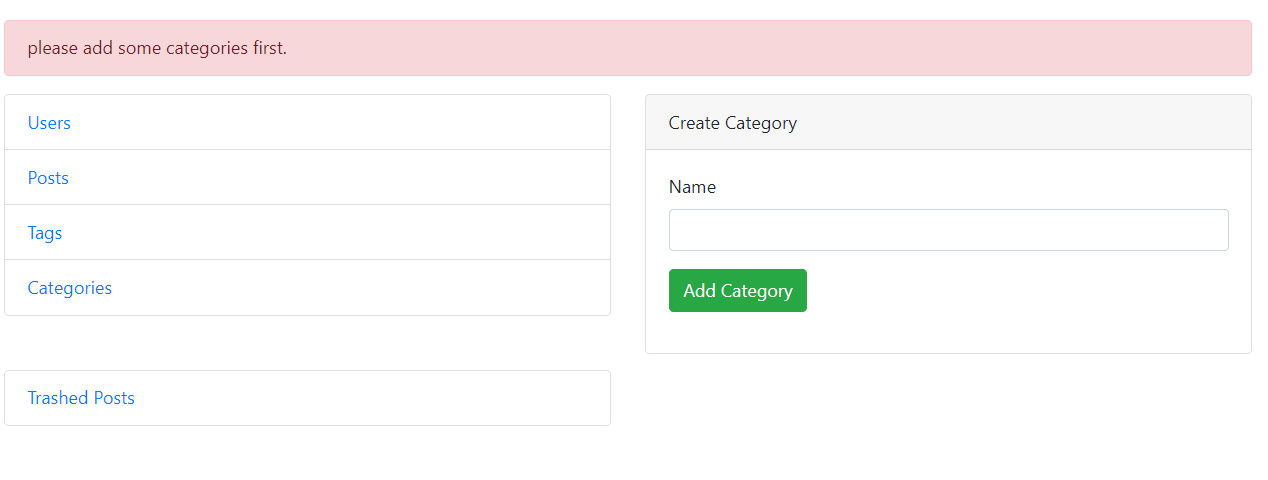


Create post:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case ID** | **Test Scenario** | **Test Description** | **Test Data** | **Expected Result** | **Actual Result** | **Status** |
| T010create post | Validation fields required | Submit form without providing details | Title=””  Description=””  Contents=””  Published at=””  Image=””  Category=””  Tags=”” | Failed display validation required details | Message displayed | Pass |
| T011create post | Validation fields required | Submit form providing details and leaving other | Title=”QR code”  Description=”this is the testing”  Contents=””  Published at=””  Image=””  Category=”programming”  Tags=”” | Should show the message about required fields with validation | Message displayed requesting the required field | Pass |
| T012create post | Creating post | Providing all details to the form post | Title=”QR code”  Description=”this is the testing”  Contents=”are you searching content”  Published at=”2020-1-29”  Image=”code.png”  Category=”programming”  Tags=”learn-code” | Message should display post created successfully and return to post index page | Message displayed and return to index page | Pass |
| T013create post | Creating post | Creating post without having category | Click on Add post | Return back to the add category page displaying message that “add some category first” | Message displayed and show add category page | Pass |







Update post:

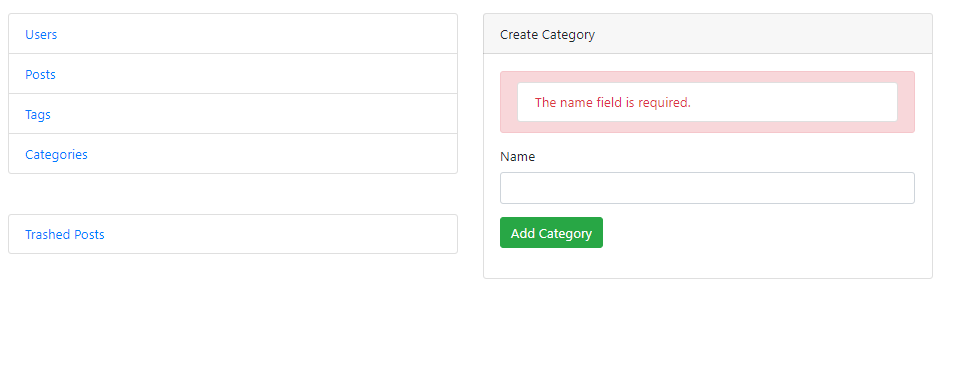
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case ID** | **Test Scenario** | **Test Description** | **Test Data** | **Expected Result** | **Actual Result** | **Status** |
| T014update post | Changing some details and updating post | Updating description and contents of the post | Title=” same”  Description=” changes”  Contents=” changes”  Published at=””  Image=””  Category=””  Tags=”” | Expected post to be update and display message | Post updated and displayed message | Pass |
| T015update post | Changing some details and updating post | Updating all details of the post | Title=” change”  Description=” change”  Contents=” change”  Published at=” change”  Image=” change”  Category=” change”  Tags=” change” | Post should be updated | Post updated to database and displayed updated message | Pass |
| T016update post | Updating only image to the post | Updating image of the post | Title=” same”  Description=” same”  Contents=” same”  Published at=” updated”  Image=” new.jpg”  Category=” same”  Tags=” same” | Post should be updated with new image and update message | Post updated with new image and update message | Pass |

