



3DS Self Test Platform

Getting started

This guide applies to:

Tool 3DS Self Test Platform

Date June 2019



Document information

Author	UL
Date	June 2019
Status	Final

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1 Introduction

1.1 Purpose of this document

This document is the Getting Started guide for the UL 3DS Self Test Platform (UL 3DS STP). It serves as a manual for first time users. You will be led through the main screens, functionalities and features of the system, allowing you to use the application and obtain basic skills. This getting started guide describes only the 'happy flow' from configuration and setup of an approval project to completion and only describes features and functionality for this purpose.

1.2 Access to UL 3DS Self Test Platform

Assumption for using this guide is that you already have credentials (valid email address and password) provided by UL to login into the UL 3DS Self Test Platform; in case you do not have access credentials, then either:

- Register as a new Product Provider on <https://3ds.selftestplatform.com/> (see also section 2.2 Register your company on UL 3DS STP), or;
- If your company has already been registered as a Product Provider on the platform, an administrator has been assigned within your company. Please contact this administrator (Admin) for you to be added as a User (see section 3 Create your team).

1.3 Intended audience

This document is intended for users of the UL 3DS Self Test Platform in the roles of Administrator or User for a registered Product Provider.

Assumption for using this document is that the user of the 3DS Self Test Platform has basic knowledge of the EMV® 3-D Secure specifications and technology (available through www.emvco.com).

2 Prerequisites to use 3DS STP

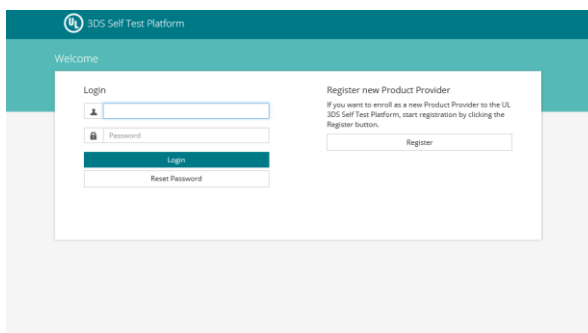
2.1 Register as Product Provider with EMVCo



Before being able to make full use of the UL 3DS Self Test Platform, your company must be registered as a Product Provider at EMVCo.

EMVCo will provide you with an **EMVCo Product Provider Registration Number**. You learn more about EMVCo's 3-D Secure Admin Process and how to obtain this registration number via <https://www.emvco.com/emv-technologies/3d-secure/>.

2.2 Register your company on UL 3DS STP



To access the UL 3DS Self Test Platform, you need to register first. To do this, go to <https://3ds.selftestplatform.com/>.

Click the button 'Register' and complete your registration. You will be contacted by UL (within 2 business days) to receive the commercial details to be agreed. Then a confirmation email from UL with your access credentials (email address and password) is sent to you.

Please note that the person that completes the registration will be registered as the **administrator** (Admin) on behalf of your company. This Admin is able to manage your company's team of users and their roles from within the UL 3DS STP (see section 3 Create your team).



3 Create your team

In UL 3DS STP, you can set up user accounts for your company (applies to the user role of Admin only). In this way you can create a team of users for the platform at your discretion.

To add a user

1. Log in on the UL 3DS Self Test Platform and navigate to the **Company Profile** page and select **User Management**.

Open the Company Profile and select User Management

Click to add a new user (Admin only)

User account name	User account email	Role	Edit/Remove	Status	Adjust role
John Smith	John.Smith@ul.com	Vendor User	Edit Remove	Active Inactive	Up Down
Mike Eric	Mike.Eric@ul.com	Vendor Admin	Edit Remove	Active Inactive	Up Down

Showing 11 to 12 of 12 entries

Previous 1 2 Next

UL 3DS Self Test Platform version 1.8.3

2. Click the button '+ Add user'.
3. Fill in the requested information:
 - a. **Display Name:** User name as displayed within the platform.
 - b. **Email:** Email address of the user to which UL will send access credentials. This email address is also used as login ID for this user.
 - c. **State:** For a new user, select 'Active'.
 - d. **Role:** By default the role 'User' is selected. You can select 'Admin' in case you want this user to have administrative access rights.

Save User

Display Name*

John Smith

Email*

john.smith@productprovider.com

State

Active

Role

Vendor User

Save User Cancel

4. Confirm by clicking the button 'Save User'.



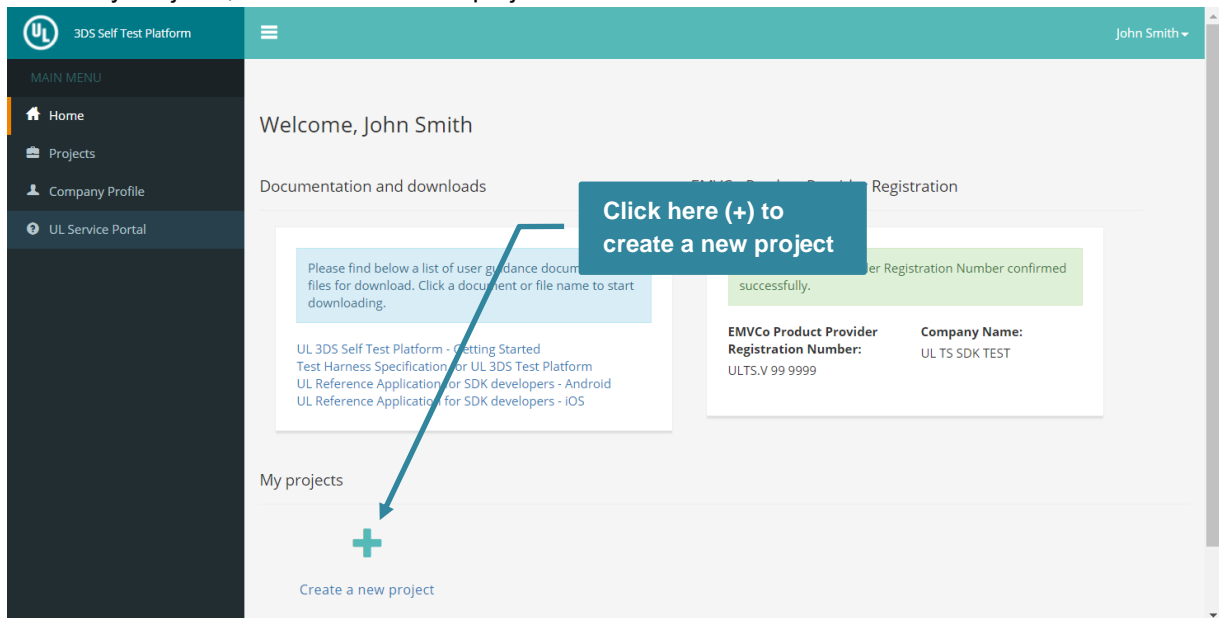
The new user will receive an email with access credentials from UL.

4 Create and set up a project

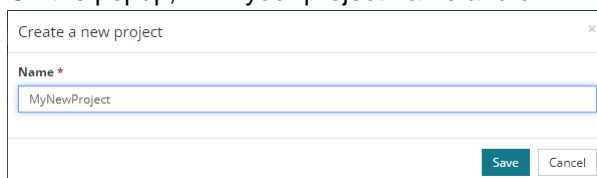
Note that you must have a valid subscription for a specific type of SUT (System under Test) to create a new project for that SUT type. Contact your UL Sales Representative to obtain a signed commercial agreement and have your subscription available in the UL 3DS Self Test Platform.

4.1 Create a new project

1. Log in on the UL 3DS Self Test Platform and navigate to the Home page.
2. Under My Projects, click 'Create a new project'.



3. On the popup, fill in your project name and click 'Save' to confirm.



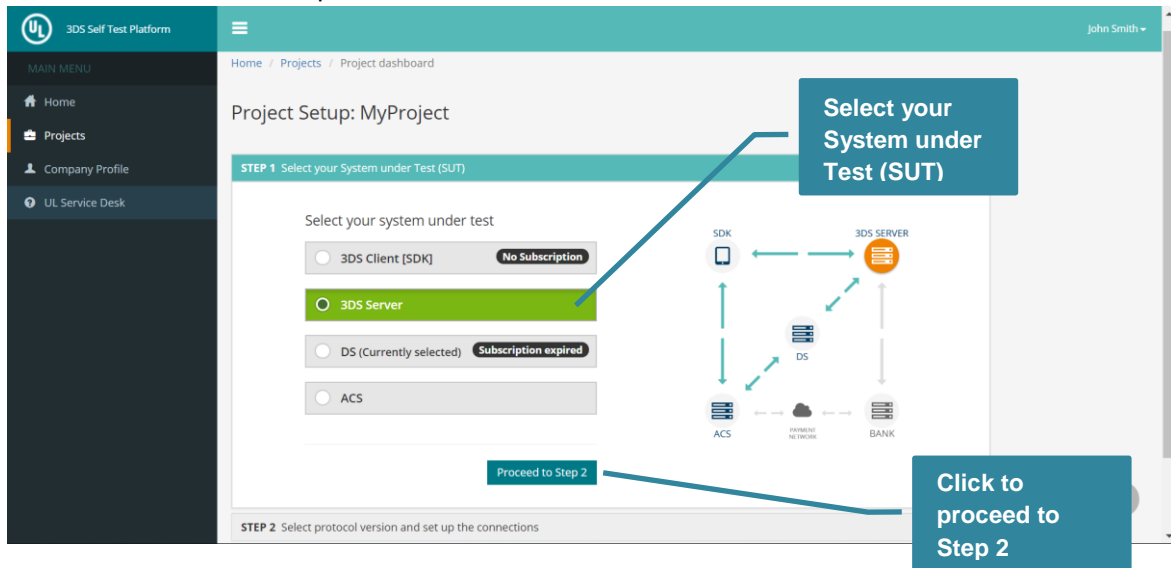
Note that you **cannot change** the project name once saved, so make sure to use a logical and recognizable name for your project at creation.

4. Your new project has now been stored on the platform and is automatically moved to the Project Setup state. See section 4.2 Set up your new project to learn more about setting up your project.

4.2 Set up your new project

On the Project Setup page of your newly created project, you are guided through 3 steps:

1. Select your System under Test (SUT): SDK, 3DS Server, DS, or ACS.
Then click 'Proceed to Step 2'.



Note that you must have a valid subscription for a specific type of SUT (System under Test) to create a new project for that SUT type. If you do not have a valid subscription (no subscription, subscription period not yet started, or subscription period expired) this is indicated for each SUT. Contact your UL Sales Representative to obtain a signed commercial agreement and have your subscription available in the UL 3DS Self Test Platform.

2. You now need to:
 - A Select the **Protocol Version** to be used for testing and approval.
 - B Depending on the selection of your SUT:
 - Make note of any **endpoints** to be configured on your SUT.
 - Specify any **endpoints** the platform needs to reach your SUT (not applicable for SDKs).

Note that endpoints must be defined for a secure connection (HTTPS), meaning every endpoint starts with **https://**

Once completed, click 'Proceed to Step 3'.



The example below uses an ACS as System under Test:

STEP 1 Select your System under Test (SUT) ✓

STEP 2 Select protocol version and set up the connections

TIP: If needed, you can update your endpoints for this project in the project configuration at a later stage.

A. Select the Protocol Version

2.1.0

Your ACS needs to use the following endpoints

ACS TO DS

http://localhost:8080/1.0/acs/v7/psp

B. Specify below the endpoints through which your ACS can be reached

DS TO ACS

Please enter the endpoint for this system

Proceed to Step 3

STEP 3 Create your Project

Callouts:

- Select the protocol version
- Make note of the endpoints to be configured on your SUT
- Specify the endpoints to reach your SUT

Note that, for ACS only and depending on the selected Protocol version, you may be requested to select interface types (see appendix A.2.2 for more information).

