Lab Guide

CCW4225: Getting Started with the Istanbul Automated Testing Framework

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Lab instance: https://clabs.link/ccw4225

Default Login / Password:

admin / Knowledge17

itil / Knowledge17

employee / Knowledge17

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Lab 1 Initial Setup

Lab Goal

The goal of this lab is to make sure you are set up properly to complete the subsequent labs.

Be sure that you: * Have proper access to your assigned instance * Can run the provided test suites

Log in to Your Provided Instance

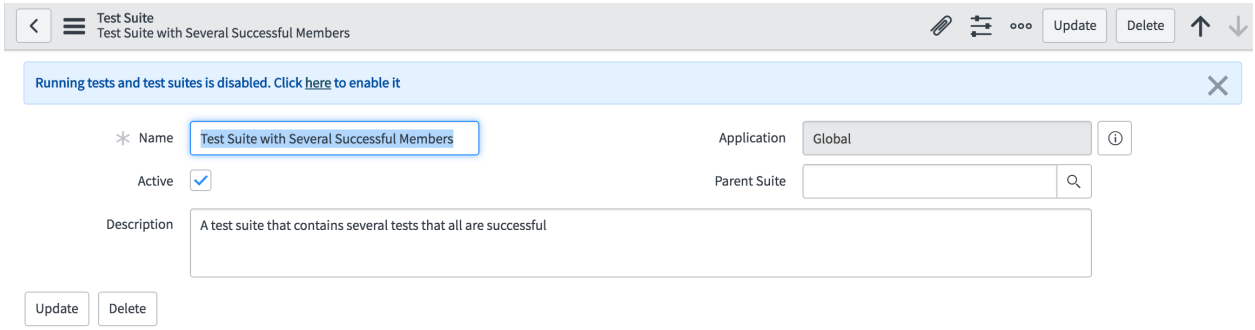
1. Navigate to the unique instance URL provided to you.