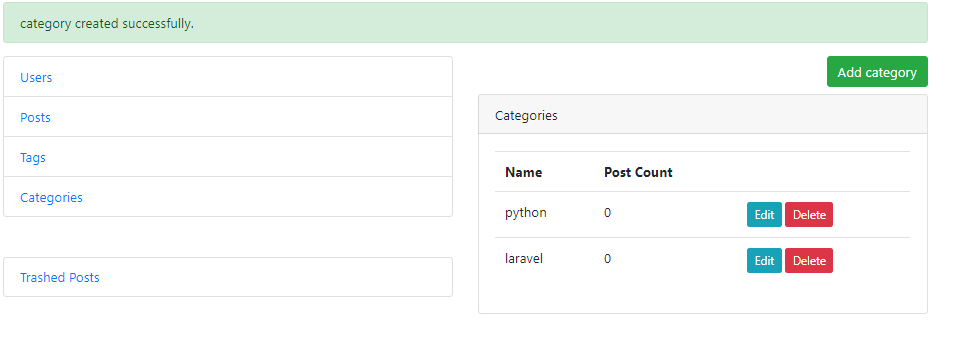
Trashed post:

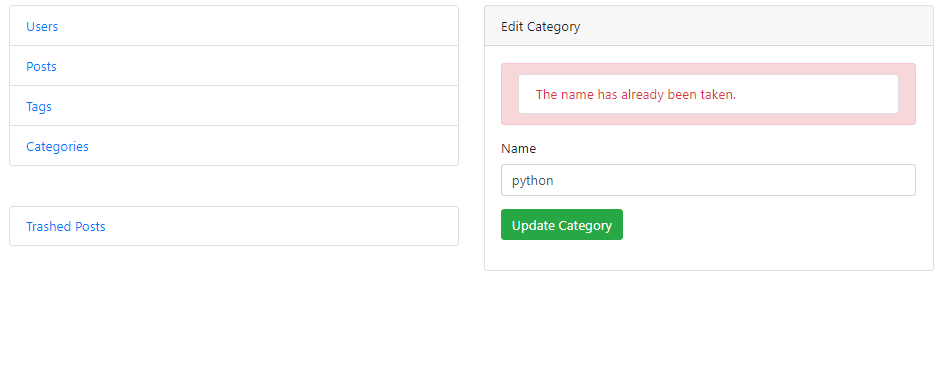
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case id** | **Test scenario** | **Test description** | **Test data** | **Expected result** | **Actual result** | **Status** |
| T017trashed post | Delete trashed post | Click on delete | Delete trashed post | Trashed post should be deleted and display message | Post deleted and message displayed | pass |
| T018trashed post | Restoring trashed post | Click on restore post | Restore trashed post | Trashed post should restore and message and return back to trashed post index | Post restored successfully and return to trashed post index with displayed message | pass |

Category:

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| **Test case id** | **Test scenario** | **Test description** | **Test data** | **Expected result** | **Actual result** | **Status** |
| T019category | Add category validation | Providing empty category name and submit | Name=”” | Validation Message should display of required field | Message displayed to enter name first | pass |
| T020category | Add category | Provide category name and submit | Name=” Laravel” | Category should insert in database and display message and return back to category index | Category created success and return back to category index | pass |
| T021category | Adding category that already existed in database | Providing existing details of category | Name=” Laravel” | Error message should be displayed that name has already been taken | Message displayed and return back to add category page | pass |