3. Check the setup for your new project and confirm by clicking 'Complete Setup'. Please be advised that you can still update the endpoint settings for your project in the project's configuration menu at a later stage.

STEP 1 Select your System under Test (SUT) ✓

STEP 2 Select protocol version and set up the connections ✓

STEP 3 Create your Project

Please review your project configuration settings below and click Complete Setup to finalize the setup.

Selected System under Test: ACS

Selected Protocol Version: 2.1.0

Your ACS needs to use the following endpoints

ACS TO DS

http://localhost:8080/1.0/acs/v7/psp

Your ACS can be reached through the following endpoints

DS TO ACS

https://3ds.productprovider.com/6718

Complete Setup

Callout:

- Check your setup and click here to confirm

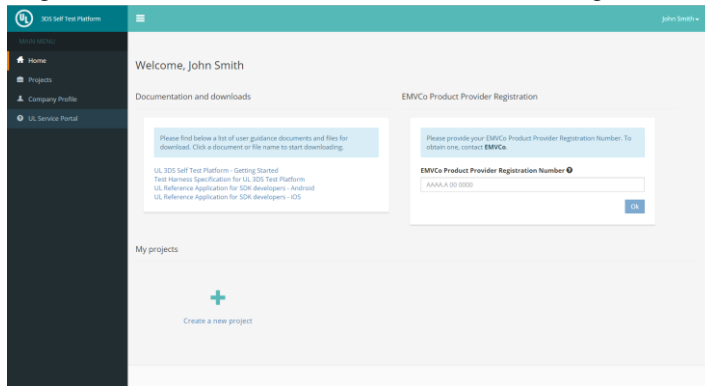
UL 3DS Self Test Platform version 0.2.10-Dev



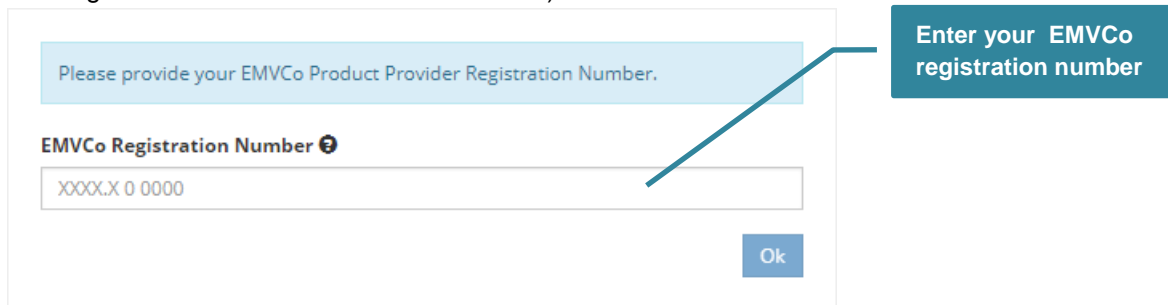
By completing the setup of your project, the project is now automatically moved to the Sandbox state.

5 Confirm your EMVCo Product Provider Registration Number

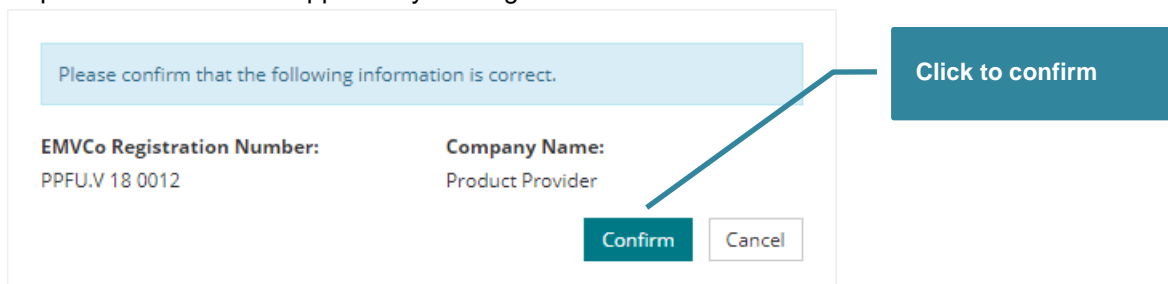
1. Log in on the UL 3DS Self Test Platform and navigate to the Home page.



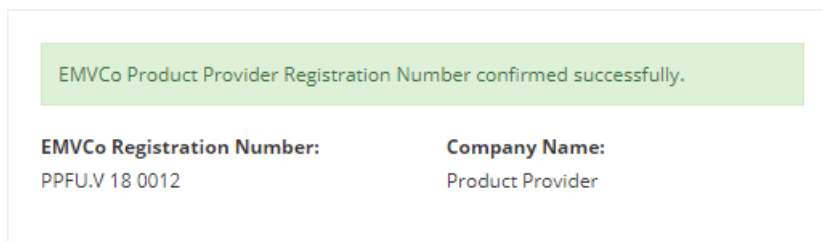
2. Under EMVCo Registration, fill in your EMVCo Product Provider Registration Number (see section 2.1 Register as Product Provider with EMVCo) and then click 'Ok'.



3. If the platform recognizes your registration number, it displays your company name. You are requested to check and approve by clicking 'Confirm'.



4. On the Home page, you will now see your EMVCo Product Provider Registration Number confirmed.

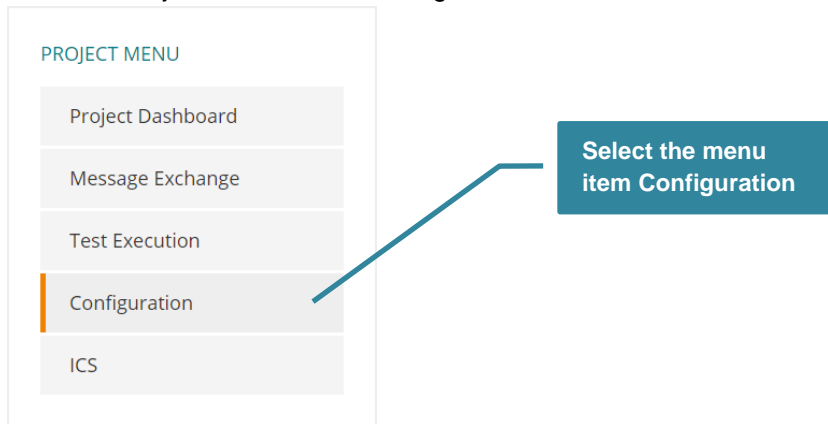


6 Set up your System under Test (SUT)

Before starting any exchange of messages between your SUT and the simulators of UL 3DS STP, you need to prepare your system configuration. Depending on your SUT, this means you need to set endpoints and/or configure certificates on your SUT. The endpoints have been defined at the creation of your project (see section 4.2 Set up your new project).

To check or update the **endpoints** and to retrieve **certificates**:

1. In UL 3DS STP, select the Projects menu and then select your project.
2. From the Project Menu, select Configuration.

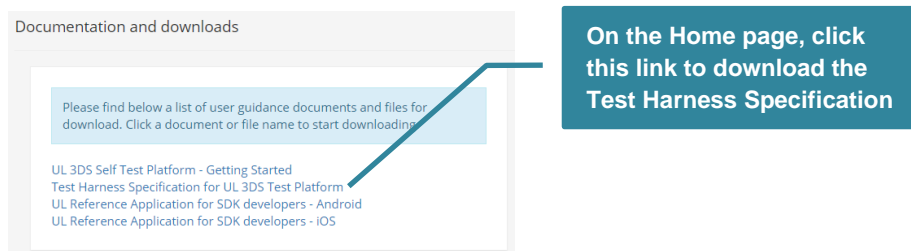


3. Depending on the SUT selected for your project you will see:
 - a. For [3DS Server](#), [ACS](#) and [DS](#), the tabs 'Certificates' and 'Endpoints',
 - b. For [SDK](#), the tab 'SDK API Key'.

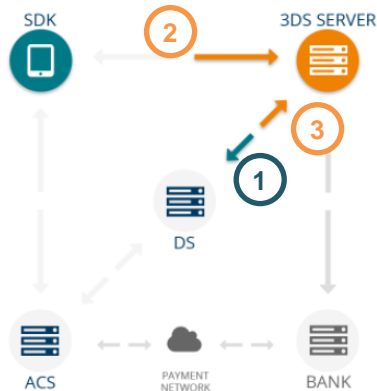
The following sections provide more information per type of SUT.



For technical details on how to configure your SUT connecting to the simulators of UL 3DS STP, please refer to UL's [Test Harness Specification](#). You can download the latest version of this document from the Home page:



6.1 3DS Server – endpoints and certificates



1 3DS SERVER TO DS

To configure this endpoint on your SUT, you need to use the certificate information as provided by UL 3DS STP.

To **generate the certificate** for mutual authentication:

1. Select **Company Profile** from the Main menu.
2. Select **Certificates Setup** from the Company Profile menu.
3. Click the button 'Generate' ([Generate](#)) on the tab UL Signed Certificates.
4. On the pop up dialog, click 'Choose File' to locate the .CSR file on your computer for uploading.
5. Select this **.CSR** file and click 'Generate Certificate'.
6. This will start the download of the Certificate Signing Request (CSR) to be used.

Note that this certificate is used for all your current 3DS Server projects.

To **download the CA digital certificate**:

1. Select **Company Profile** from the Main menu.
2. Select **Certificates Setup** from the Company Profile menu.
3. Click the button 'Download CA' ([Download CA](#)) on the tab UL Signed Certificates.
4. This will start the download of the **.CRT** file to use. Add this certificate to the list of Trusted Root Certification Authorities on your SUT.

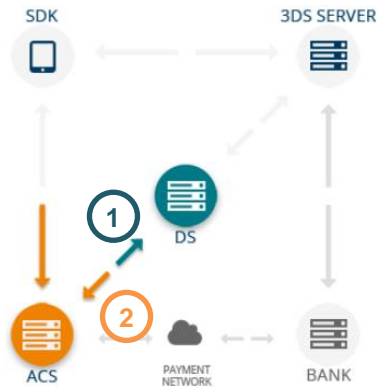
2 SDK TO 3DS SERVER

3 DS TO 3DS SERVER

To **check or update this endpoint** definition:

1. Select a project.
2. In the Project Menu, click Configuration.
3. Select the tab Endpoints.
4. Edit the endpoint, if needed, and click 'Save'.

6.2 Access Control Server (ACS) – endpoints and certificates



1 ACS TO DS

Challenge to Info Server Out Of Band Server

To configure these endpoints on your SUT, you need to use the certificate information as provided by UL 3DS STP.

To **generate the certificate** for mutual authentication:

1. Select **Company Profile** from the Main menu.
2. Select **Certificates Setup** from the Company Profile menu.
3. Click the button 'Generate' ([Generate](#)) on the tab UL Signed Certificates.
4. On the pop up dialog, click 'Choose File' to locate your .CSR file on your computer for uploading.
5. Select this **.CSR** file and click 'Generate Certificate'.
6. This will start the download of the Certificate Signing Request (CSR) to be used.

Note that this certificate is used for all your current ACS projects.

To **download the CA digital certificate**:

1. Select **Company Profile** from the Main menu.
2. Select **Certificates Setup** from the Company Profile menu.
3. Click the button 'Download CA' ([Download CA](#)) on the tab UL Signed Certificates.
4. This will start the download of the **.CRT** file to use. Add this certificate to the list of Trusted Root Certification Authorities on your SUT.