2. Log on with provided credentials.

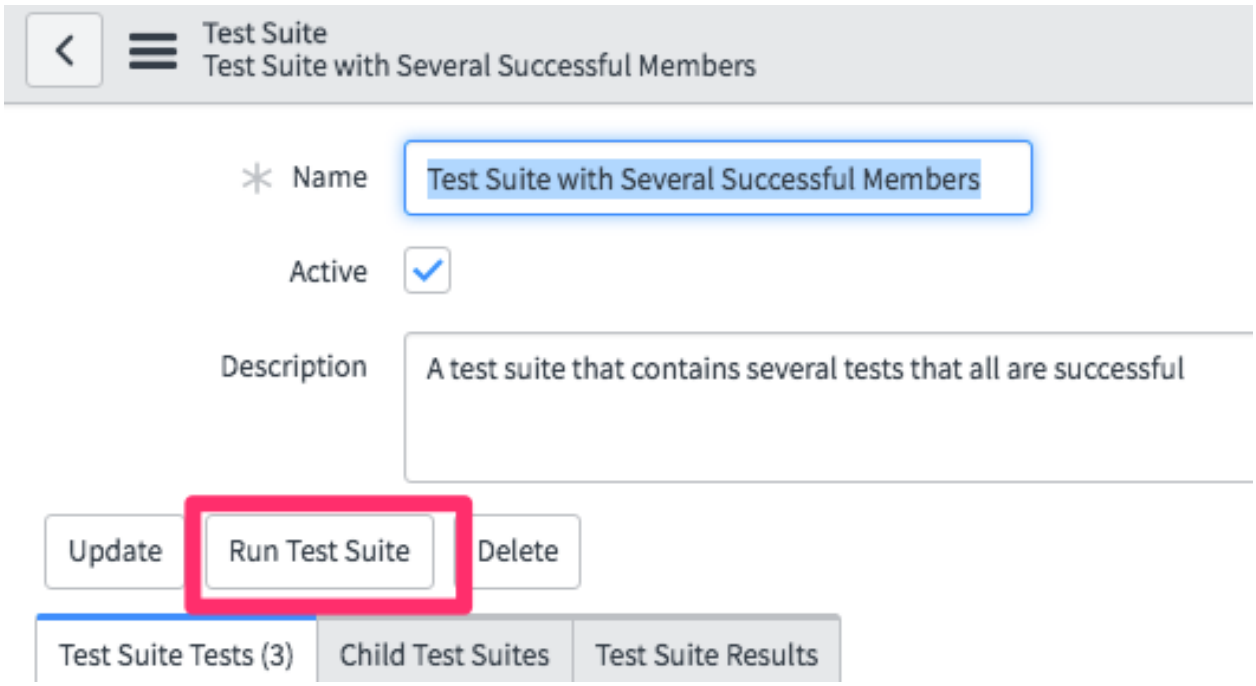
Run Test Suites

1. On your instance, locate and find the **Automated Test Framework->Suites** module and open it.

2. Open the **Test Suite with Several Successful Members** suite. Note that it will have a message stating that running tests is disabled. Click the link and turn on both of the system properties on that page, then return.



3. Click the **Run Test Suite** button.



4. Look at the modal window that opens. Click the link that says "Click here to open a Client Test Runner"

5. Watch the tests as they run in the opened Client Test Runner

6. Click the **Go To Result** UI Action and inspect the results

7. Navigate back to **Suites** and open the record for **Parent Suite With A Failing Child**. Run that and inspect the results. Look at the records under **All Test Suite Results** and examine the differences between successful and failed tests.

Lab Goal

The goal of this lab is to familiarize you with creating tests based on the provided Test Steps. You will be testing the Media Library application that is already on your lab instance.

Prepare for the Test

1. Create a new user called "Media Library Test User".

Lab 2
Write Your First Test

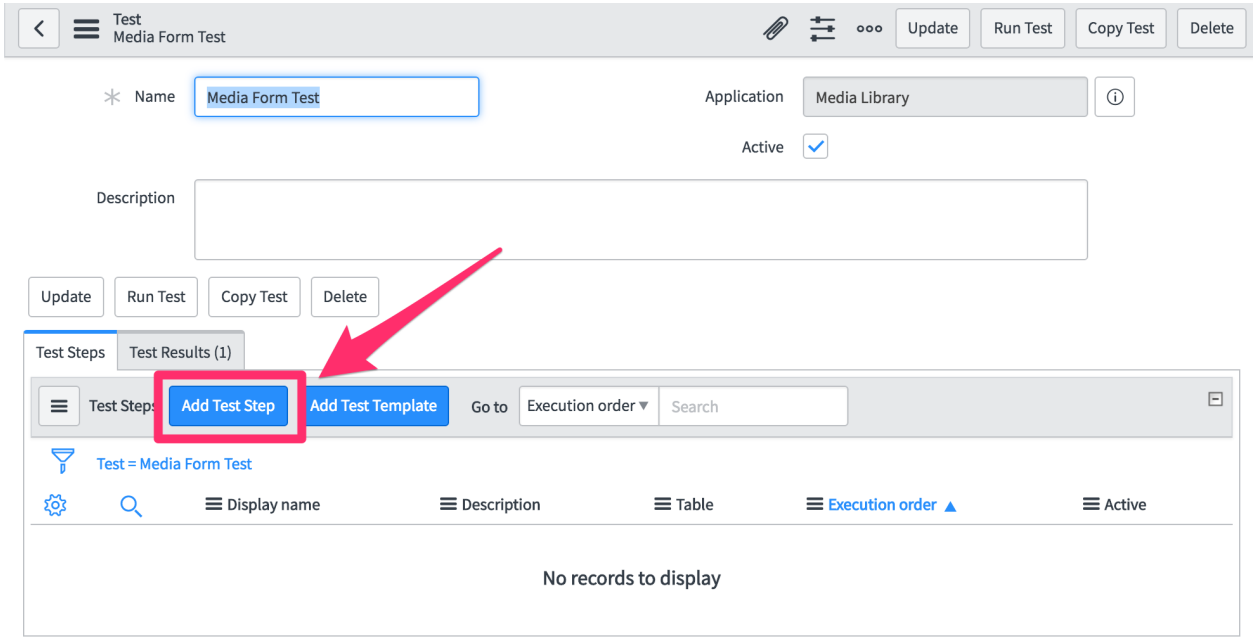
2. Add all of the roles needed for the application (begin with 'x_snc_media')