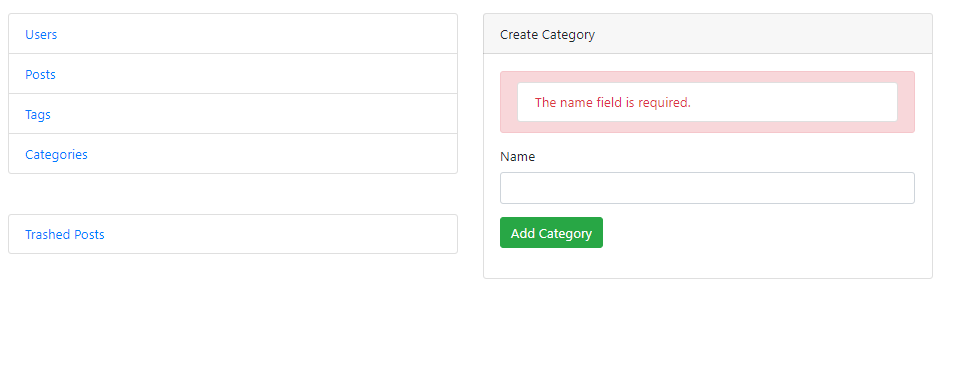


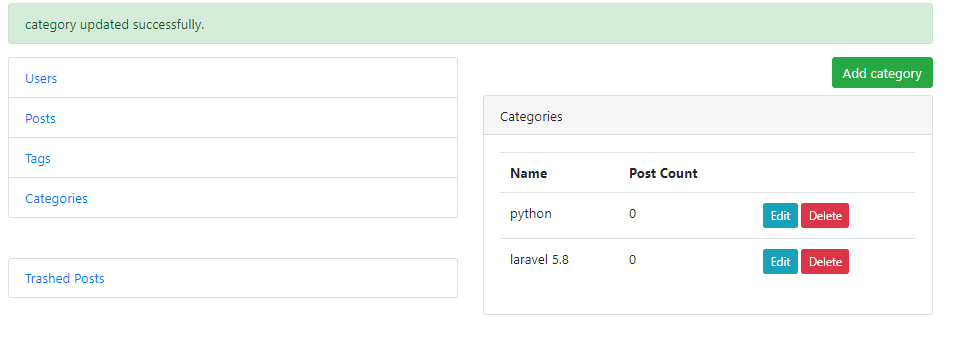




Update Category:

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| **Test case id** | **Test scenario** | **Test description** | **Test data** | **Expected result** | **Actual result** | **Status** |
| T022 update category | Update category | Providing empty category name and submit | Name=”” | Validation Message should display of required field | Message displayed to enter name first | Pass |
| T023 update category | Update category with new name | Provide category new name and submit | Old Name=” Laravel”  New name=” Laravel5.8” | Category should be update and return back to category index | Updated category and success message and return back to category index with new category name | Pass |



