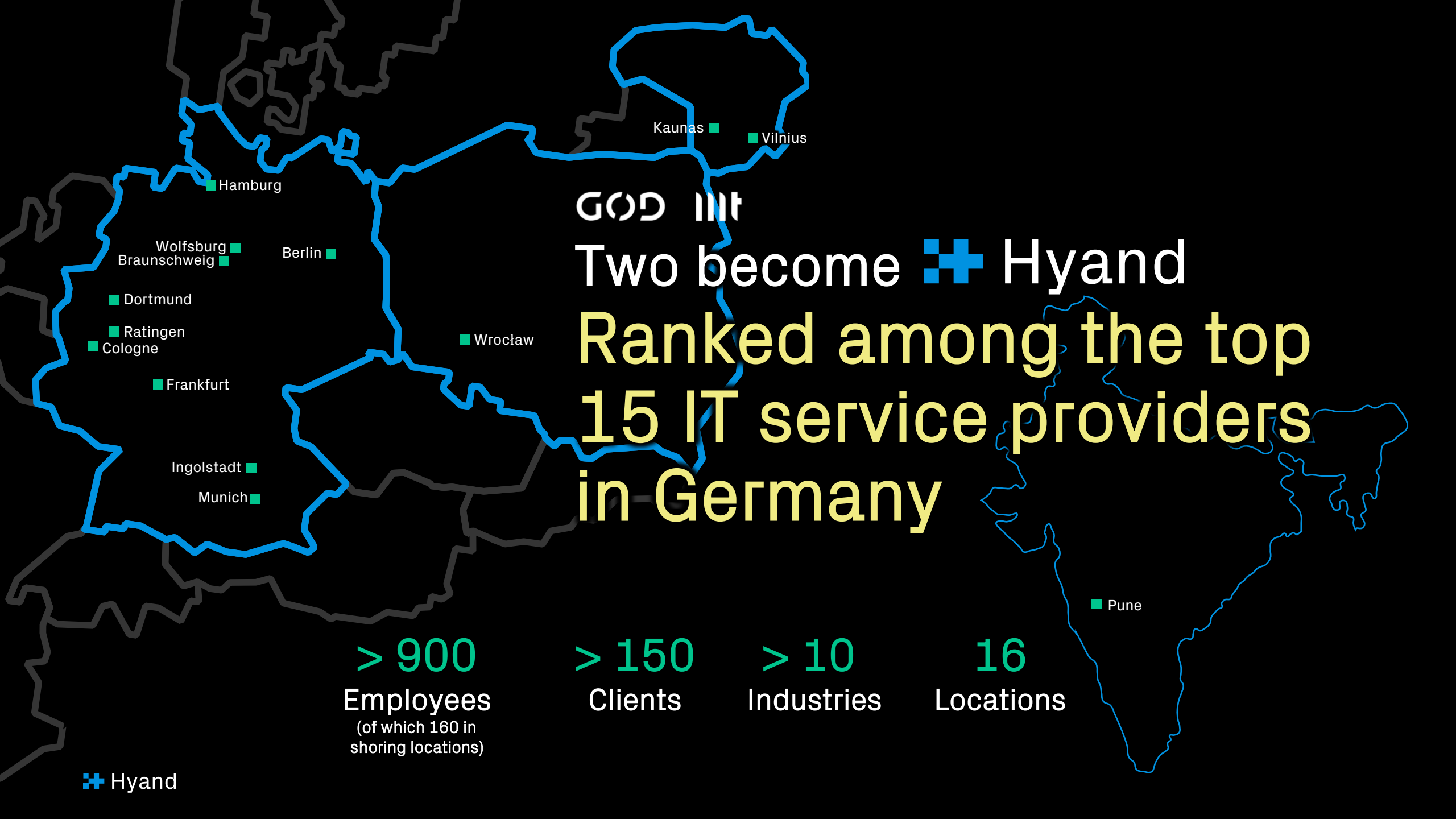
23.04.2024, APEX CONNECT

# LCT – Lessons Learned from 5 years of LCT

Kai Donato, Department Manager
Lynn Nari Lenffer, Senior Consultant

code of change

Hyand by GOD | MT




# Two become Hyand

# Ranked among the top 15 IT service providers in Germany

| > 900 | > 150 | > 10 | 16 |
|---|---|---|---|
| Employees (of which 160 in shoring locations) | Clients | Industries | Locations |