3. Change your application scope to "Media Library".

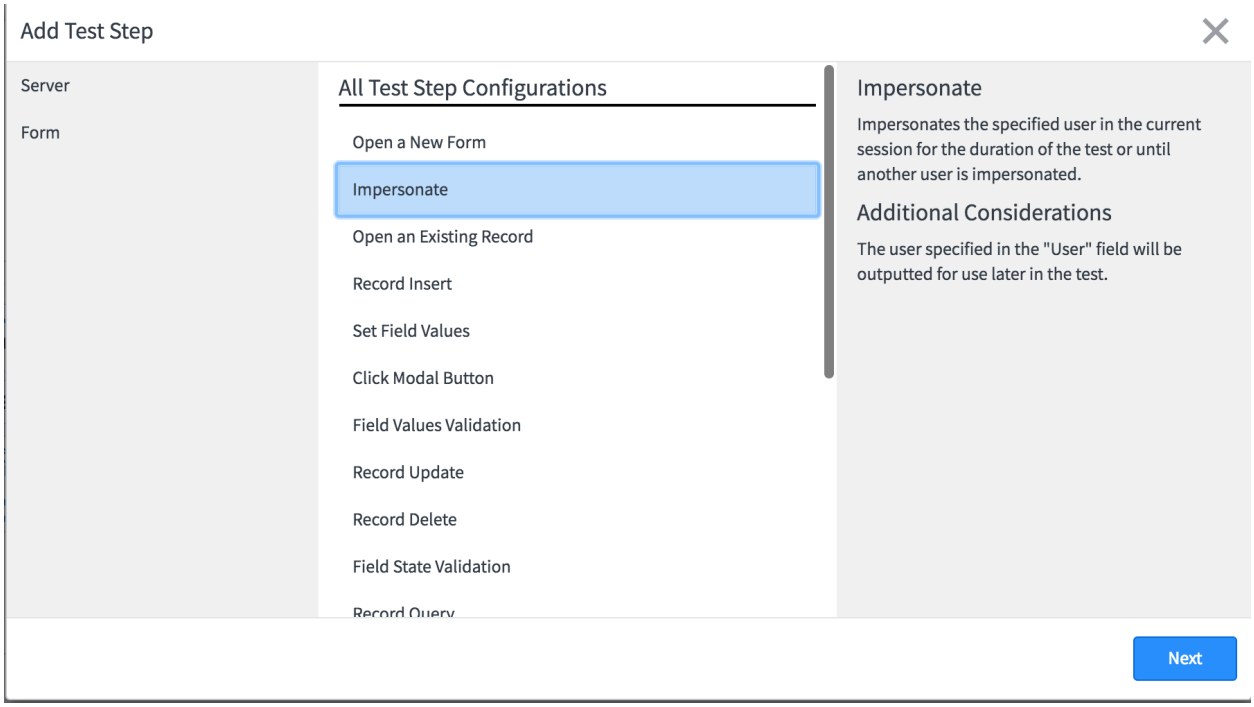
Write your First Test

1. Create a new **Test** record. Name it "Media Form Test". Right-click the header and **Save** the record.

2. Click **Add Test Step** button.



3. Choose **Impersonate** from the list of options. Choose "Media Library Test User" and **Submit**.



4. Add another **Test Step**. Under the **Form** section choose "Open a New Form". Choose "Media" as the table then **Submit** the record.

5. Add another **Test Step**. Also under **Form** choose "Field State Validation". Under "Visible" add "Creator", "Title" and "Type" to the slushbucket. Under "Mandatory" add "Title". Under "Not Mandatory" add Test"Creator" and "Type". **Submit** the record.

6. Click the **Run Test** button. Examine the results after the run. Did the Test pass or not? Did this match your expectations? Why or why not?