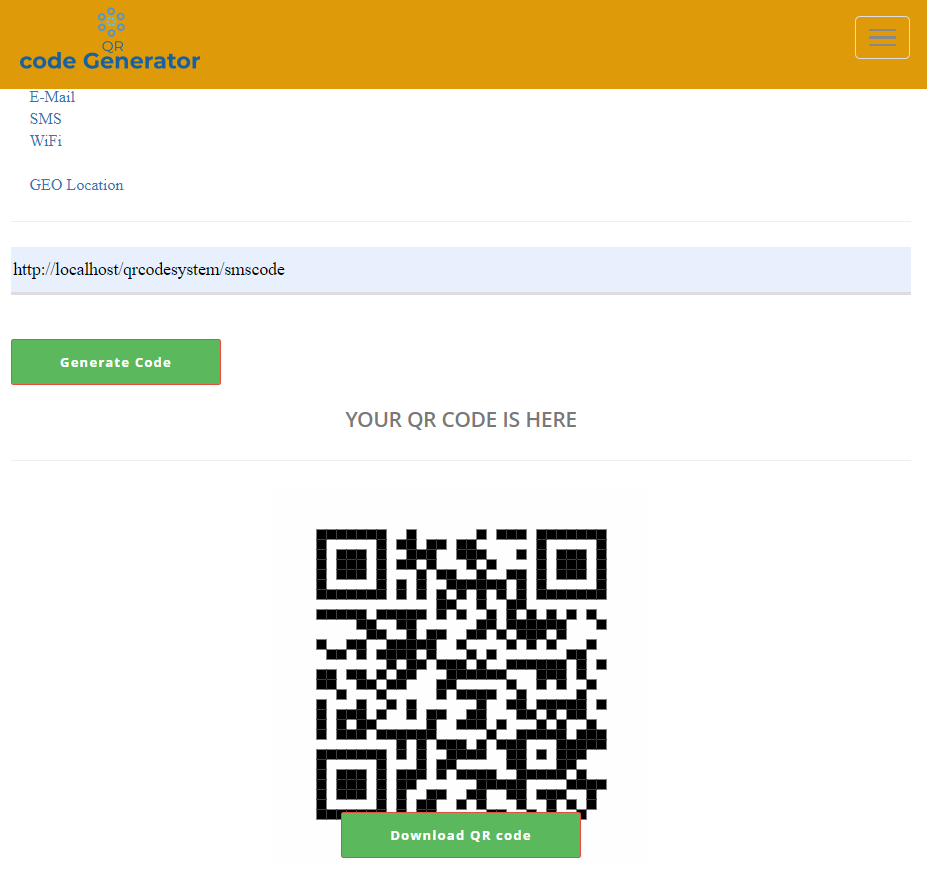


Delete category:

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| --- | --- | --- | --- | --- | --- | --- |
| **Test case id** | **Test scenario** | **Test description** | **Test data** | **Expected result** | **Actual result** | **Status** |
| T024 delete category | Deleting category | Deleting category not associated with any post | Click on delete and confirm | Category should be deleted and success message display | Success message displayed and category deleted | Pass |
| T025 delete category | Deleting category | Deleting category associated with post | Click on delete and submit | Message should display “category cannot be deleted it is associated with some posts” | Message displayed and return back to page | Pass |

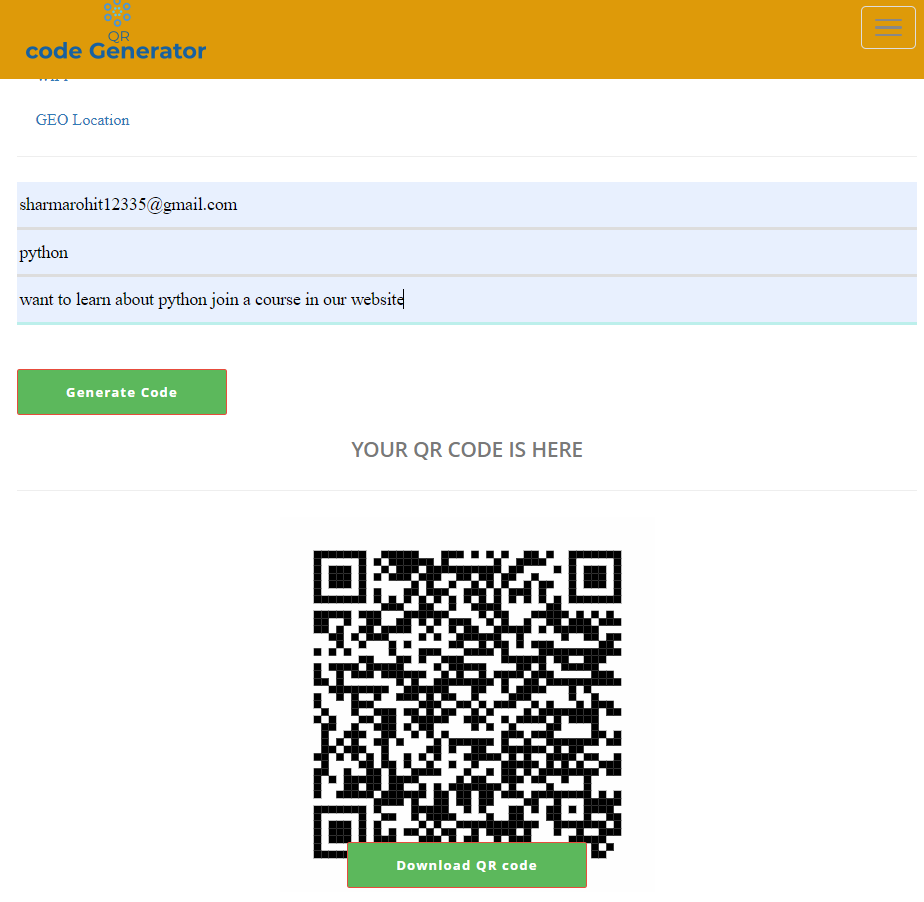
Generate QR code of URL:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case id** | **Test scenario** | **Test description** | **Test data** | **Expected result** | **Actual result** | **Status** |
| T026 URL QRCODE | Create QR code of URL | Providing empty details | URL= NULL | Validation error showing please enter URL first | Validation error showing message | Pass |
| T027 URL QRCODE | Create QR code of URL | Providing URL | URL= “<http://localhost/qrcodesystem/generatecode>” | QR code should be generated and displayed | QR code generated successfully | Pass |



