

A high-angle photograph of two men in an office setting. One man is seated at a desk, looking at a laptop. The other man is standing and pointing at the laptop screen. The laptop screen displays a software interface with various panels and data. There are papers and a pen on the desk. A blue curved graphic overlay is on the left side of the image.

What's New In ATS 2.0

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2018-03-29



Speakers



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Manager at Mendix

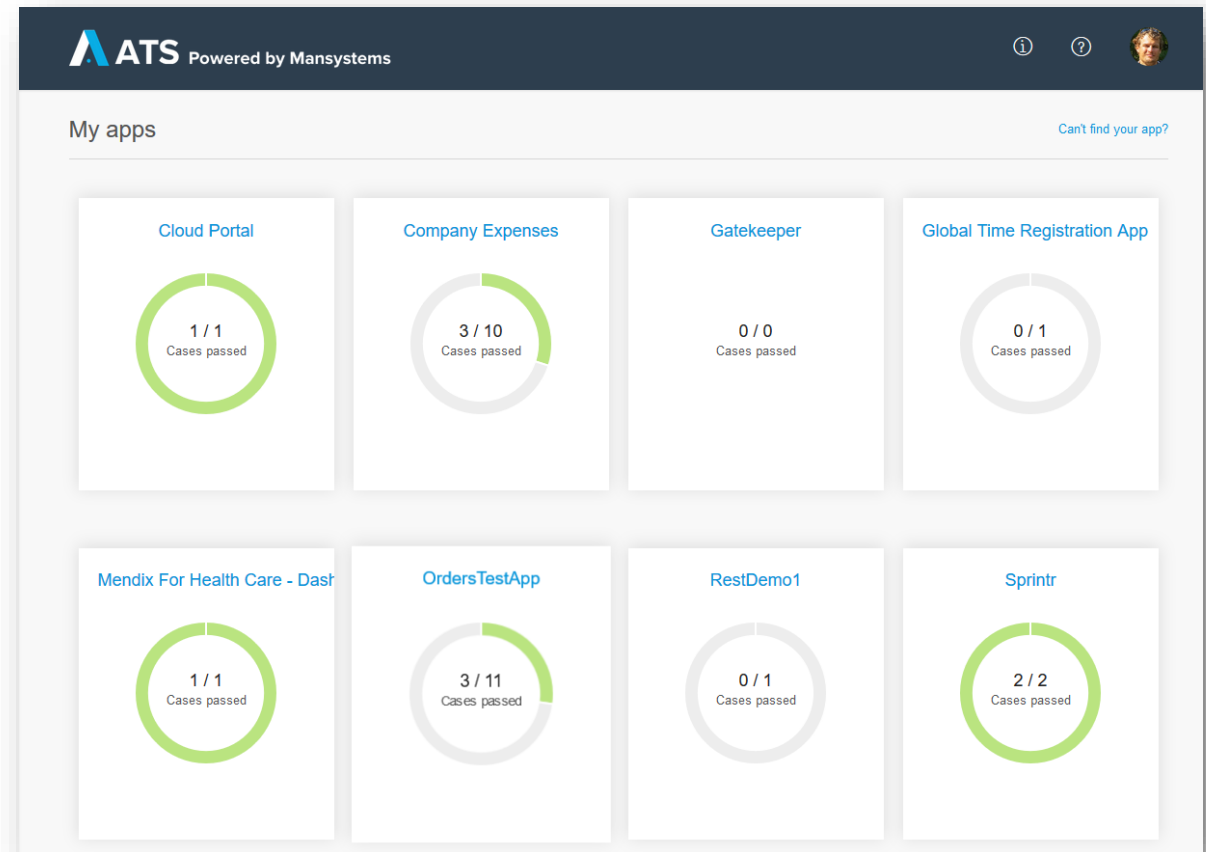
Agenda

- Brief introduction to ATS
- Demo
- New features of ATS 2.0
- Summary
- Questions

A brief introduction to ATS

What is ATS?

- Application Test Suite
- Define and run user interface tests for Mendix apps
- Focus on ease of use
 - Anybody in your Mendix team can define and run tests
 - Low code – no scripting required
 - Cloud tool – 5 minutes to set up and run your first test