Lab 3
Expanding Your Test

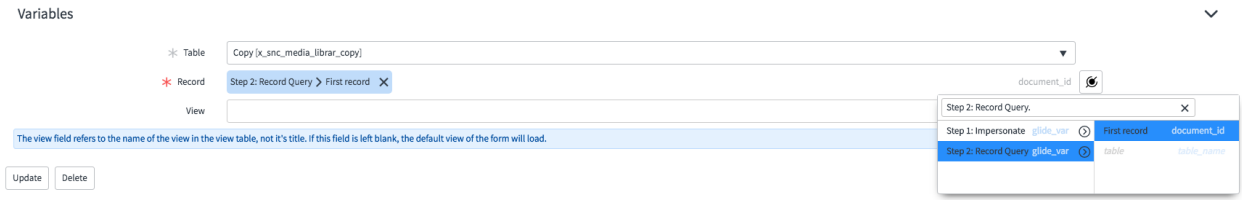
Lab Goal

In this lab, we will create a more complex test scenario. We will load a form and submit it then examine the results. This will also explore the pattern of verifying a business rule by examining the resulting records.

Test Business Rules via Results

In the application already built on your system, business rules exist that will automatically mark a **Copy** record as loaned when a new **Loan** record is created for it. The following series of Test Steps will assert that is functioning correctly.

1. Create a new **Test** and name it "Loan Test".
2. Create a **Test Step** for "Record Query". Choose **Copy** as the table.
3. Create a **Test Step** for impersonating "Media Library Test User".
4. Create a **Test Step** under the **Form** section, "Open a New Form". Choose **Loan** as the table.
5. Create a **Test Step** for "Set Field Values". Choose any User for the **Loaned to** field. For the **Loaned Item** field use the record returned from the query in Step 1. Choose the "First Record document_id" by clicking the socket icon. For the **Due Date** field select a value well in the future.



6. Create a **Test Step** for "Submit a Form".
7. Create a **Test Step** for "Open an Existing Record". Choose the **Copy** table and use the same record you used as the **Loaned Item** in the **Loan** record.
8. Create a **Test Step** for "Field Values Validation". It will automatically choose "Copy", leave that selected. Below select the "Status" field, the "is" comparator, and the "Loaned" value.
9. Run this test. Does it pass or does it not? Does this match your expectations?
10. The goal of this test is to verify that the business rule on the **Loan** table correctly updates the **Copy** status to "Loaned" on creation. There is a flaw in the test as currently written.

Can you identify the flaw and how can you correct it? (Hint: think about the initial state of data that may exist on the system).

Lab Goal

Expand upon the existing test to test more functionality. There is a Client Script that prevents creating a **Loan** record when the Due Date is earlier than the Loan Time. Add in tests to verify creating a **Loan** on fails if this is the case. Note there is a business rule that prevents loaning an item that is already loaned, but this script will cause this record to fail before that can happen.

Lab 4 Testing Expected Failure

Failure can be a Success Case

1. Add steps to the end of the test to create another **Loan** record for the same **Copy** record from steps 2-4. This time, for the **Due Date** pick a value in the past. In the "Submit a Form" **Test Step** choose the Assert type of "Form submission canceled in browser"