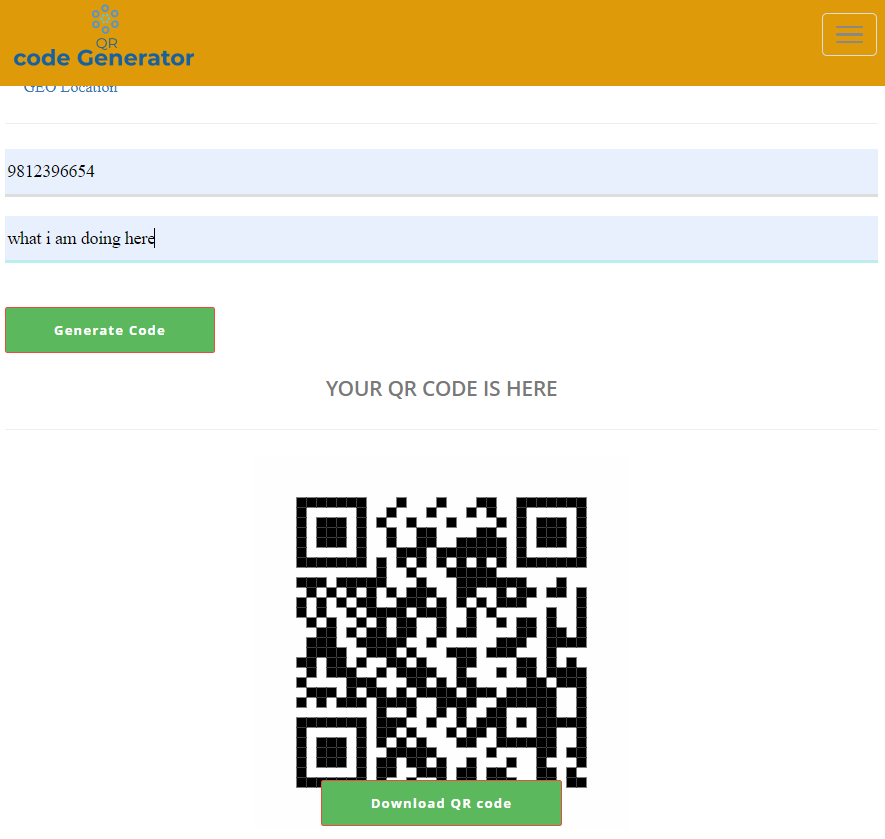
Generate QR code of Email:

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| --- | --- | --- | --- | --- | --- | --- |
| **Test case id** | **Test scenario** | **Test description** | **Test data** | **Expected result** | **Actual result** | **Status** |
| T028 Email QRCODE | Create QR code of Email | Providing all valid details | Email= “bhupendrasharma98123@gmail.com”  Email subject= “QR code packages”  Message= “Hi I am trying to generate QR code in my project how could it be wanna help me” | QR code should generate for the provided details of email | QR code generated successfully for email and displayed | Pass |