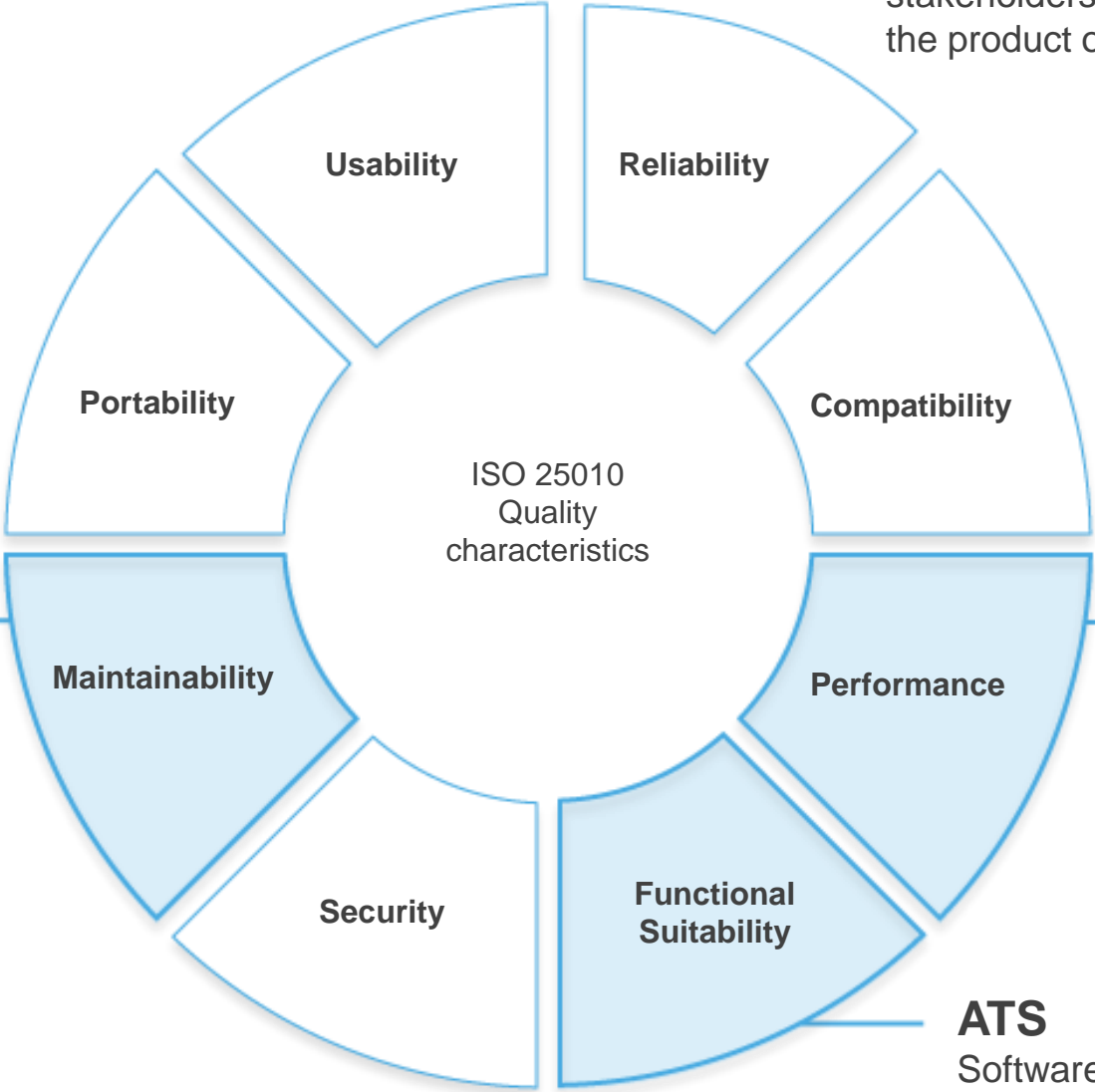


Role of ATS?

Test Automation Tooling

Software testing

is an investigation conducted to provide stakeholders with information about the quality of the product or service under test.



AQM

Software meets the requirements that guided its design & development

APM

Software performs its functions within an acceptable time.

ATS

Software responds correctly to all kinds of input.

Why you should automate your tests

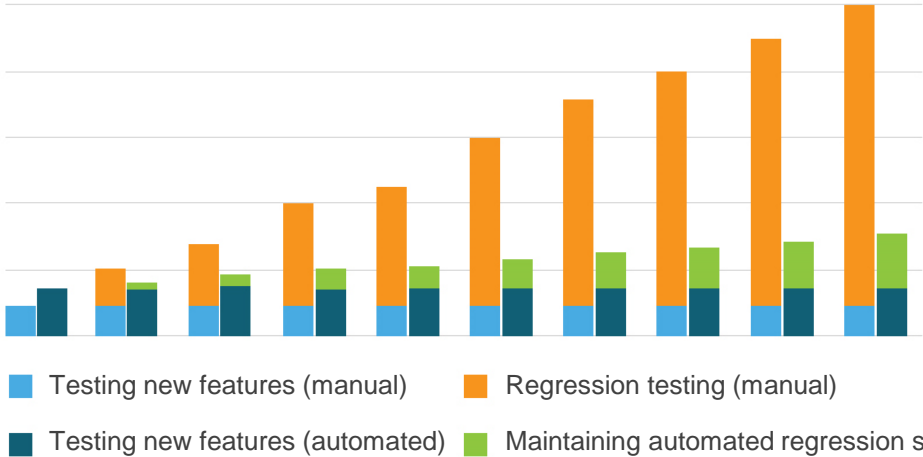
Delivering a quality application

The earlier a bug is found, the lower the cost fixing a bug.

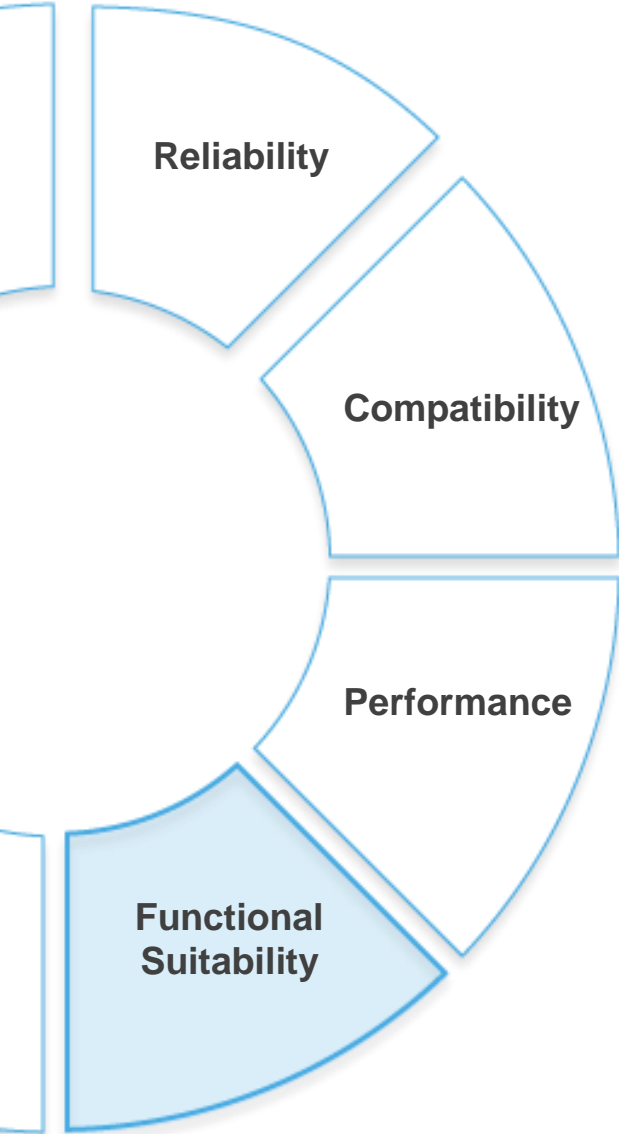
Source: Systems Sciences Institute at IBM



The more automated tests, the less time spent on regression testing.



Why are Mendix customers using ATS?