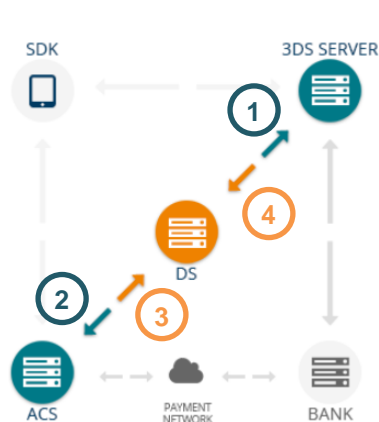
2 DS TO ACS

To **check or update this endpoint** definition:

1. Select a project.
2. In the Project Menu, click Configuration.
3. Select the tab Endpoints.
4. Edit the endpoint, if needed, and click 'Save'.

6.3 Directory Server (DS) – endpoints, certificates, and message setup

6.3.1 Endpoints and certificates



1 DS TO 3DS SERVER

2 DS TO ACS

To configure the certificates on these endpoints for your SUT, you can choose one of these two options:

A UL defined Root CA

The certificate information is provided by UL 3DS STP (UL Defined Root CA). Please see section 6.3.2 UL Defined Root CA for Mutual Authentication for instructions.

B DS Product Provider defined Root CA

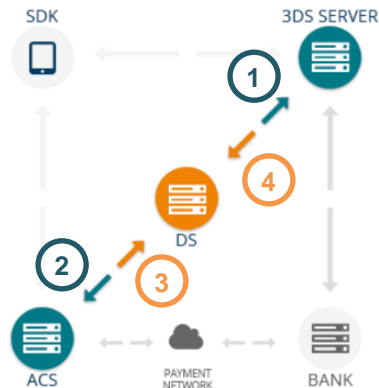
The certificate information is provided by you as the DS Product Provider. Please see section 6.3.3 DS Product Provider Defined Root CA for Mutual Authentication for instructions.

To enter your Device Information Encryption Certificate:

1. Select a project.
2. In the Project Menu, click Configuration.
3. Select the tab Certificates.
4. Scroll down to Device Info.
5. Paste your X.509 Certificate into the text field.
6. Click 'Save' to confirm your entry.

To enter your ACS Signing Certificate Chain:

1. Select a project.
2. In the Project Menu, click Configuration.
3. Select the tab Certificates.
4. Scroll down to ACS Signing Certificate Chain.
5. Download the UL CSR File by clicking 'Download CSR' ([Download CSR](#)).
6. Use this CSR to create a signed certificate chain (.PEM formatted) based on your Root CA.
7. Paste your X.509 Certificate Chain into the text field.
8. Click 'Save' to confirm your entry.



3 ACS TO DS

To **check or update this endpoint** definition:

1. Select a project.
2. In the Project Menu, click Configuration.
3. Select the tab Endpoints.
4. Edit the endpoint, if needed, and click 'Save'.

4 3DS SERVER TO DS

To **check or update this endpoint** definition:

1. Select a project.
2. In the Project Menu, click Configuration.
3. Select the tab Endpoints.
4. Edit the endpoint, if needed.


Note By default, one endpoint is configured for AREQ and PREQ messages. To configure a different endpoint for PREQ messages, tick the checkbox and fill in the endpoint.

5. Click 'Save' to confirm.

6.3.2 UL Defined Root CA for Mutual Authentication


As a DS Product Provider, you can choose to use the UL Defined Root CA to generate the certificate for mutual authentication. If you want to use your own Root CA, please see section 6.3.3.

To **generate the certificate** for mutual authentication using the UL Defined Root CA:

1. Select **Company Profile** from the Main menu.
2. Select **Certificates Setup** from the Company Profile menu.
3. Click the button 'Generate' ( [Generate](#)) on the tab UL Signed Certificates.
4. On the pop up dialog, click 'Choose File' to locate your .CSR file on your computer for uploading.
5. Select this **.CSR** file and click 'Generate Certificate'.
6. This will start the download of the Certificate Signing Request (CSR) to be used.

Note that this certificate is used for all your current DS projects.

To **download the CA digital certificate**:

1. Select **Company Profile** from the Main menu.
2. Select **Certificates Setup** from the Company Profile menu.
3. Click the button 'Download CA' ( [Download CA](#)) on the tab UL Signed Certificates.
4. This will start the download of the **.CRT** file to use. Add this certificate to the list of Trusted Root Certification Authorities on your SUT.



6.3.3 DS Product Provider Defined Root CA for Mutual Authentication

As a DS Product Provider, you can choose to use your own Root CA to generate the certificate for mutual authentication. If you want to use the UL Defined Root CA, please see section 6.3.2.

To generate and implement a certificate for mutual authentication using your root CA, you can use one of the two options described below. If your Root CA was generated and implemented on UL 3DS STP, you can choose this option for your selected certification project (via Project Menu option **Configuration**, tab **Certificates**).

Note that implementation of your Root CA on UL 3DS Self Test Platform may take up to 4 weeks after your request was submitted to UL.

Option 1: Using your certificate generation process

1. Contact UL via the [UL Service Desk Portal](#). Share the instructions for your process with UL and request UL to use this process to obtain a certificate.
2. UL implements the certificate on UL 3DS STP **within 4 weeks**.
3. You can now enable your certificate in the certificate configuration for your DS project(s).

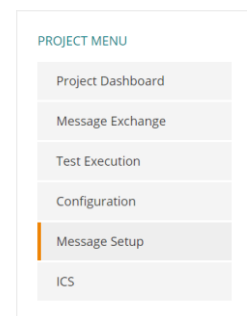
Option 2: Using UL 3DS STP process

1. From the Home page, select the menu **Company Profile**.
2. Select **Certificates Setup** and click 'Download CSR'.
3. Generate your certificate using the downloaded .CSR file.
4. Contact UL via the [UL Service Desk Portal](#) to share your generated certificate and request UL to implement this certificate.
5. UL implements the certificate on UL 3DS STP **within 4 weeks**.
6. You can now enable your certificate in the certificate configuration for your DS project(s).

6.3.4 Message configuration

For a Directory Server (DS) project, you also have the option to update the Message Setup configuration in accordance with your System under Test. To **configure the messages** (AREQ, PREQ, RREQ, ARES):

1. Select your project.
2. In the Project Menu, click Message Setup.
3. Select the protocol version tab of your choice. Each available protocol version has a separate tab for message setup.
4. You can now set the Message Configuration manually, or copy the configuration of a previous project.



Project specific configuration

To set a (new) Message Configuration for your project:

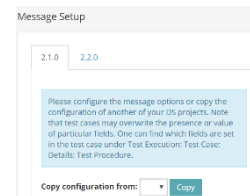
1. For AREQ and PREQ messages, tick the appropriate checkboxes.
2. For RREQ and ARES messages, tick the appropriate checkboxes and, where necessary, fill in fitting values.
3. Scroll to the bottom of the page and click 'Save' to confirm your settings.

Note: Some fields are preselected and cannot be changed.

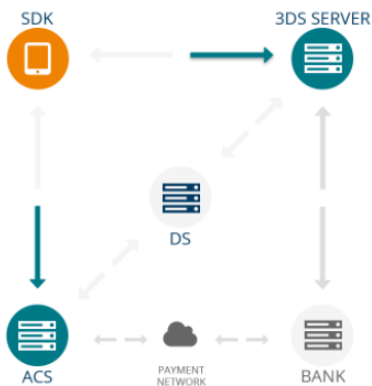
Copy configuration from previous project

To copy the Message Configuration set for a previous project:

1. On the tab Message Configuration, select the previous project from the dropdown list.
2. Click 'Copy' to confirm your selection.



6.4 SDK – API Key



For an SDK (3DS Client), you will need to use the UL Reference Application as described in UL's **Test Harness Specification**. Contact UL to obtain this reference application and the specification (see section 8 Contact information).

To **get the SDK API Key** to be used:

1. In the Project Menu, click Configuration.
2. Select the tab SDK API Key.
3. Copy and use the key value presented for your SDK configuration.

6.5 Check your connections

If you want to check the connection between your System under Test (SUT) and the UL 3DS Self Test Platform, please first make sure your project is in the **Pre-Compliance** (or Compliance) state (see section 7.2 Move from Sandbox to Pre-Compliance). This allows you to execute test cases.

6.5.1 Execute test cases to check connections

To check your connections, you can execute a small set of test cases depending on your SUT, as listed in the tables below. If these test cases all pass successfully, the connection setup and configuration is correct. How to select and execute test cases is explained in section 7.3 Run Pre-Compliance test.

If needed, you can update the configuration and setup of your connections as described in section 6.5.2 Update your configuration.

To check the connection to your **3DS Server**, select and execute these test cases:

Test group	Test case
Message Flow \ Frictionless Message Flow	TC_SERVER_10002_001
Message Flow \ Frictionless Message Flow	TC_SERVER_10002_002
Message Flow \ Challenge Message Flow	TC_SERVER_10161_001
Message Flow \ Challenge Message Flow	TC_SERVER_10019_001



To check the connection to your **ACS** (Access Control Server), select and execute these test cases:

Test group	Test case
Message Flow \ Frictionless Message Flow	TC_ACS_10002_001
Message Flow \ Frictionless Message Flow	TC_ACS_10003_003
Message Flow \ Challenge Message Flow	TC_ACS_10026_001
Message Flow \ Challenge Message Flow	TC_ACS_10030_001

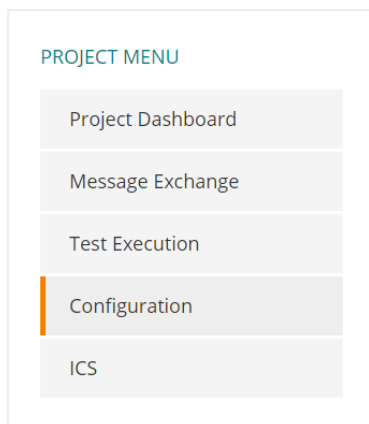
To check the connection to your **DS** (Directory Server), select and execute these test cases:

Test group	Test case
Message Flow \ Frictionless Message Flow	TC_DS_10001_001
Message Flow \ Frictionless Message Flow	TC_DS_10001_003
Message Flow \ Challenge Message Flow	TC_DS_10016_001

Note: There are no test cases defined to check the connections for testing an SDK.

6.5.2 Update your configuration

Note: This section does **not** apply if your SUT is an SDK.



If required, you can update your configuration and setup of your connections as follows:

1. In UL 3DS STP on the Home page, select the Projects menu and then select your project.
2. From the Project Menu, select Configuration.
3. Select the tab Endpoints.

Certificates Endpoints UiType options

4. Edit the endpoint, if needed, and click 'Save'.

DS TO ACS

Save

Note that endpoints must be defined for a secure connection (HTTPS), meaning every endpoint starts with **https://**



7 Run your project

Please note that to run an approval project in UL 3DS STP, you require an **EMVCo Product Provider Registration Number** and you need to provide this number to the 3DS STP (as described in section 5 Confirm your EMVCo Product Provider Registration Number). You can obtain this registration number via EMVCo on <https://www.emvco.com/emv-technologies/3d-secure/> (see also section 2.1 Register as Product Provider with EMVCo).

7.1 Understanding Project States and Steps

Every approval project needs to go through different **project states**. Within each project state, there are one or more **steps** to proceed through. On the project dashboard of a selected project, you can see the **current state** and **current step** within that state.

The **Project Progress Overview** shows you all states (and steps) your project needs to progress through.