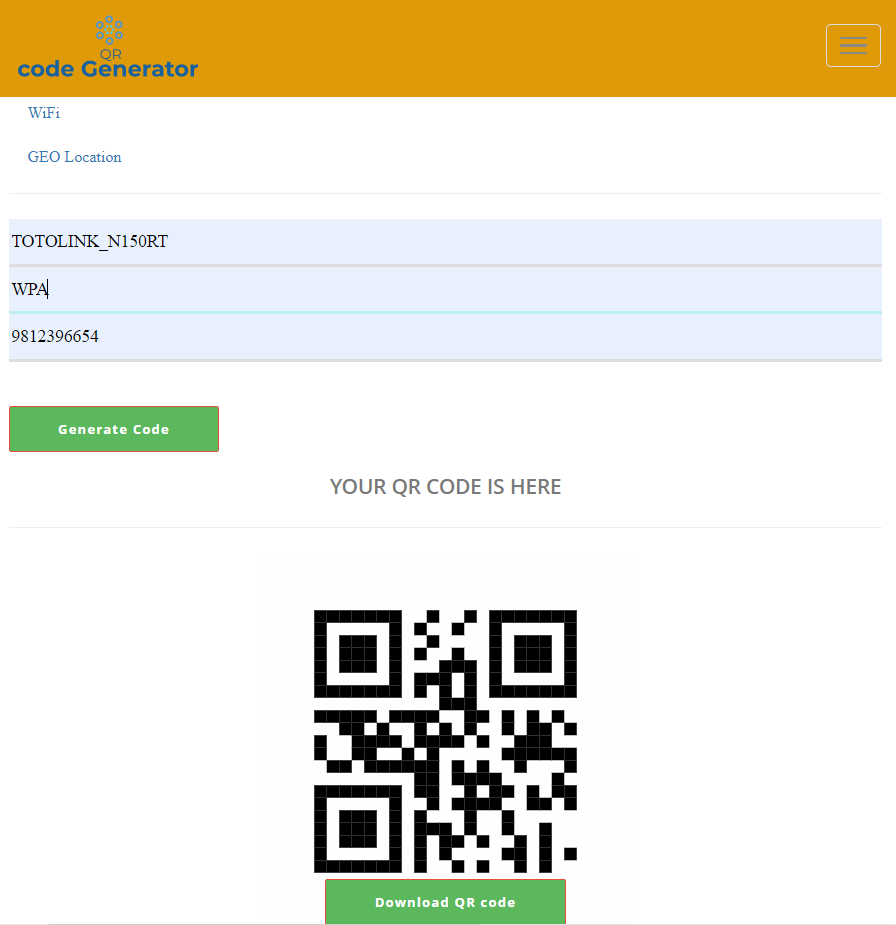
Generate QR code of SMS:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case id** | **Test scenario** | **Test description** | **Test data** | **Expected result** | **Actual result** | **Status** |
| T029 SMS QRCODE | Create QR code of SMS | Providing all valid details | Mobile=9812396654  Message= “what am I doing here” | QR code should generate for the provided details of SMS | QR code generated successfully for SMS and displayed | Pass |



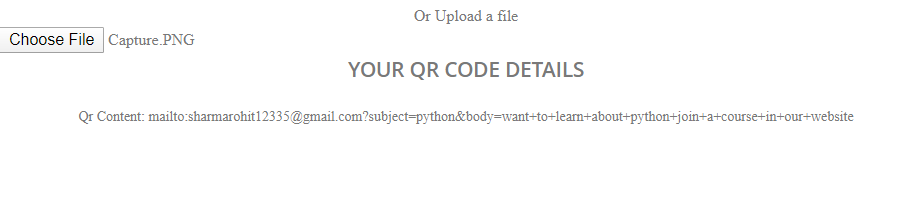
Generate QR code of WIFI:

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| --- | --- | --- | --- | --- | --- | --- |
| **Test case id** | **Test scenario** | **Test description** | **Test data** | **Expected result** | **Actual result** | **Status** |
| T030 WIFI QRCODE | Create QR code of WIFI | Providing all valid details | WIFI SSID= TOTOLINK\_N150RT  Encryption= WPA  Password= 9812396654 | QR code should generate for the provided details of WIFI | QR code generated successfully for WIFI and displayed | Pass |



Scan QR code:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case id** | **Test scenario** | **Test description** | **Test data** | **Expected result** | **Actual result** | **Status** |
| T032 scan QR code QRCODE | scan QR code | Scan code with camera showing QR code image | Open camera and scan code | QR code should be decode and show the details over localhost server | Code scanned successfully and showed result | Pass |
| T033 scan QR code QRCODE | scan QR code | Scan code uploading image | Upload QR image | After uploading image, it should display the inside information of QR code to us | It shows the details over the encoded QR code image | Pass |



* 1. **White Box Testing**

White-box testing is a strategy for programming testing that tests inside structures or activities of an application, rather than its usefulness. In white-box testing an interior point of view of the framework, just as programming abilities, are utilized to configuration experiments

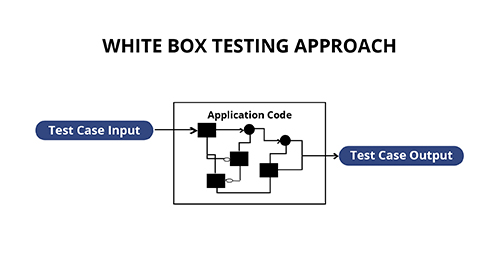


Figure: White Box Testing

* 1. **Unit Testing**

UNIT TESTING is a software test stage, where individual software units / components are evaluated. The aim of this is to verify that each software unit performs as intended. A unit is the smallest part of any device which is testable. It normally has one or several inputs and typically a single output.

It is performed by using the White Box Testing method.