Regression testing

Testing of existing functionality that is not changed by changes to the application

- Sunny & Rainy day scenario's
- Negative testing (security testing)

Data driven testing

Single value & data driven testing

Availability testing

Testing application production availability (24/7)

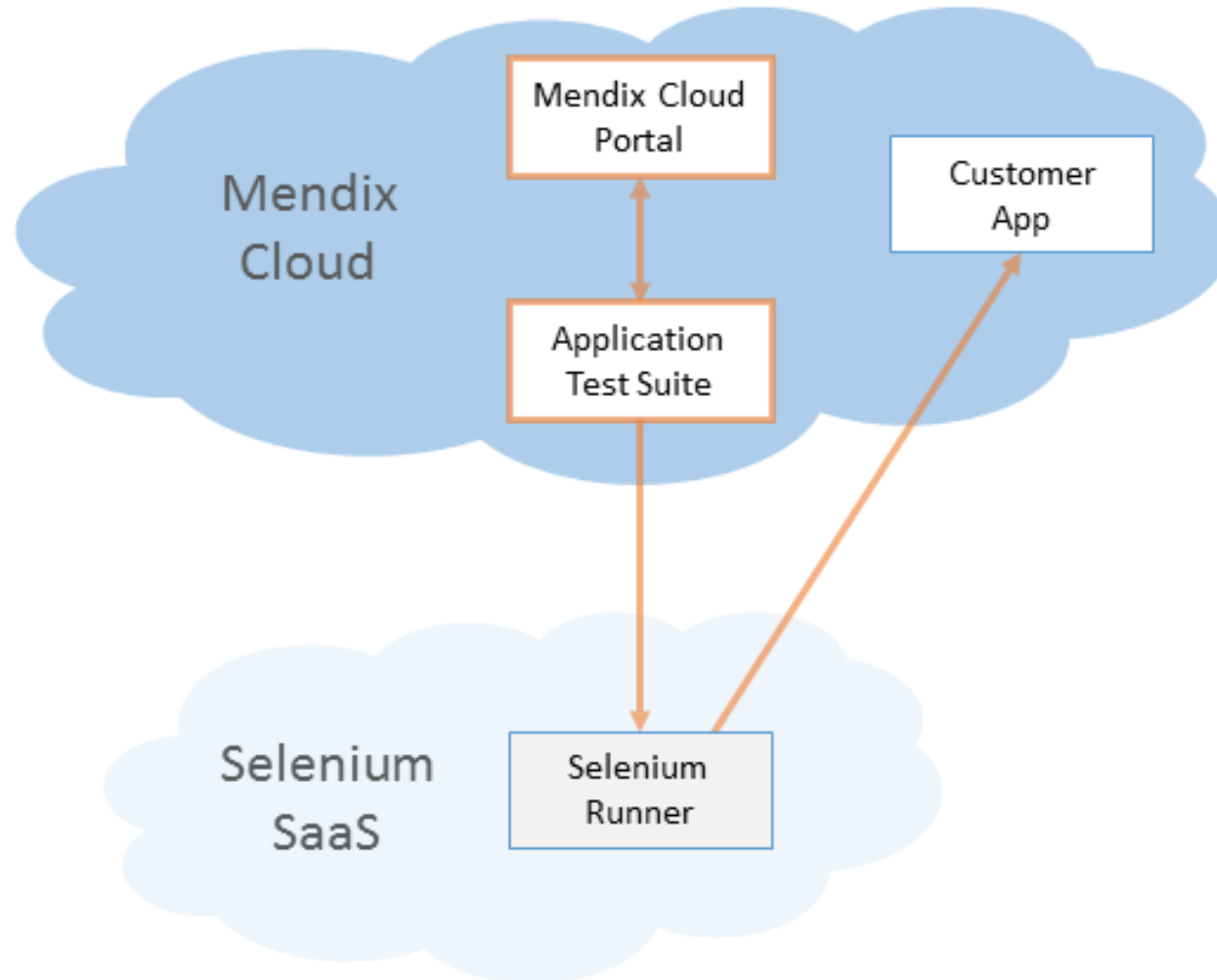
Performance testing

Test Case and Test Step duration
In combination with APM

Validation process

Use PDF report for audits

How does ATS work?



*Recommended setup. Other setups, using on-premises public or private apps and/or a customer-hosted Selenium solution are also possible.