To see the current project state and step and the **Project Progress Overview**:

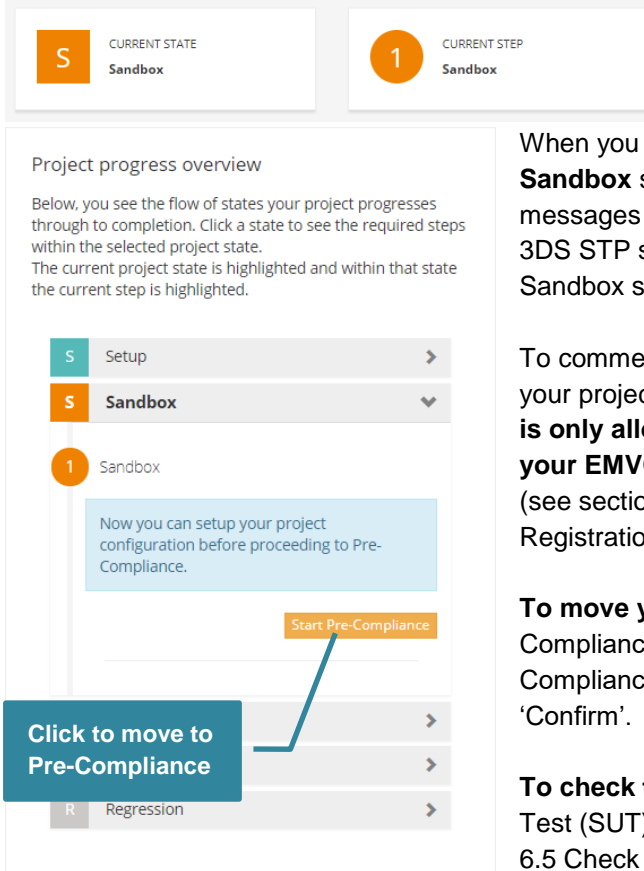
1. From the Home page, click the menu Projects.
2. Select a project from the list to open the project and view the Project Dashboard.

S	Setup	>	At creation of your project, the project is in the state Setup .
S	Sandbox	>	After creation of a new project, this project starts in the Sandbox state. In this state you are only able to send messages to and receive response messages from the UL 3DS STP simulators. No test cases can be executed in the Sandbox state.
P	Pre-Compliance	>	In the Pre-Compliance state, you can run test cases and debug your System under Test, if necessary. Once you have successfully executed all test cases, you can submit the test results for review by the UL Testing Laboratory (Test Lab). If the results are approved, your project moves to the Compliance state.
C	Compliance	>	
R	Regression	>	

The **Compliance** state is the formal last step before obtaining approval from EMVCo. In this state you complete and submit your ICS (Implementation Conformance Statement) to the Test Lab and EMVCo for review. Once approved, you need to execute all required test cases successfully before submitting the test results for formal approval.

Once you have successfully completed the test cases and have obtained the approval, the project is closed and moved to the **Regression** state. You can still execute test cases on your SUT at your discretion.

7.2 Move from Sandbox to Pre-Compliance



The screenshot shows the 'CURRENT STATE' as 'Sandbox' and the 'CURRENT STEP' as '1 Sandbox'. Below this, a 'Project progress overview' section explains the flow of states. A vertical list of states (Setup, Sandbox, Pre-Compliance, Regression) is shown, with 'Sandbox' highlighted. A blue callout box points to the 'Start Pre-Compliance' button, with text stating: 'Click to move to Pre-Compliance'. Another blue callout box points to the 'Start Pre-Compliance' button, with text stating: 'Now you can setup your project configuration before proceeding to Pre-Compliance.'

When you create a new project, this project will start in the **Sandbox** state. In this state you are only able to send messages to and receive response messages from the UL 3DS STP simulators. No test cases can be executed in the Sandbox state.

To commence executing test cases you need to advance your project to the **Pre-Compliance** state. **Note that this is only allowed after you have successfully provided your EMVCo Product Provider Registration Number** (see section 5 Confirm your EMVCo Product Provider Registration Number).

To move your project from the Sandbox state to the Pre-Compliance state, simply click the button 'Start Pre-Compliance'. Then approve by clicking the button 'Confirm'.

To check the connections between your System under Test (SUT) and the UL 3DS STP, please refer to section 6.5 Check your connections.

7.3 Run Pre-Compliance tests



The screenshot shows the 'CURRENT STATE' as 'Pre-Compliance' and the 'CURRENT STEP' as '1 Execute Tests'.

Once your project is in the Pre-Compliance state, you can start executing test cases. To move your project from Sandbox to Pre-Compliance, please see section 7.1 Move from Sandbox to Pre-Compliance.

7.3.1 Execute test cases

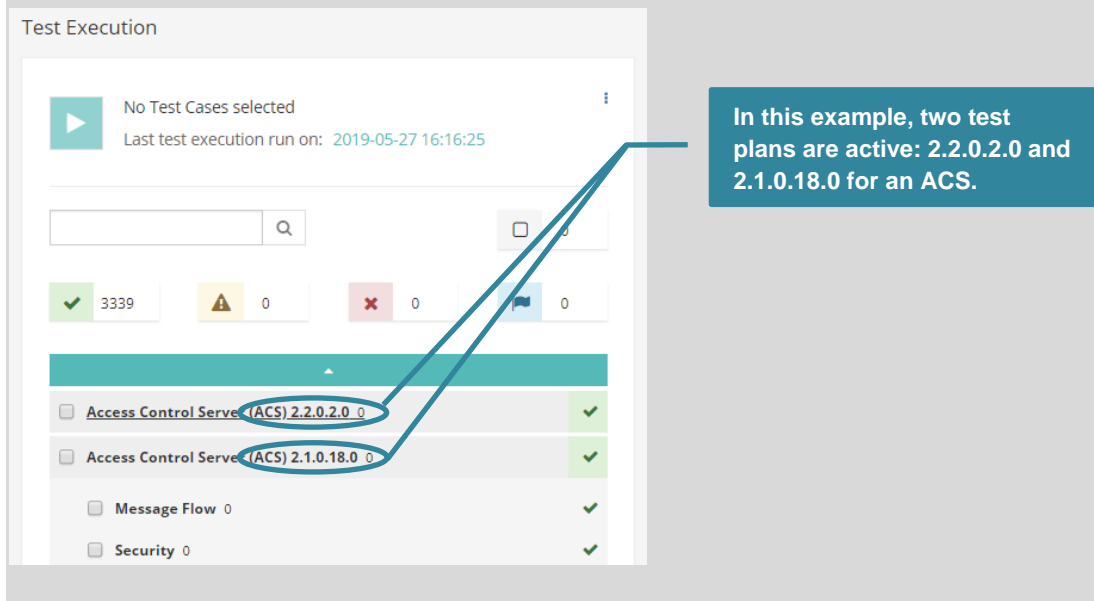
To execute test cases in the Pre-Compliance state, follow these steps:

1. From the Home page, click the menu Projects.
2. Select your project from the list to open the Project Dashboard.
3. From the Project Menu, select Test Execution.

This shows the list of all required test cases to be executed on your System under Test. Test cases have been divided into groups.

To open a Test Group, click the test group name.

Note that the UL 3DS STP supports every current test plan. The required test plans and their test cases for your SUT are all listed. You may need to **scroll down** in the list of test cases to find the other test plans.



Test Execution

No Test Cases selected
Last test execution run on: 2019-05-27 16:16:25

3339 0 0 0

Access Control Service (ACS) 2.2.0.2.0 0 ✓
Access Control Service (ACS) 2.1.0.18.0 0 ✓
Message Flow 0 ✓
Security 0 ✓

In this example, two test plans are active: 2.2.0.2.0 and 2.1.0.18.0 for an ACS.

To view the details of a Test Case, click the test case. This opens a pane with detailed Test Case information.



3DS Self Test Platform

Home / Projects / Project dashboard

MyNewProject

PROJECT MENU

- Project Dashboard
- Message Exchange
- Test Execution
- Configuration
- ICS

Test Execution

No Test Cases selected
Last test execution run on:

3099

3DS Server 2.2.0.2.0 0
Message Flow 0
Frictionless Message Flow 0
TC_SERVER_10001_001
TC_SERVER_10001_002

Click the Test Execution menu

Click to open a Test Group

Click a Test Case to view details

Test case ID: TC_SERVER_10001_001


Test case description: To ensure the System Under Test can successfully complete a frictionless 3-D Secure Authentication message flow, resulting in an Error message instead of an ARes response message.

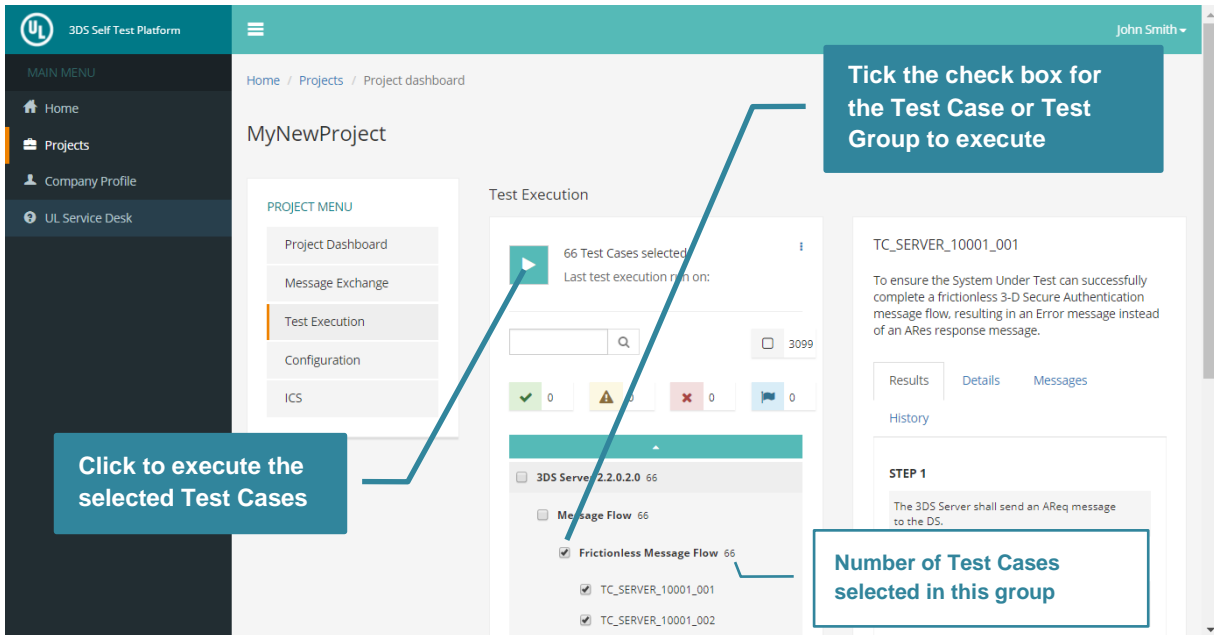
Results Details Messages

History

STEP 1
The 3DS Server shall send an AReq message to the DS.

STEP 2
The DS shall send an Error message to the 3DS Server.

4. To select a collection of Test Cases or a complete Test Group, tick the check box ☒ in front of the Test Case or Test Group name.
5. To start execution of the selected Test Cases, click the Run button: 



The screenshot displays the 3DS Self Test Platform interface. The sidebar menu on the left includes options like Home, Projects, Company Profile, and UL Service Desk. The main content area shows the 'Test Execution' page for 'MyNewProject'. A list of test cases is displayed, with '66 Test Cases selected' and 'Last test execution run on:'. A 'Run' button is visible. Annotations highlight the following actions:

- Click to execute the selected Test Cases (pointing to the Run button).
- Tick the check box for the Test Case or Test Group to execute (pointing to the checkbox in the test case list).
- Number of Test Cases selected in this group (pointing to the '66 Test Cases selected' text).