2. Run the updated test. Does the result match what you expect? If the tests do not pass, adjust until they do.

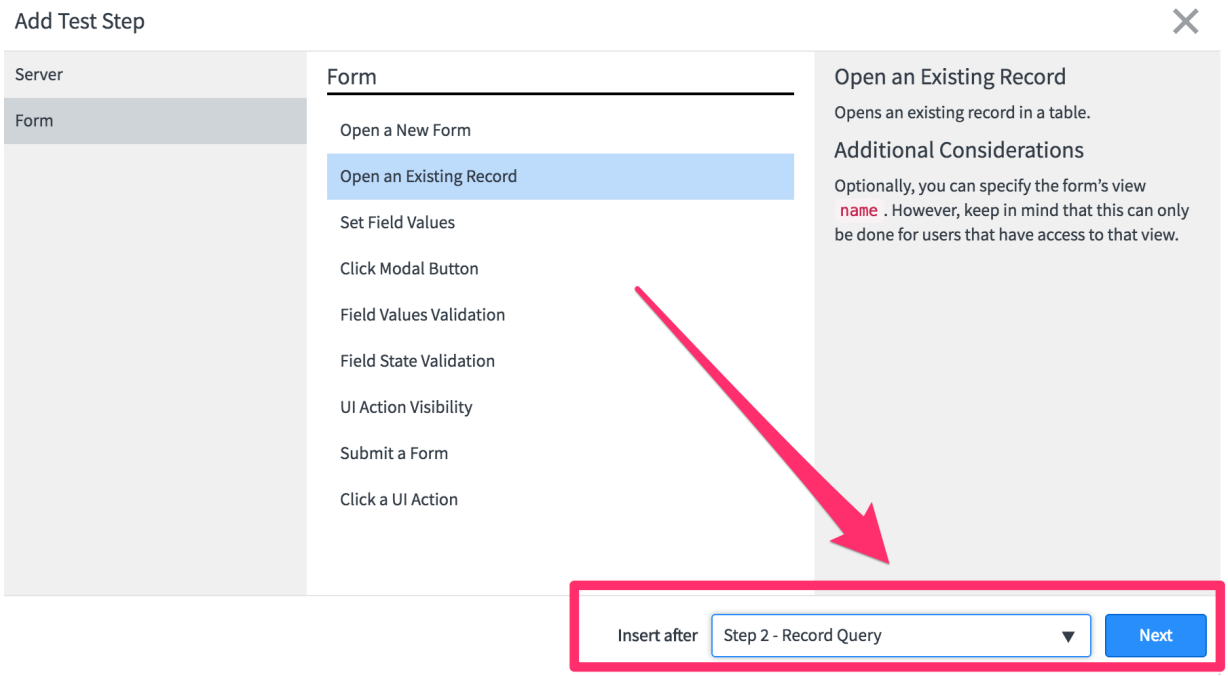
Lab Goal

In this lab we will rewrite the previous test to also include the **UI Action** to create the Loan record.

Lab 5 Increase Test Complexity

1. Delete the "Open A New Form " Test Step for Step 3.

2. Add a new **Test Step** for "Open an Existing Record". Be sure to Choose the "Copy" table to open, and use the same Copy record we are using through the tests. You will need to select to add it after Step 2 or else it will go to the bottom of the list.



3. Add a new **Test Step** after the newly added "Open an Existing Record" step. Choose "Click a UI Action". It will auto-populate to the "Copy" form. Click the popup for the "UI Action" and choose "Loan Copy".

4. Rerun the test. Did it pass or fail?

Lab 6 Guard Against Regression

Lab Goal

The main value of automated testing is in guarding against regressions introduced in the course of development. In this lab, we will apply some changes to the codebase and test the results.

Apply External Code Changes

1. Navigate to **System Update Sets -> Retrieved Update Sets** and find the Update Set named "Breaking Changes". Preview and commit this Update Set.

2. Rerun your existing two tests. Note the results.

Now you will organize your existing tests into a Suite and configure it to fail fast. You will use this as a check against regression as you fix the errors introduced in the Update Set.

Test, Fix, Repeat until Green

1. Create a new **Suite** record. Name it "Media Library Regression" or similar. **Save** it.

2. Under **Test Suite Tests** add your two existing tests, "Media Form Test" and "Loan Tests". Configure both to **Abort on Failure**.

3. **Run Test Suite** from the UI Action. Note the failures that occur and correct them as you identify them. When there is a discrepancy between your test and behavior, assume the test is correct. IE, **Do not** modify the tests to match the current behavior, modify the behavior until the tests pass.

4. This may require a mix of looking at the **Test Results** records, the captured screenshots and the **System Logs**. Use whatever tools you can to fix all the problems until your Test Suite runs through to success.

Lab Verification

1. Take a bow. You have guarded an application against regression with Automated Testing!

Challenge Lab

In this lab you will create a new **Test** using a **Test Template**.

1. Create a new **Test** called "Copy Test from Template". Click **Save**.
2. Click the **Add Test Template** UI Action. Select "Copy" as the table and "Default New Form Test Template" as the template.
3. It will create a shell **Test** execution with 8 steps. Go through the each steps configuring them with data to test the correct operation of the Form. When finished, run the **Test** and verify it behaves as you expect.

Lab 7
Using Test Templates