Interactions between ATS, Selenium hub and AUT



Script writer



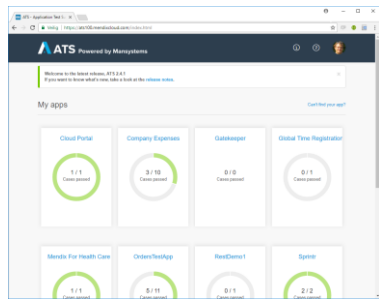
Stage manager



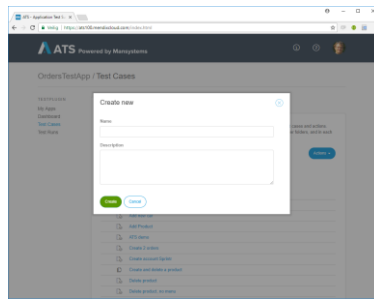
Actor

Demo

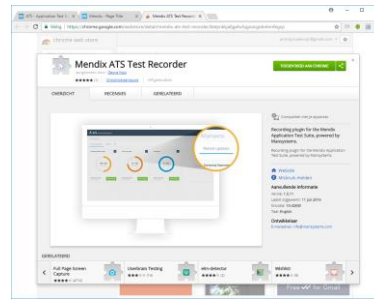
ATS Demo



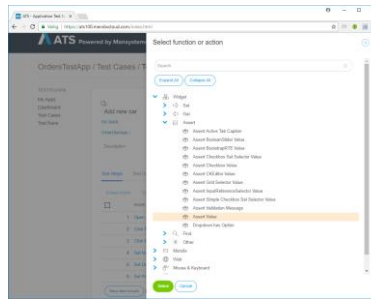
Projects



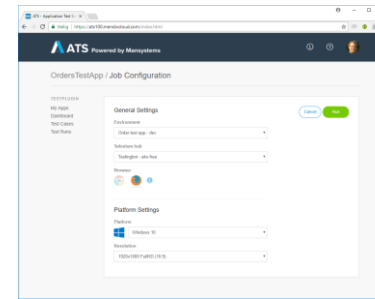
Create Test



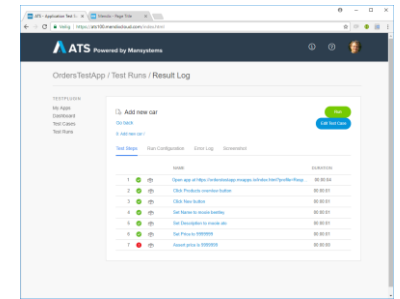
Record Test



Modify Test



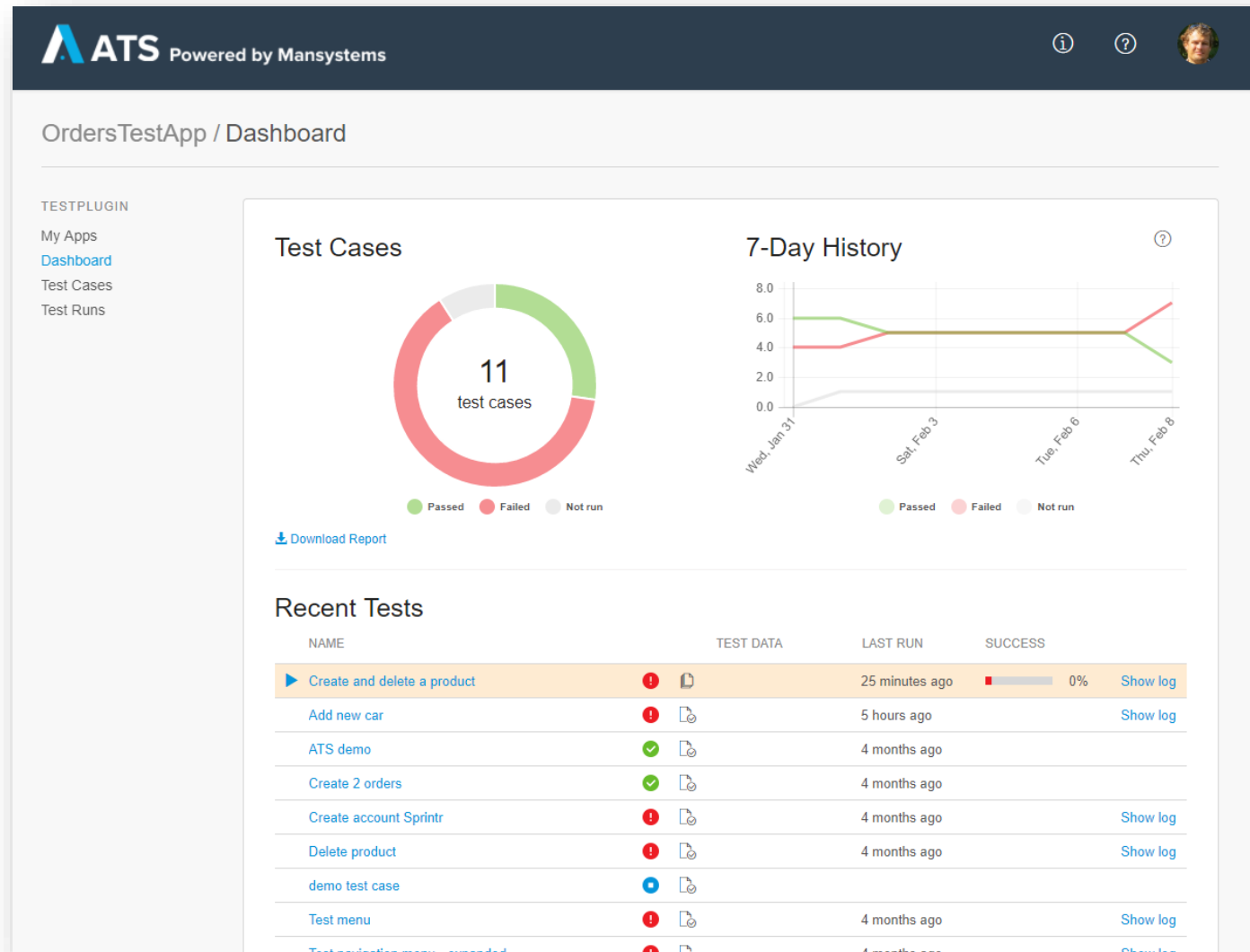
Run Test



View Results

New features

Project dashboard



Readable test scripts

Test Steps Test Data Show Usages Stories

Extract Action Copy Paste Delete

NAME

- 1 Open app at <https://orderstestapp.mxapps.io/index.html?profile=Responsive>
- 2 Click Product List button
- 3 Click Add button
- 4 Set Name to PurpleCar
- 5 Set Description to A big purple rock car
- 6 Set Price to 44995
- 7 Click Save button
- 8 Click Details button
- 9 Click Cancel button

Setup step manually Record step

Recording results in a test script readable by non-technical people

Faster test editing

The screenshot displays the Mendix Test Studio interface. A test step titled "Click New button" is selected and highlighted in orange. A configuration window is open for this step, showing the following details:

- Call Type:** Setup, Regular (selected), Teardown
- Click Widget:**
 - Widget Name: newButton2
 - DoubleClick: empty
 - Search Context: empty
- Precondition:**

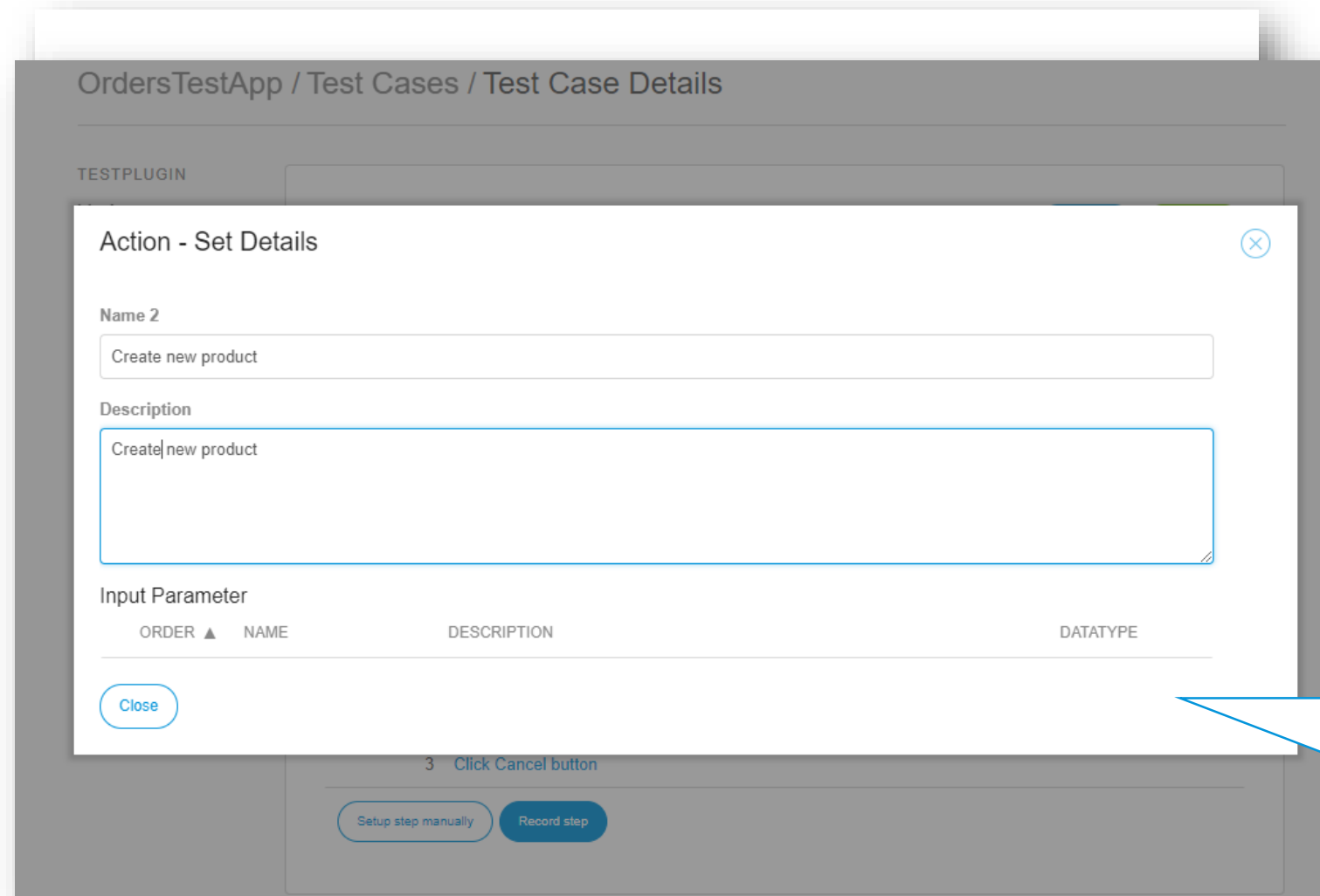
The background shows a test suite with the following steps:

- 1 Open app at <https://orderstestapp.mxapps.io/index.html?profile=Responsive>
- 2 Click Products overview button
- 3 Click New button
- 4 Set Name to mooie bentley
- 5 Set Description to mooie ato

Drag and drop

Inline editing

Create reusable actions from recordings



Select test steps to create reusable test action

You can parameterize the action

User friendly test script editing

The screenshot displays the Mendix test script editor interface. The main window shows a test case titled 'Add Product' with a 'Test Steps' tab selected. A step titled '1 Create new product' is highlighted, with a description field and a 'Call Type' dropdown set to 'Regular'. Below the step, there are buttons for 'Setup step manually' and 'Record step'. A search overlay is open on the right, titled 'Select function or action'. It features a search input field, 'Expand All' and 'Collapse All' buttons, and a list of functions categorized by application and widget. The 'Set' category is expanded, showing various actions like 'Set BooleanSlider Value', 'Set BootstrapRTE Value', etc. At the bottom of the overlay are 'Select' and 'Cancel' buttons.

OrdersTestApp / Test Cases / Test Case Details

TESTPLUGIN

Go back My Apps Dashboard Test Cases Test Runs

OrdersTestApp /

Description

Test Steps Test Data Show Usages

Extract Action Copy Paste Delete

NAME

1 Create new product

Describe your test step here

Call Type

Setup Regular Teardown

Precondition

2 Click Details button

Setup step manually Record step

4 Click Cancel button

Setup step manually Record step

Select function or action

Search

Expand All Collapse All

- OrdersTestApp
 - Create new product
- Widget
 - Set
 - Set BooleanSlider Value
 - Set BootstrapRTE Value
 - Set Checkbox Set Selector Value
 - Set Checkbox Set Selector Value (all)
 - Set Checkbox Value
 - Set CKEditor Value
 - Set File Manager
 - Set Grid Selector Checkbox Value
 - Set Grid Selector Radiobutton checked
 - Set InputReferenceSelector Value
 - Set ListView Search
 - Set Row Cell Value
 - Set Simple Checkbox Set Selector Value
 - Set Value
 - Set Value (by index)
 - Get
 - Assert
 - Find
 - Other
- Mendix
- Web
- Mouse & Keyboard

Select Cancel

Powerful search

User friendly test script editing

The screenshot displays the Mendix test script editor interface. A search overlay is active, titled "Select function or action", with a search input field. Below the search field, there are two buttons: "Expand All" and "Collapse All". The search results are organized into a tree view:

- OrdersTestApp
 - Create new product
- Widget
 - Set

Below the tree view, a list of specific actions is shown, including "Set Row Cell Value", "Set Simple Checkbox Set Selector Value", "Set Value", "Set Value (by index)", "Get", "Assert", "Find", "Other", "Mendix", "Web", and "Mouse & Keyboard". At the bottom of the overlay are "Select" and "Cancel" buttons.

A callout box on the right side of the image contains the text "Find reusable test steps".

Another callout box at the bottom right contains the text "Powerful search".

User friendly test script editing

- Widget
 - Set
 - Set BooleanSlider Value
 - Set BootstrapRTE Value
 - Set Checkbox Set Selector Value
 - Set Checkbox Set Selector Value (all)
 - Set Checkbox Value
 - Set CKEditor Value
 - Set File Manager
 - Set Grid Selector Checkbox Value
 - Set Grid Selector Radiobutton checked
 - Set InputReferenceSelector Value
 - Set ListView Search
 - Set Row Cell Value
 - Set Simple Checkbox Set Selector Value
 - Set Value
 - Set Value (by index)

Support for Mendix
Widgets

Select function or action

CKE|

Expand All

Collapse All

- Widget
 - Set
 - Set CKEditor Value
 - Set Grid Selector Radiobutton checked
 - Get
 - Get CKEditor Value
 - Assert
 - Assert CKEditor Value

- > OrdersTestApp
- > Widget
- > Mendix
- ▼ Web
 - Accept Browser Alert
 - Clear WebElement
 - Close Window
 - Close Window & Auto-Switch
 - Dismiss Browser Alert
 - Element matches Selector
 - Execute Javascript Integer
 - Execute Javascript String
 - Execute Javascript WebElement
 - Find Element
 - Find Element by CSS
 - Find Element by ID
 - Find Element by Sizzle
 - Get Current Window Handle
 - Get Property Value
 - Get Selected Option Index
 - Get Selected Option Text
 - Get Selected Option Value
 - Get Text
 - Is Element Displayed
 - Is Selected
 - Maximize

Selenium still available if needed

Test Suite Dependencies

Define if tests in a test suite should run parallel or sequentially

Create and delete a product

Export

Run

Go back

OrdersTestApp /

Parallel Sequential

Create and delete a product

Test Steps Show Usages Stories

Delete

<input type="checkbox"/>	NAME
<input type="checkbox"/>	1 Add Product
<input type="checkbox"/>	2 Delete product, no menu