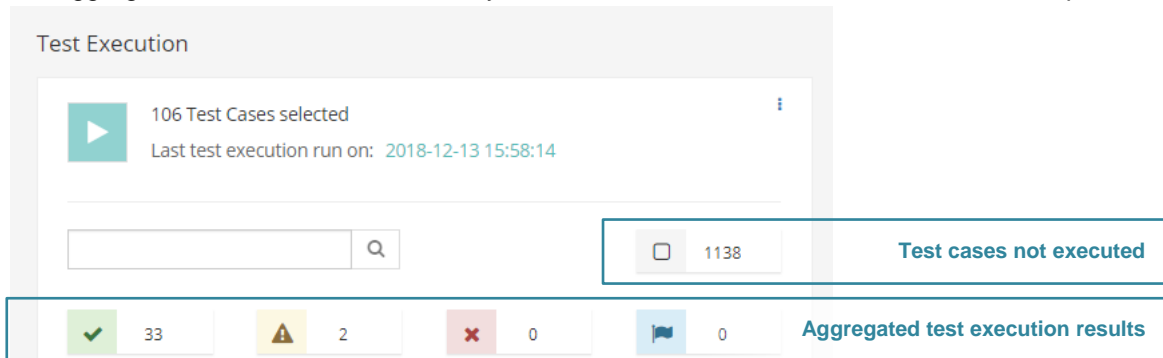
Note that before submitting your test case results for review to the Test Lab, you need to have successfully executed **all** test cases. 'Successfully' means that every test case either:

- (1) has the verdict **passed**, or
- (2) has been linked to a registered known issue with an EMVCo Ticket ID (see appendix A.1 Reporting an issue).

7.3.2 Check test results

After you executed test cases, follow these steps to analyze the test results:

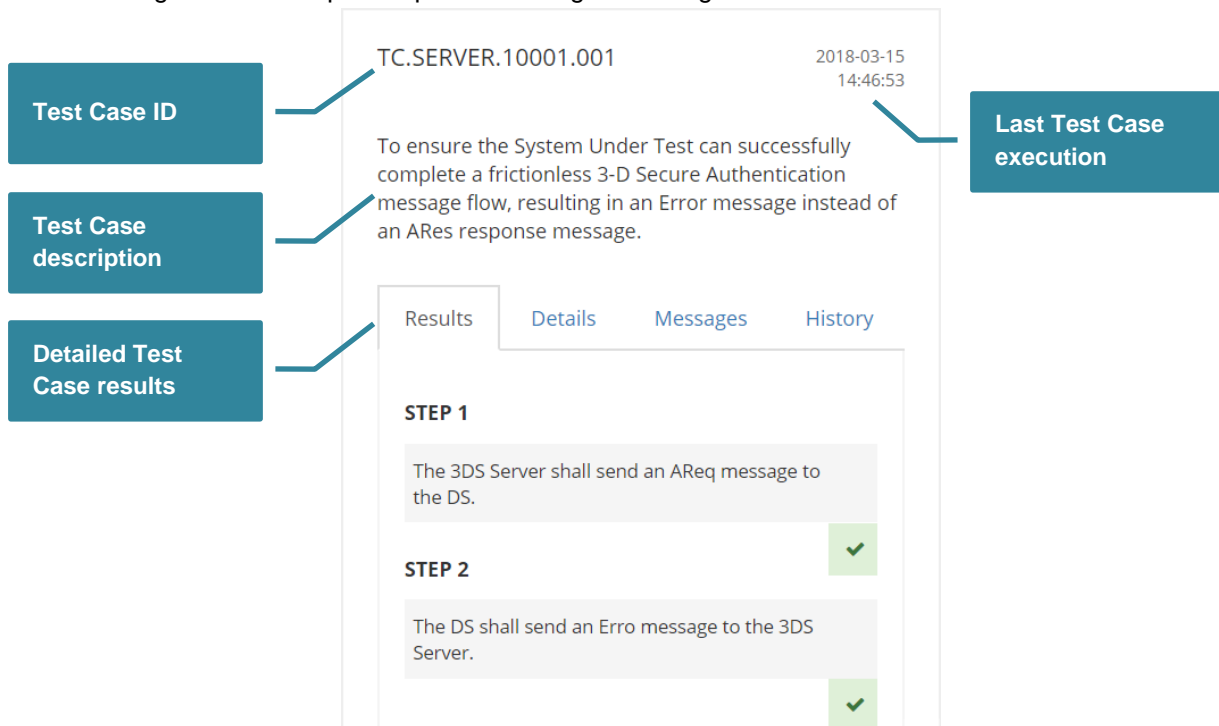
1. From the Project Menu, select Test Execution.
2. The aggregated test execution results of your test execution runs are shown in the middle pane:



The screenshot shows the 'Test Execution' pane. At the top, it says '106 Test Cases selected' and 'Last test execution run on: 2018-12-13 15:58:14'. Below this is a search bar and a button labeled '1138'. To the right, a box indicates 'Test cases not executed'. At the bottom, a summary bar shows 'Aggregated test execution results' with counts: 33 passed (green checkmark), 2 error (yellow warning triangle), 0 failed (red X), and 0 known issue (blue flag).

3. Select a test case that was executed, indicated by a verdict icon behind the test case name:
✓ passed, ⚠ error, ✗ failed, or 🚩 known issue.


Selecting a test case opens a pane to the right showing test case information and details.



The screenshot shows the detailed test case results for 'TC.SERVER.10001.001'. Callouts on the left identify the 'Test Case ID', 'Test Case description', and 'Detailed Test Case results'. A callout on the right identifies the 'Last Test Case execution' time as '2018-03-15 14:46:53'. The description states: 'To ensure the System Under Test can successfully complete a frictionless 3-D Secure Authentication message flow, resulting in an Error message instead of an ARes response message.' The results are shown in a tabbed interface with 'Results' selected, displaying two steps, both with green checkmark verdicts.

4. Click the tab **Results** to see the test result verdict per step.
5. Click the tab **Details** to read the Test Case definition.
6. Click the tab **Messages** to analyze the communication between your SUT and the UL 3DS Simulators.
7. Click the tab **History** to view the history of test case execution for the selected test case.



If the test case verdict is:

- **✖ failed**
This indicates an issue in your system under test (SUT). To further analyze the issue, select the test case indicated as failed (✖) to show the test case results. Look for the step(s) that shows the verdict failed (✖). Please take appropriate actions to solve the issue and execute the test case again.
- **⚠ error**
This indicates an issue was encountered during execution of the test case. The root cause can be in the platform or your system under test (SUT). To further analyze the issue, select the test case indicated with an error (⚠) to show the test case results. Then click the text 'Problems were encountered while executing the test case' to see an error description.


Test Case Implementation Version: 2.1.0.2.0
TEST CASE EXECUTION PROBLEMS
[Problems were encountered while executing the test case.](#)
Error: java.util.ConcurrentModificationException
- **🚩 known issue**
This indicates you or another platform user in your company has linked this test case verdict to a 'known issue'. See appendix 9 for more information.
- **✔ passed**
No further action is necessary regarding this test case.

Filter on a group of test cases or find a specific test case

You can use filters on the test cases to quickly find a specific test case or group of test cases. There are two options to filter on:

- **Text box:** enter any text and filter on all test cases containing that text (e.g. '10169' to find all test case IDs containing '10169' or TC_SERVER_10054_002 to find that specific test case)
- **Not executed:** click the icon  to filter on all test cases that were not yet executed.
- **Verdict icons:** click an icon to filter on all test cases with that verdict (e.g. click the icon  to find all failed test cases)



The screenshot shows the test case filter interface. At the top, it says "No Test Cases selected" and "Last test execution run on: 2018-12-13 15:58:14". Below this is a search bar with a magnifying glass icon. To the right of the search bar is a checkbox labeled "1138". Below the search bar is a row of verdict icons: a green checkmark (33), a yellow warning triangle (2), a red X (0), and a blue flag (0). Annotations with arrows point to these elements:

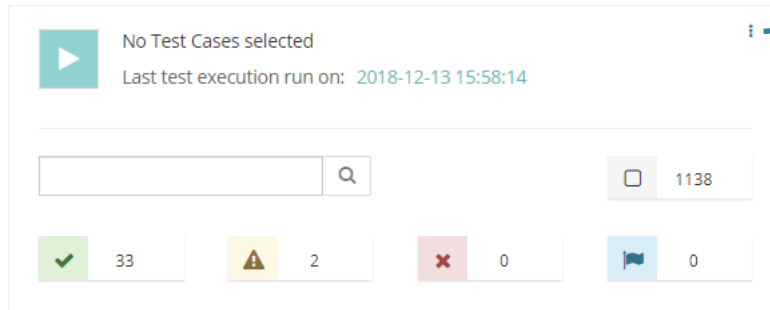
- An arrow points from the search bar to a blue box: "Enter a text to filter on the test cases".
- An arrow points from the checkbox to a blue box: "Click to filter all test cases that were not yet executed".
- An arrow points from the verdict icons to a blue box: "Click verdict icon to filter all test cases with that verdict".



Download log file with current test case results

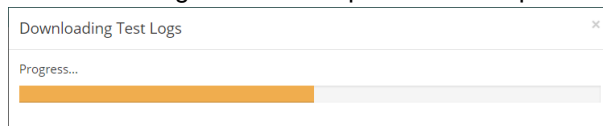
You can download the current test case results as .JSON files for your customized analysis. To do this:

1. From the Project Menu, select Test Execution.
2. Select the test cases for which you want to download the log file.
3. Click the 3 dots (⋮) to start downloading test logs.



Click to start
downloading the
log file

4. The log file is downloaded to your browser's default download folder as a .ZIP file. The .ZIP file has the test logs stored in separate folders per test plan.





7.3.3 Submit test results for review

Once you have executed all test cases on your System under Test successfully, you can submit your test results to the UL Test Lab for review.

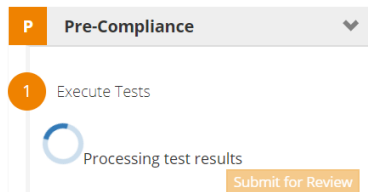
Note that before submitting your test case results to the Test Lab for review, you need to have successfully executed **all** test cases. 'Successfully' means that every test case either:

- (1) has the verdict **passed**, or
- (2) has been linked to a registered known issue with an EMVCo Ticket ID (see appendix A.1 Reporting an issue).

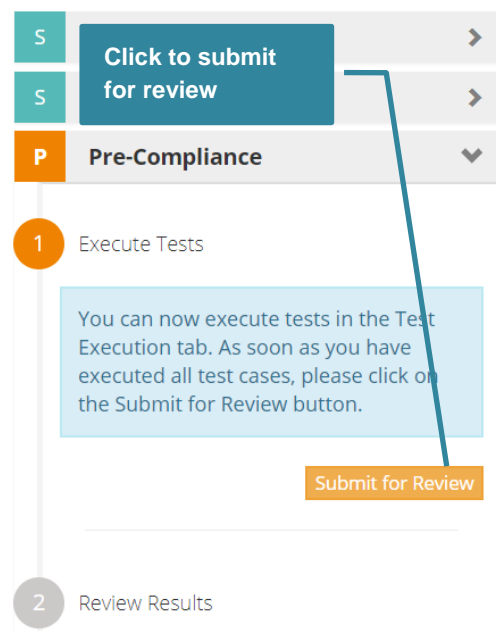
Note that the Test Lab can only start review of the test results if you have a signed commercial agreement with the Test Lab for the approval services.