Select and add test case/suite

Cross platform testing


General Settings Cancel Run

Environment
Company Expenses App (Standard) ▼

Selenium hub
BrowserStack Charlie ▼

Browser


Platform Settings

Platform
 Windows 10 ▼

Resolution
1920x1080 FullHD (16:9) ▼
1920x1080 FullHD (16:9)
1600x1200 UXGA (4:3)
1280x1024 SXGA (5:4)
1024x768 XGA (4:3)

Test your scenarios with Internet Explorer

General Settings

Environment
Order test app - accp

Selenium hub
Testingbot - ako free

Browser

Platform Settings

Platform
Windows 10

Resolution
1920x1080 FullHD (16:9)

[Cancel](#) [Run](#)

Jobs | Schedules | CI/CD Templates

Name: Run by:

Browser: Result:

Before: After:

[Search](#) [Reset](#)

1 to 10 of 30

	NAME	RUN BY	FINISHED	DURATION
	Create and delete a product	Andrej Koelewijn		
	demo for gordon	Andrej Koelewijn	6 days ago	00:00:09
	ATS tech talk demo	macOS Andrej Koelewijn	2 months ago	00:00:09
	ATS tech talk demo	macOS Andrej Koelewijn	2 months ago	00:00:12
	edit product	macOS Andrej Koelewijn	2 months ago	00:00:09
	Edit a car product	Andrej Koelewijn	2 months ago	00:00:16
	Edit a car product	Andrej Koelewijn	2 months ago	00:00:20
	Add Product	Andrej Koelewijn	2 months ago	00:00:13
	Create and delete a product	CI/CD API	2 months ago	00:00:23
	Add Product	Andrej Koelewijn	2 months ago	00:00:17

Flexible reporting

Generate Report

Please select the items that you would like to include in the report:

All
 Selected

[Add](#) [Remove](#)

TYPE	NAME
	ATS demo
	Edit a car product


[Generate](#)

2018-03-29 10_23_59ResultExport.pdf - Adobe Acrobat Reader DC

File Edit View Window Help

Home Tools 2018-03-29 10_23... x [Sign In](#)

App OrdersTestApp Date 29.03.18 10:23
Name Andrej Koelewijn Page 1 / 2

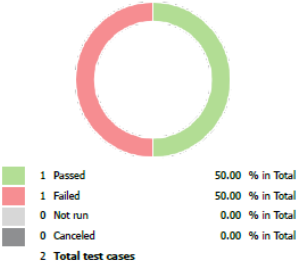


Test Report

App OrdersTestApp Date 29.03.18 10:23


Summary

Today



1 Passed	50.00 % in Total
1 Failed	50.00 % in Total
0 Not run	0.00 % in Total
0 Canceled	0.00 % in Total
2 Total test cases	

App OrdersTestApp Date 29.03.18 10:23
Name Andrej Koelewijn Page 2 / 2



Tests

Name	Duration	Last run	Result	Success rate
ATS demo	12.0 sec.	11.10.17 14:34 / Andrej Koelewijn	Passed	
Edit a car product	16.0 sec.	09.02.18 15:33 / Andrej Koelewijn	Failed	

Readable result log

ATS - Application Test Suite

https://ats100.mendixcloud.com/index.html

ATS Powered by Mansystems

Apps / ATS (Application Test Suite) / Test Runs / Result Log

TESTPLUGIN

My Apps

Dashboard

Test Cases

Test Runs

Not Finished - New/Edit/Delete Environment - with/without selection

Go back

0: Not Finished - New/Edit/Delete Environment - with/without selection /

Test Steps Run Configuration **Error Log** Screenshot

```
Not Finished - New/Edit/Delete Environment - with/without selection:
  at 26: [Get Grid Selector Box Value]:
    with Widget Name: grid5
    with Column Caption: Name

Get Grid Selector Box Value:
  at 1: [Find Grid Selector]:
    with Widget Name: grid5
    with Column Caption: Name

Find Grid Selector:
  at 4: [Set Return Value]:
Set Return Value (SET_RETURN_VALUE)
Caused by: com.mansystems.ATS.Runner.exceptions.ValueNotFoundException: The required value was not found for the internal p
arameter RETURN_VALUE
  at com.mansystems.ATS.Runner.execution.ValueStack.getRequiredValue(ValueStack.java:107)
  at com.mansystems.ATS.Runner.execution.ExecutionContextActionInternal.functionSetReturnValue(ExecutionContextAction
Internal.java:94)
  at com.mansystems.ATS.Runner.execution.ExecutionContextActionInternal.run(ExecutionContextActionInternal.java:83)
  at com.mansystems.ATS.Runner.execution.ExecutionContextAction.execute(ExecutionContextAction.java:74)
  at com.mansystems.ATS.Runner.execution.ExecutionContextTestStep.execute(ExecutionContextTestStep.java:103)
```

Error log shows cause for failing test

ATS settings

The screenshot shows the 'Settings' page for the 'OrdersTestApp' in the ATS interface. The header includes the 'ATS Powered by Mansystems' logo and user profile information for Andrej Koelewijn. The main content area is divided into several sections: 'Environments' with 'New', 'Edit', and 'Delete' buttons; 'Selenium hubs' with a 'Search' button and a 'New Selenium Hub' button; and three configuration cards for 'Log retention time' (set to 90 days), 'Mendix API Key' (not set), and 'CI/CD API Key' (generate new key). A user profile dropdown menu is open, showing options for 'Show Profile', 'Show Community Profile', 'Show Test Settings', and 'Log out'. A callout box points to the 'Show Test Settings' option.

ATS Powered by Mansystems

Apps / OrdersTestApp / Settings

TESTPLUGIN

My Apps
Dashboard
Test Cases
Test Runs

This is the central point to configure ATS. Here you can set the Mendix API Key, add your environments and your s

[Go back](#)

Environments

[New](#) [Edit](#) [Delete](#)

NAME	URL
------	-----

Selenium hubs

[Search](#) [New Selenium Hub](#)

0 to 0 of 0

Log retention time

Delete logs older than X days

90

[Edit retention time](#)

Mendix API Key

Mendix API key is not set

[Set API Key](#)

CI/CD API Key

The CI/CD API key is used to authorize other systems or applications access to the ATS CI/CD API.

[Generate new CI/CD API key](#)

Andrej Koelewijn
andrej.koelewijn@mendix.com

Show Profile
Show Community Profile
Show Test Settings
Log out

- Configure App environments
- Configure selenium hub
- Configure CI/CD Keys

Run test against multiple environments

The screenshot displays a test runner interface with a list of test steps. The first step is highlighted and expanded to show its configuration. The step is named "1 Open app at https://orderstestapp.mxapps.io/index.html?profile=Responsive". The configuration panel for this step includes a "Call Type" section with "Regular" selected, a "Precondition" checkbox, and an "Application URL" field. A callout box is open over the "Application URL" field, showing a dropdown menu with "Environment URL" selected. A note points to this callout box, stating "Use environment in test steps".