To submit your test results for review by the Test Lab:

1. Select your project and open the Project Dashboard.
2. Scroll down in the Project Progress Overview to the Pre-Compliance state.
3. Click the button 'Submit for Review'. UL 3DS STP now checks if all test cases were successfully executed:



4. Then click 'Confirm' to approve.



In the Project Progress Overview, your project will now be moved to the step Review Results. While the Test Lab assesses your test results, you cannot execute any test cases until you have received the review results from the Test Lab. **When approved your project is moved to the state Compliance by the Test Lab.**

Note that the Test Lab can only start review of the test results if you have a signed commercial agreement with the Test Lab for the approval services.

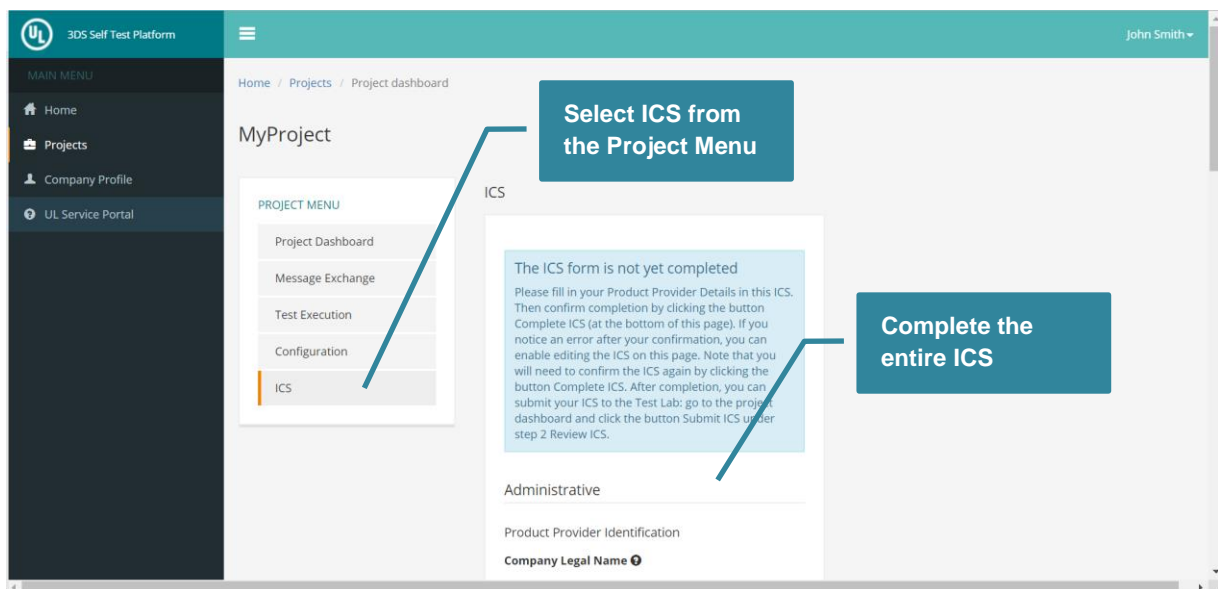
7.4 Run Compliance tests

Once you have successfully completed the Pre-Compliance state, the Test Lab moves your project to the state Compliance. This starts formal compliance testing resulting in EMVCo granting you formal approval when successful.

Before you can execute the test cases, first you need to complete the ICS (Implementation Conformance Statement) for your System under Test (SUT), as described in section 7.4.1 Complete and submit your ICS.

7.4.1 Complete and submit your ICS

You need to complete the ICS (Implementation Conformance Statement) for your System under Test (SUT), before you can execute the test cases in the Compliance state.



To complete and submit your ICS:

1. Select your project in UL 3DS STP.
2. From the Project Menu, select ICS.
3. Complete the ICS by filling in all required items and answering any questions asked.
4. Click the button 'Complete ICS' to confirm your information.

5. Your ICS is now completed and ready to be submitted for review.

The ICS form has been completed
To submit your ICS for review by the Test Lab, **go to the Project Dashboard** and click the button Submit ICS.

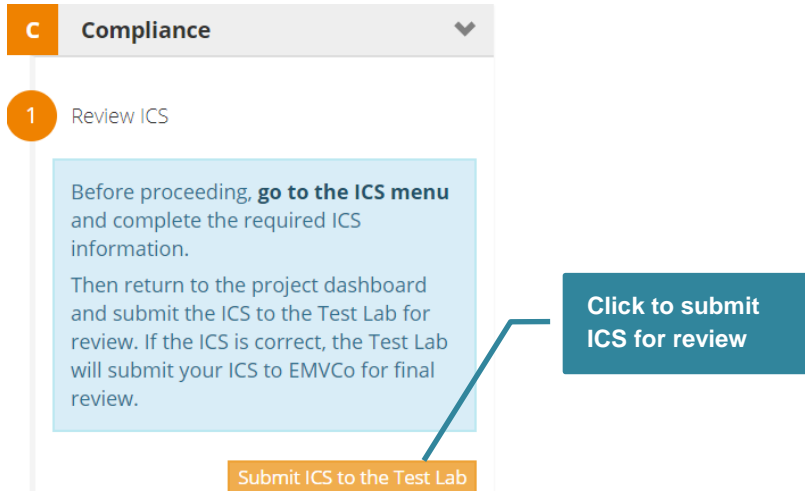


Note that any email communication from the Test Lab to your company regarding an approval project will be sent to your contact person of whom the email address is filled in on the ICS.

To submit your ICS for review:

After completing your ICS, you can submit it for review:

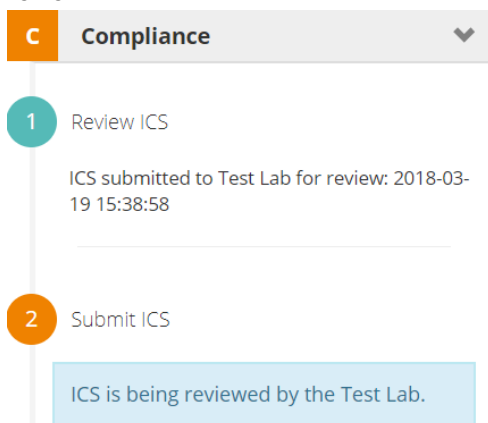
1. Select your project and scroll down on the Project Dashboard to the project state Compliance, step Review ICS.
2. Click the button 'Submit ICS to the Test Lab'.



3. Then click Confirm to approve sending the ICS for review.

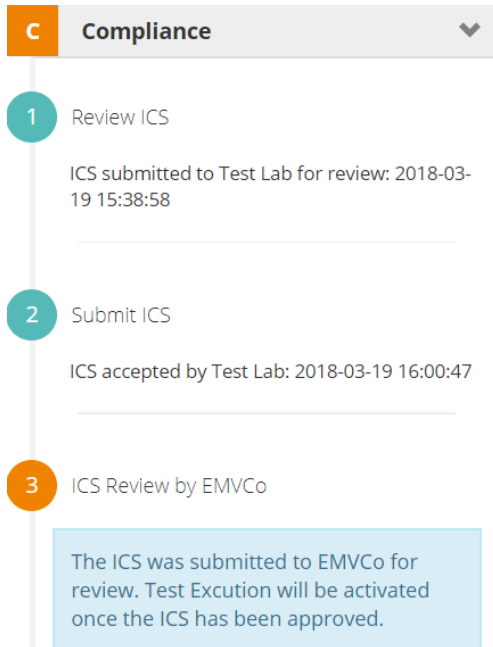


4. On the Project Dashboard you can see that your ICS has now been submitted to the Test Lab for review.

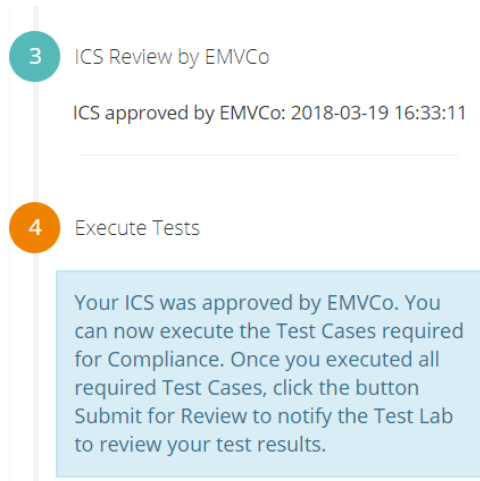




- At approval of your ICS by the Test Lab, the Test Lab sends your ICS for final and formal approval to EMVCo. You will receive a confirmation email from the Test Lab for this.



- At approval of your ICS by EMVCo, the Test Lab sends you a confirmation email with the approved ICS signed by EMVCo attached.
You are now able to start execution of the Compliance test cases.



When your ICS is approved by EMVCo, the Test Lab sends your company a confirmation email with the approved and signed ICS attached containing EMVCo's ICS Reference Number and validity period. These can also be found in the UL 3DS STP in the ICS for your project (select your project and then the menu ICS).

7.4.2 Execute test cases

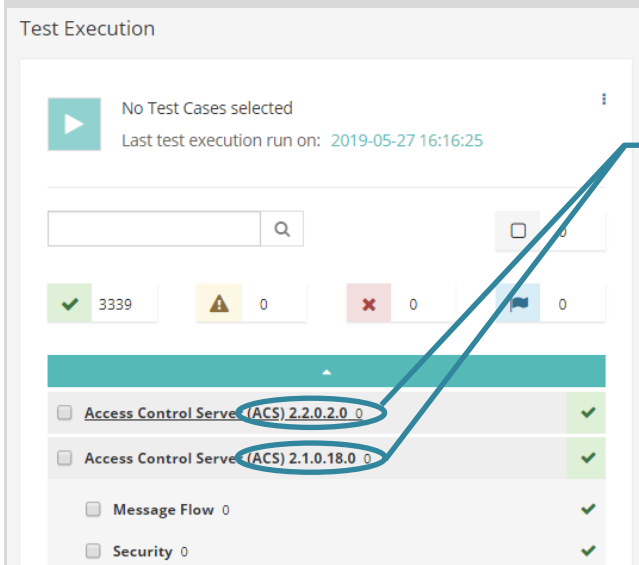
To execute test cases in the Compliance state, follow these steps:

1. From the Home page, click the menu Projects.
2. Select your project from the list to open the Project Dashboard.
3. From the Project Menu, select Test Execution.

This shows the list of all required test cases to be executed on your System under Test. Test cases have been divided into groups.


To open (or close) a Test Group, click the test group name.

Note that the UL 3DS STP supports every current test plan. The required test plans and their test cases for your SUT are all listed. You may need to **scroll down** in the list of test cases to find the other test plans.



In this example, two test plans are active: 2.2.0.2.0 and 2.1.0.18.0 for an ACS.

To view the details of a Test Case, click the test case. This opens a pane with detailed Test Case information.

4. The Compliance state requires you to run all Test Cases. **All Test Cases are automatically selected.** You cannot change the test case selection.
5. **To start execution of the selected Test Cases,** click the Run button: 

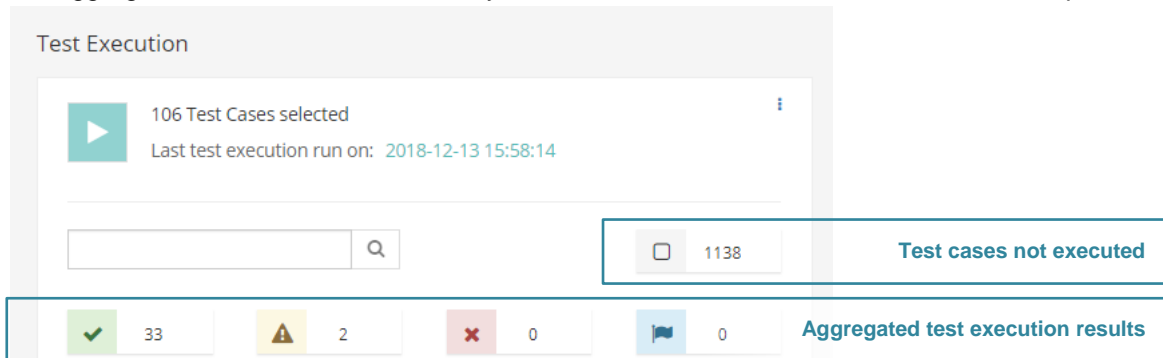
Note that before submitting your compliance test case results for review to the Test Lab, you need to have successfully executed **all** test cases. ‘Successfully’ means that every test case either:

- (1) has the verdict **passed**, or
- (2) has been linked to a registered known issue with an EMVCo Ticket ID (see appendix A.1 Reporting an issue).