NAME

1 Open app at <https://orderstestapp.mxapps.io/index.html?profile=Responsive>

Open app at <https://orderstestapp.mxapps.io/index.html?profile=Responsive>

Call Type

Setup Regular Teardown

Precondition

Open Application

Application URL

Environment URL

2 Click Products overview button

3 Click New button

Order test app - dev <https://orderstestapp.mxapps.io/index.html?profile=Responsive>

Use environment in test steps

Configure test provider

The screenshot shows the 'New Selenium Hub' configuration modal in the ATS interface. The modal is titled 'New Selenium Hub' and features the Browserstack logo at the top. It contains the following fields and sections:

- Name:** A text input field containing 'Browserstack'. Below it, a note states: 'The name is used to identify the selenium hub in ATS'.
- Username:** A text input field containing 'e.g. johndoe1'. Below it, a note states: 'You can find your Browserstack username in your Browserstack account settings in the section "Automate".'
- Access Key:** A text input field containing 'e.g. 123456ABC789'. Below it, a note states: 'You can find your Browserstack access key in your Browserstack account settings in the section "Automate".'
- Custom Capabilities:** A section with 'New', 'Edit', and 'Delete' buttons, and a table with columns 'KEY' and 'VALUE'.
- Buttons:** 'Save' and 'Cancel' buttons at the bottom.

Configure Selenium hub

CI/CD Templates – web service API to run tests

Insomnia – Start test suite

Application Edit View Window Tools Help

POST `https://ats100.mendixcloud.com/ws/RunJob` Send **200 OK** TIME 546 ms SIZE 409 B

XML Auth Query Header 1 Docs

```
1 <soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
2   xmlns:tns="http://www.mendix.com/">
3   <soap:Header>
4     <tns:authentication>
5       <username>ATSAPIUser</username>
6       <password>ATSAPIUser</password>
7     </tns:authentication>
8   </soap:Header>
9   <soap:Body>
10    <tns:RunJob>
11      <TestRun>
12        <AppAPIToken>edcfad16-ed48-4d57-b6c9-dce0be14b836</AppAPIToken>
13        <AppID>35d2ecb4-1f2b-48c4-882a-78306aade2b5</AppID>
14        <JobTemplateID>a9fdd40b-ee67-4f3c-a0ed-
15          9fe8421c65a7</JobTemplateID>
16      </TestRun>
17    </tns:RunJob>
18  </soap:Body>
19 </soap:Envelope>
```

Preview Header 9 Cookie Timeline

```
1 <?xml version="1.0" ?>
2 <soap:Envelope
3   xmlns:xsd="http://www.w3.org/2001/XMLSchema"
4   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
5   xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
6   xmlns:tns="http://www.mendix.com/">
7   <soap:Body>
8     <tns:RunJobResponse>
9       <RunJob>
10        <Started>true</Started>
11        <JobID>
12          <![CDATA[5a168a85-9789-4283-8fd3-ed2f9c6e97ec]]>
13        </JobID>
14      </RunJob>
15    </tns:RunJobResponse>
16  </soap:Body>
17 </soap:Envelope>
```

ent, browser
the tests on
s to run

Web service call to run tests

Beautiful XML `/store/books/author` **mx mendix**

ATS 2 – summary

- SaaS product: <https://ats.mendix.com>
- UI improvements reduce effort to create and run tests:
- Improved performance of test runner, so you can validate more tests in less time
- Improved control over test case dependencies:
- CI/CD APIs

Wrap-up

Tips and tricks

- Define your test scripts around Mendix widgets
 - Avoid low-level selenium actions if possible
- Build test scripts as part of your sprint

Easiest way to test Mendix applications

- No installation, 5 minutes to create and run your first tests
- Can be used by anyone involved in Mendix projects
- Improves collaboration: test scripts are readable for anyone
- Create test scripts by recording your actions in the App
- No need for technical HTML knowledge
- Tests do not need to be modified when upgrading Mendix
- Small UI changes do not impact your test scripts

REGISTER
NOW

DO YOU WANT BECOME A
FULL-FLEDGED MENDIX ATS PRO?