7.4.3 Check test results

After you executed test cases, follow these steps to analyze the test results:

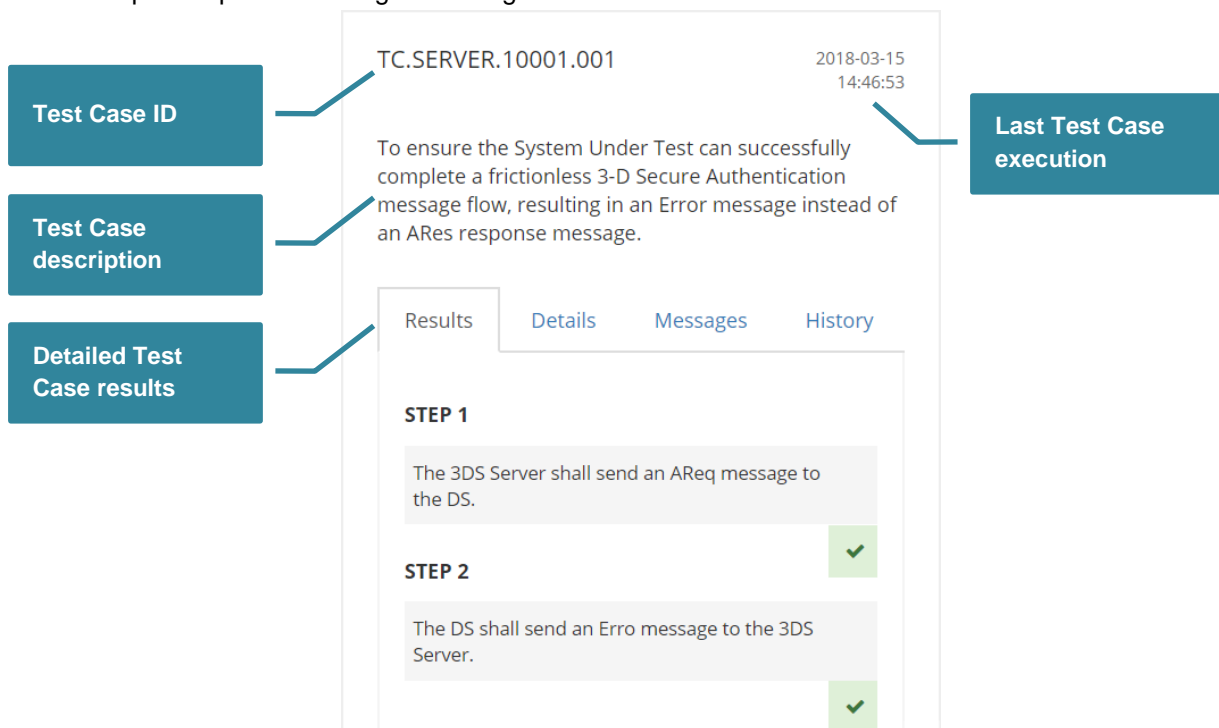
1. From the Project Menu, select Test Execution.
2. The aggregated test execution results of your test execution runs are shown in the middle pane:



The screenshot shows the 'Test Execution' pane. At the top, it says '106 Test Cases selected' and 'Last test execution run on: 2018-12-13 15:58:14'. Below this is a search bar and a button labeled '1138'. To the right, a box indicates 'Test cases not executed'. At the bottom, a summary bar shows 'Aggregated test execution results' with counts: 33 passed (green check), 2 error (yellow warning), 0 failed (red X), and 0 known issue (blue flag).

3. Select a test case that was executed, indicated by a verdict icon behind the test case name:
✓ passed, ⚠ error, ✗ failed, or 🚩 known issue.


This opens a pane to the right showing test case information and details.



The screenshot shows the detailed test case results for 'TC.SERVER.10001.001' executed on '2018-03-15 14:46:53'. The description states: 'To ensure the System Under Test can successfully complete a frictionless 3-D Secure Authentication message flow, resulting in an Error message instead of an ARes response message.' The pane has four tabs: 'Results' (selected), 'Details', 'Messages', and 'History'. Under 'Results', there are two steps, both marked with green checkmarks:
STEP 1: 'The 3DS Server shall send an AReq message to the DS.'
STEP 2: 'The DS shall send an Errro message to the 3DS Server.'

4. Click the tab **Results** to see the test result verdict per step.
5. Click the tab **Details** to read the Test Case definition.
6. Click the tab **Messages** to analyze the communication between your SUT and the UL 3DS Simulators.
7. Click the tab **History** to view the history of test case execution for the selected test case.



If the test case verdict is:

- **✖ failed**
This indicates an issue in your system under test (SUT). To further analyze the issue, select the test case indicated as failed (✖) to show the test case results. Look for the step(s) that shows the verdict failed (✖). Please take appropriate actions to solve the issue and execute the test case again.
- **⚠ error**
This indicates an issue was encountered during execution of the test case. The root cause can be in the platform or your system under test (SUT). To further analyze the issue, select the test case indicated with an error (⚠) to show the test case results. Then click the text 'Problems were encountered while executing the test case' to see an error description.


Test Case Implementation Version: 2.1.0.2.0
TEST CASE EXECUTION PROBLEMS
[Problems were encountered while executing the test case.](#)
Error: java.util.ConcurrentModificationException
- **🚩 known issue**
This indicates you or another platform user in your company has linked this test case verdict to a 'known issue'. See appendix 9 for more information.
- **✔ passed**
No further action is necessary regarding this test case.

Filter on a group of test cases or find a specific test case

You can use filters on the test cases to quickly find a specific test case or group of test cases. There are two options to filter on:

- **Text box:** enter any text and filter on all test cases containing that text (e.g. '10169' to find all test case IDs containing '10169' or TC_SERVER_10054_002 to find that specific test case)
- **Not executed:** click the icon  to filter on all test cases that were not yet executed.
- **Verdict icons:** click an icon to filter on all test cases with that verdict (e.g. click the icon  to find all failed test cases)



The screenshot shows the test case filter interface. At the top, it says "No Test Cases selected" and "Last test execution run on: 2018-12-13 15:58:14". Below this is a search bar with a magnifying glass icon. To the right of the search bar is a checkbox labeled "1138". Below the search bar is a row of verdict icons: a green checkmark (33), a yellow warning triangle (2), a red X (0), and a blue flag (0). Annotations with arrows point to these elements:

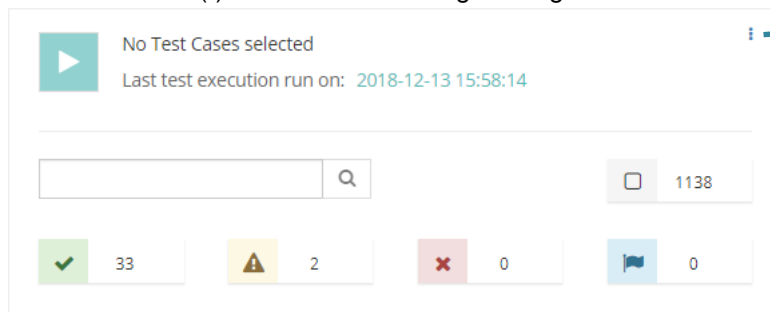
- An arrow points from the search bar to a blue box: "Enter a text to filter on the test cases".
- An arrow points from the checkbox to a blue box: "Click to filter all test cases that were not yet executed".
- An arrow points from the verdict icons to a blue box: "Click verdict icon to filter all test cases with that verdict".



Download log file with current test case results

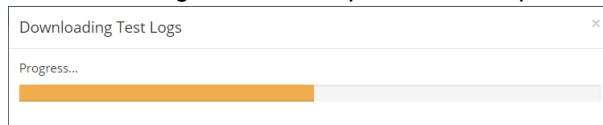
You can download the current test case results as .JSON files for your customized analysis. To do this:

1. From the Project Menu, select Test Execution.
2. Select the test cases for which you want to download the log file.
3. Click the 3 dots (⋮) to start downloading test logs.



Click to start
downloading the
log file

4. The log file is downloaded to your browser's default download folder as a .ZIP file. The .ZIP file has the test logs stored in separate folders per test plan.



7.4.4 Submit test results for review

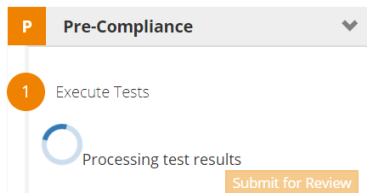
Once you have executed all test cases for Compliance on your System under Test successfully, you can submit your test results to the UL Test Lab for review. Then, if approved, request the Test Lab to submit the test report for formal approval by EMVCo.

Note that before submitting your test case results to the Test Lab for review, you need to have successfully executed **all** test cases. 'Successfully' means that every test case either:

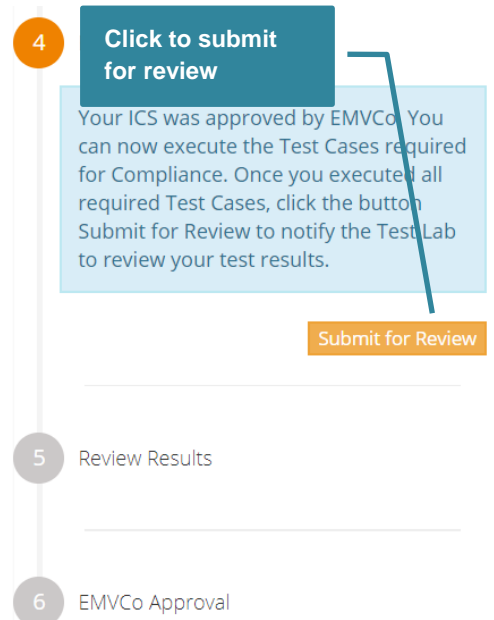
- (1) has the verdict **passed**, or
- (2) has been linked to a registered known issue with an EMVCo Ticket ID (see appendix A.1 Reporting an issue).

To submit your test results for review by the Test Lab:

1. Select your project and open the Project Dashboard.
2. Scroll down in the Project Progress Overview to the Compliance state, step Execute Tests.
3. Click the button 'Submit for Review'. UL 3DS STP now checks if all test cases were successfully executed:



4. Then click 'Confirm' to approve.



5 Review Results

Test Results are being reviewed by the Test Lab.

In the Project Progress Overview, your project will now be moved to the step Review Results. While the Test Lab assesses your test results, you cannot execute any test cases until you have received the review results from the Test Lab.



When your test results have been approved by the Test Lab, your company receives an email with the Test Report (digitally signed by the Test Lab) to be submitted to EMVCo. Your project is moved to the step EMVCo Approval in UL 3DS STP.

7.4.5 Request approval from EMVCo

Once you received the Test Report from the Test Lab as a result of completing the execution of Compliance test cases, the following steps take place **outside the environment of UL 3DS STP**:



1. Check the **Test Report** as sent to you by the Test Lab per email.



2. Reply to the Test Lab's **email** to confirm that the Test Lab can send your Test Report to EMVCo.



3. Prepare your request for approval to be submitted to EMVCo. A template for this approval request is provided to you by EMVCo.
This requires the ICS Reference Number as received from the Test Lab by email when you received your approved ICS (see section 7.4.1 Complete and submit your ICS).



4. Send your completed request for approval to EMVCo by **email**.



5. EMVCo assesses the approval request and the Test Report. When successful, you will receive an email from EMVCo to confirm this. EMVCo will then issue a formal Letter of Approval (LoA).

Once EMVCo has notified the Test Lab of the successful approval, the Test Lab closes your project in UL 3DS STP. Your project is then moved to the state Regression. This still allows you to execute test cases on your SUT, although the project is formally closed.





8 Contact information

When operating the UL 3DS Self Test Platform and running 3DS approval projects, you will use several contact points. Below is a shortlist of the most important contact information and their purpose.

UL Service Portal

To **get access to the UL Service Desk Portal**: Go to [UL Service Desk Portal](https://support.testtools.ul.com) (<https://support.testtools.ul.com>). If you do not have access credentials, please ask your UL 3DS STP platform administrator to request credentials from UL. The administrator does this by issuing a ticket to the UL Service Desk Portal requesting access for you.

For **reporting issues**, trouble shooting, support or more information contact UL using the [UL Service Desk Portal](https://support.testtools.ul.com) (<https://support.testtools.ul.com>)

To **unlock your account**, first contact one of your company's administrators (i.e. a member of your company's team with access to UL 3DS STP in the role of Admin). For administrators that had their account locked, they can also contact UL by reporting the issue using the [UL Service Desk Portal](https://support.testtools.ul.com) (<https://support.testtools.ul.com>)

To obtain UL's **Test Harness Specification for UL 3DS Test Platform**, click the link to download this document on the Home page of UL 3DS STP.

To obtain the **UL Reference Application for SDK developers** (iOS or Android), click the link to download this file for your preferred operating system on the Home page of UL 3DS STP.

UL Testing Laboratory (UL Test Lab)

Emails from the UL Test Lab concerning approval projects (e.g. your approved ICS and the Test Report for you to review) will be sent to the email address of the person that was registered as completing the ICS.

To **contact the UL Test Lab**: emv.3ds@ul.com

EMVCo

To **obtain an EMVCo Product Provider Registration Number**, please contact EMVCo or navigate to <https://www.emvco.com/emv-technologies/3d-secure/>

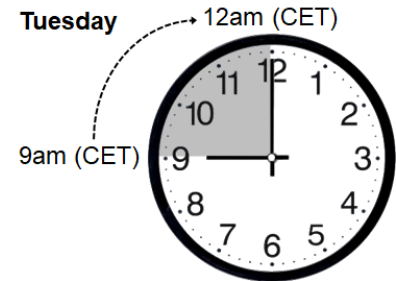
To learn **how to request formal approval from EMVCo**, please contact the EMVCo Secretariat at 3ds_admin@emvco.com



9 Maintenance of UL 3DS STP

Maintenance of the UL 3DS STP will be announced by email to every user registered on the platform. During the maintenance window, you cannot use the UL 3DS STP.

Maintenance is typically planned on **Tuesdays** from 9:00am to 12:00am (CET), unless announced otherwise.





A.1 Reporting an issue

A Test Case failure or error may be caused by an issue that you consider to be outside of your System under Test (SUT). In that case you should raise a ticket in the [UL Service Desk Portal](#) and obtain an EMVCo Ticket ID first. Then you can use this EMVCo Ticket to link it to the failed test case as described below.

A.1.1 How to obtain an EMVCo Ticket ID?

To request for an EMVCo Ticket ID, follow these steps:

1. Please raise a ticket in the [UL Service Desk Portal](#) (see section 8 Contact information), providing at least the following:
 - a. Type of issue
 - b. Project Name (preferably with Project ID number)
 - c. Test case ID
 - d. Explanation on why this failure or error should not be considered as caused by your SUT.

Your issue will be assessed by UL and, if applicable, forwarded to EMVCo for formal assessment.

For issues on specifications or test plans, you can also directly report the issue to the EMVCo Secretariat. If acknowledged you receive the EMVCo Ticket ID from EMVCo directly.

2. After acknowledgement of UL and EMVCo you will receive an **EMVCo Ticket ID** from UL in response to your reported ticket (by email). This EMVCo Ticket ID can be used to add to your test case result as a **known issue**.

UL Test Tools Service Desk
UL 3DS Service Desk

Welcome! Please raise a Service Desk request using the categories below, or start typing in the search bar.

What do you need help with?

Registration

- Platform usage
- Test cases
- Compliance
- Feedback

I want to invite someone to this Service Desk
Other users of UL 3DS platform need to create requests to the UL Service Desk as well

I have a question about UL test platform registration
You are trying to register on <https://3ds.selftestplatform.com/> and something is not clear

I have a question about my EMVCo vendor registration
You have formally registered with EMVCo to become an approved product provider and need more help

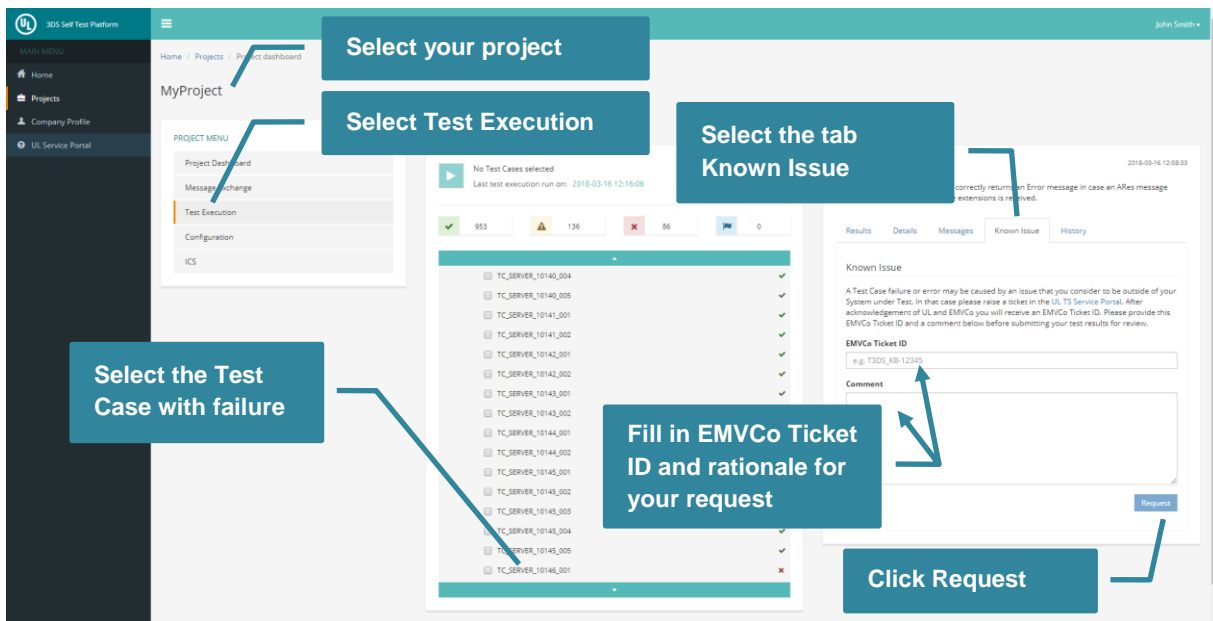
My test platform subscription has expired, or will expire soon
You want to renew your company's test platform subscription to continue testing

A.1.2 How to report a Known Issue with a test case?

To link an EMVCo Ticket ID to a test case and report a Known Issue before submitting your test results for review, follow these steps:

1. In UL 3DS STP, select the Project for which you want to report a Known Issue.
2. From the Project Menu, select Test Execution.
3. In the Test Case tree, look up the Test Case for which you want to report a Known Issue. Then select this Test Case.
4. In the Test Case information pane on the right, select the tab **Known Issue**.
5. Provide the EMVCo Ticket ID and a comment below describing the rationale for waiving the test case result.
6. Click 'Request' to confirm your entry.

Your Known Issue request will be assessed by the Test Lab during review of the test results.



The screenshot displays the UL 3DS Self Test Platform interface with several callout boxes indicating the steps to report a Known Issue:

- Select your project:** Points to the 'MyProject' dropdown in the top navigation bar.
- Select Test Execution:** Points to the 'Test Execution' option in the left-hand 'PROJECT MENU'.
- Select the Test Case with failure:** Points to a test case entry in the list, which shows a red 'X' icon indicating a failure.
- Select the tab Known Issue:** Points to the 'Known Issue' tab in the right-hand pane.
- Fill in EMVCo Ticket ID and rationale for your request:** Points to the 'EMVCo Ticket ID' and 'Comment' input fields in the 'Known Issue' tab.
- Click Request:** Points to the 'Request' button at the bottom right of the 'Known Issue' tab.

Please note that when you linked a Known Issue to a test case and you execute this test case again, the link is removed from the test case. You need to re-enter the EMVCo Ticket ID and rationale, as described above, before submitting your test results to the Test Lab.



A.2 Test Case Execution Configuration

UL 3DS Self Test Platform enables a few configuration options to be set regarding test case execution. This appendix explains how to set these configuration options.

A.2.1 Maximum concurrent test case executions

When executing test cases in UL 3DS Self Test Platform, you can execute a large number of test cases concurrently (in case you have a large number of test cases selected). You may find that your System Under Test (SUT) runs into performance issues because of this concurrent test case execution. The platform allows you to set the number of concurrent test cases for execution for each project.

You can configure the number of test cases executed concurrently as follows:

1. Select your project.
2. In the Project Menu, click Configuration.
3. Select the tab **Endpoints**.
4. Select the appropriate option under 'Maximum concurrent test case executions'.
5. Click 'Save' to confirm your settings.

A screenshot of a configuration panel titled "Maximum concurrent test case executions". It contains three radio button options: "Limited to 10 test cases", "Limited to 20 test cases", and "3DS Self Test Platform limit (default)". The third option is selected. A "Save" button is located at the bottom right of the panel.

Maximum concurrent test case executions

☐ Limited to 10 test cases

☐ Limited to 20 test cases

☒ 3DS Self Test Platform limit (default)

Save

A.2.2 User Interface type options (ACS only)

At project setup for an Access Directory Server (ACS), you may be requested to select the appropriate User Interface Type (UiType) options. This depends on the selected Protocol version. You can still update the selected options while in the Pre-Compliance state.

To learn more about the UiType options available, please refer to the EMVCo specifications for 3DS.

To change the UiType options:

1. Select your ACS project.
2. In the Project Menu, click Configuration.
3. Select the tab **UiType options**.



MyNewProject

PROJECT MENU

- Project Dashboard
- Message Exchange
- Test Execution
- Configuration
- ICS

Configuration

Certificates Endpoints UiType options

Interface: Native

- ☒ 01 Text
- ☐ 02 Single Select
- ☐ 03 Multiple Select
- ☐ 04 OOB

Interface: HTML

- ☒ 01 Text
- ☒ 02 Single Select
- ☐ 03 Multiple Select
- ☐ 04 OOB
- ☐ 05 HTML Other

Save

4. Tick the checkboxes as valid for your ACS under test.
5. Click 'Save' to confirm your settings.

Save

Important note: You must select the correct UiType options during testing in Pre-Compliance. After you submitted your test results for review in the Pre-Compliance state, **you can no longer change the UiTypes.**

Once in the Compliance state, the selected UiType options appear automatically on your ICS based on your previous selection. The selected options are also indicated on your Letter of Approval after successful certification.