12 APRIL 2018: BASIC ATS TRAINING
26 APRIL 2018: IN-DEPTH ATS TRAINING



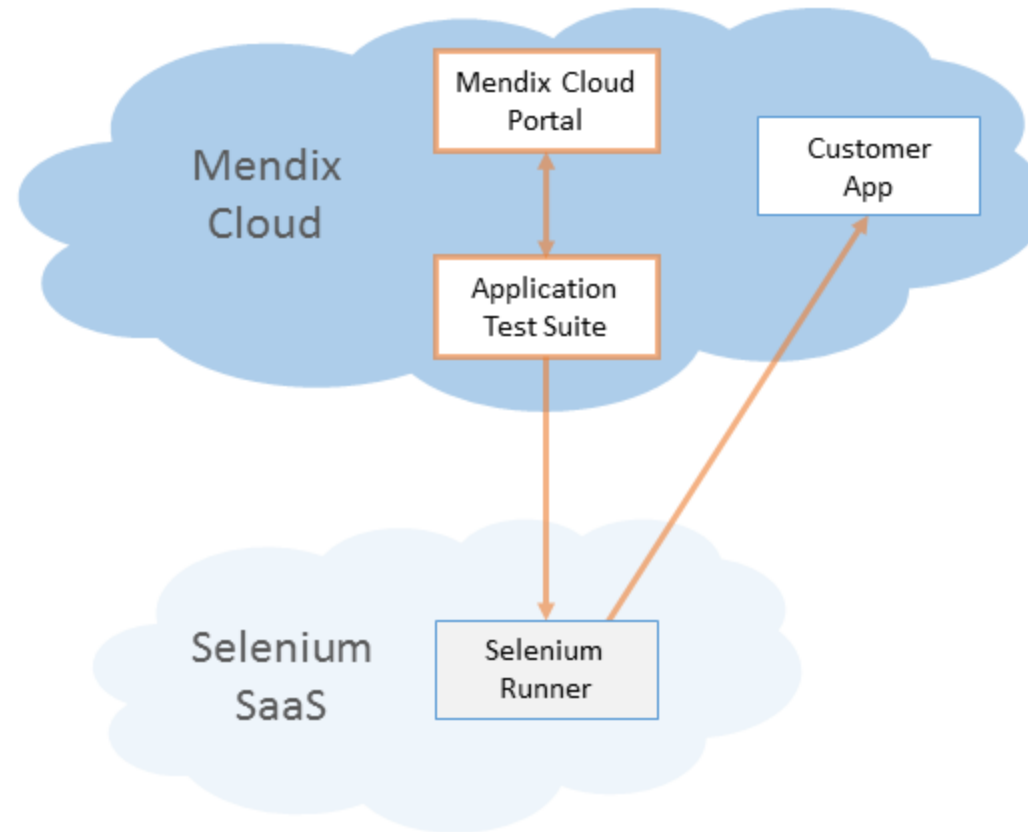
 MANSYSTEMS

Register @ <https://mansystemsacademy.nl/registration-ats-workshop/>

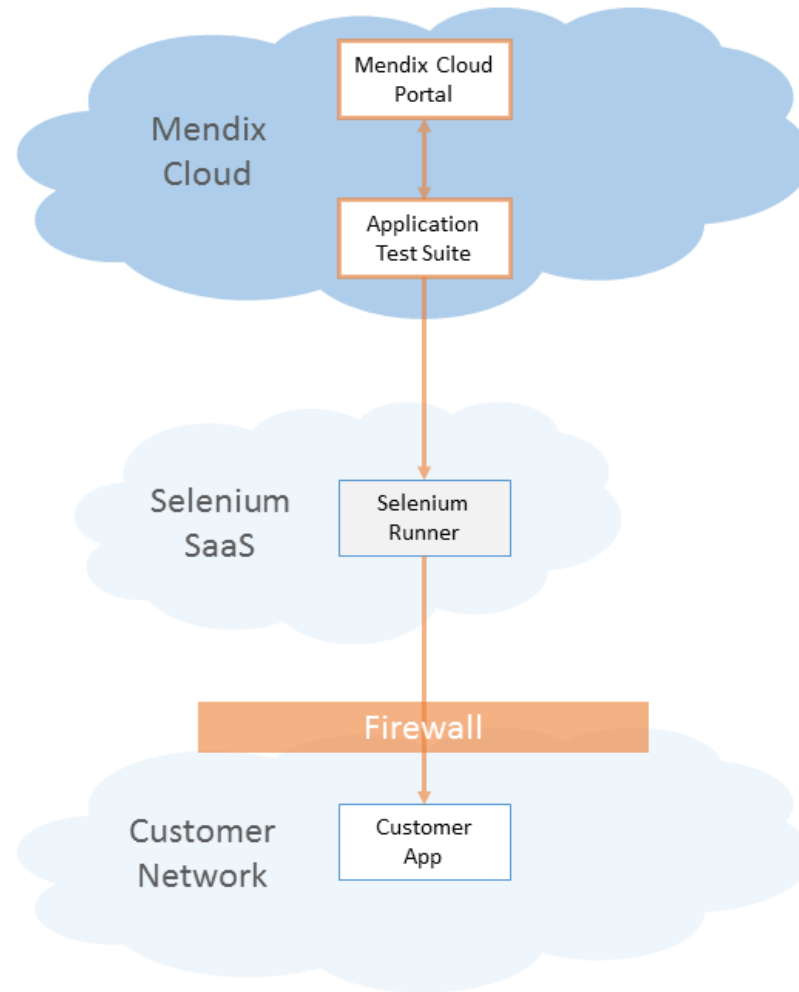
 **mendix**

Questions?

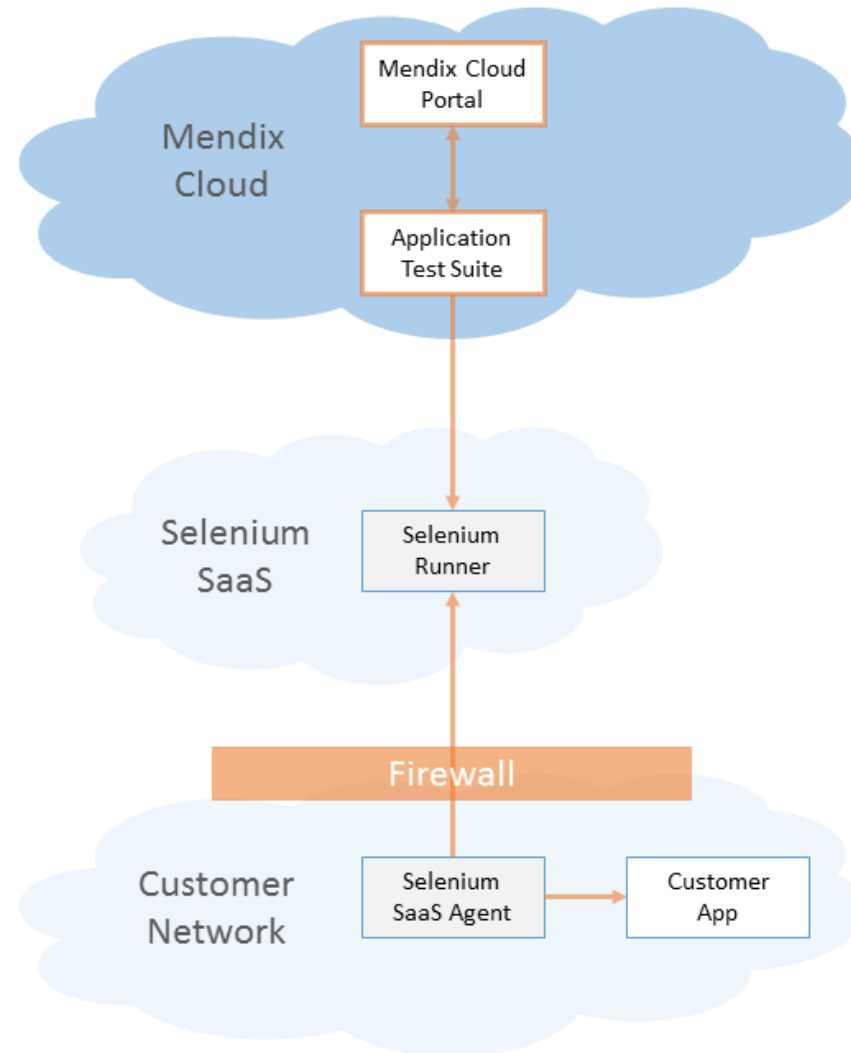
Deployment options – Mendix Cloud



Deployment options – on-prem through firewall



Deployment options – on-prem with agent



Deployment options – on-prem selenium