Hyand

1 Quick Overview of LCT

2 Upcoming Release 24.1

3 Lessons learned (in the field)

4 Future Plans and Enhancements

5 Q&A Session

**Kai Donato**
Product Manager

**Fabian Neureiter**
Lead Developer

**Marcel von Rhein**
Developer/Tester

**Moritz Klein**
Architect

**Lynn Lenffer**
Developer

**Chris Röhrs**
Developer

**Philipp Hartenfeller**
Lead Backend Developer

# THANK YOU!

# Top features of LCT

- No coding required
- Test thoroughly
- Multibrowser Testing
- Accessible APEX-Frontend
- An APEX App to test YOUR APEX Apps

# Timeline

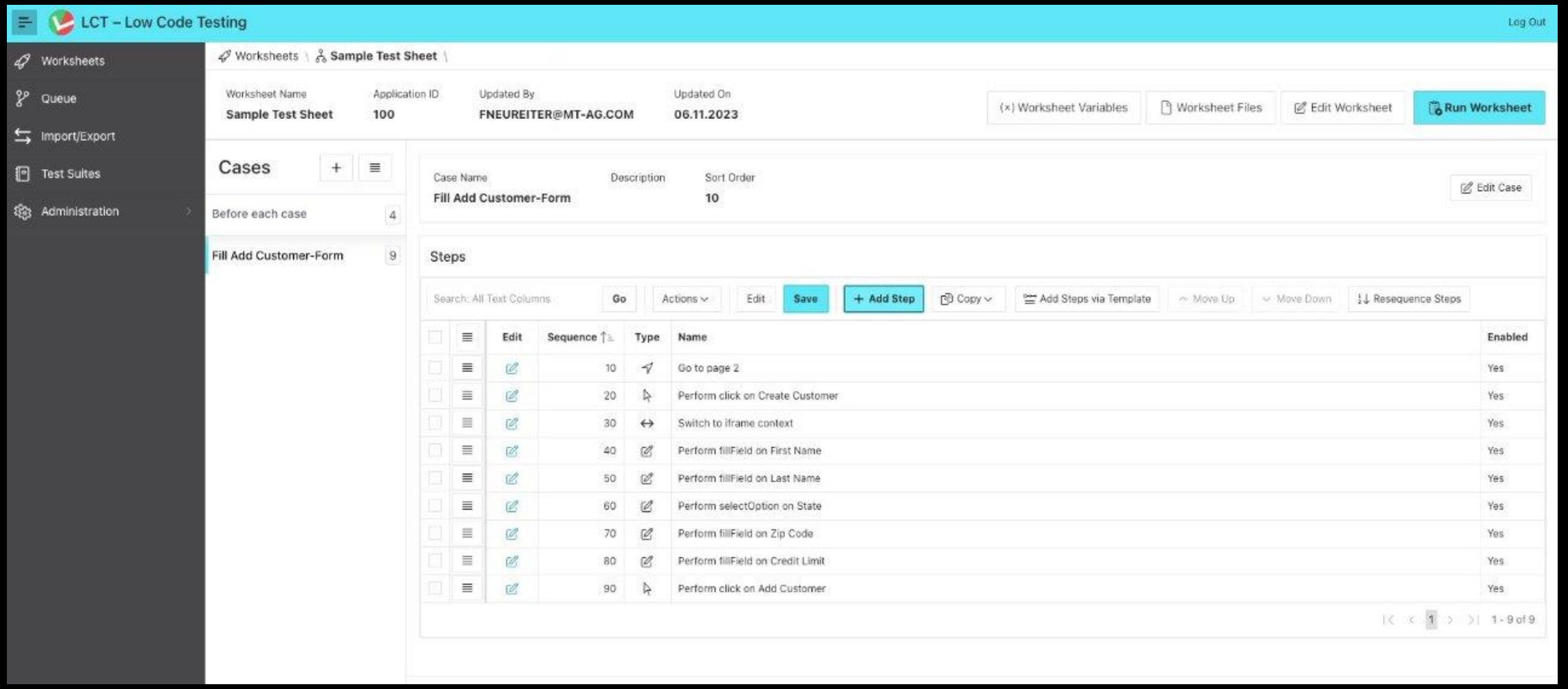
**2019** First idea by Kai (preparing for conference)

**2020** Further development as bachelor thesis by Fabian
First time at a customer (still in development)

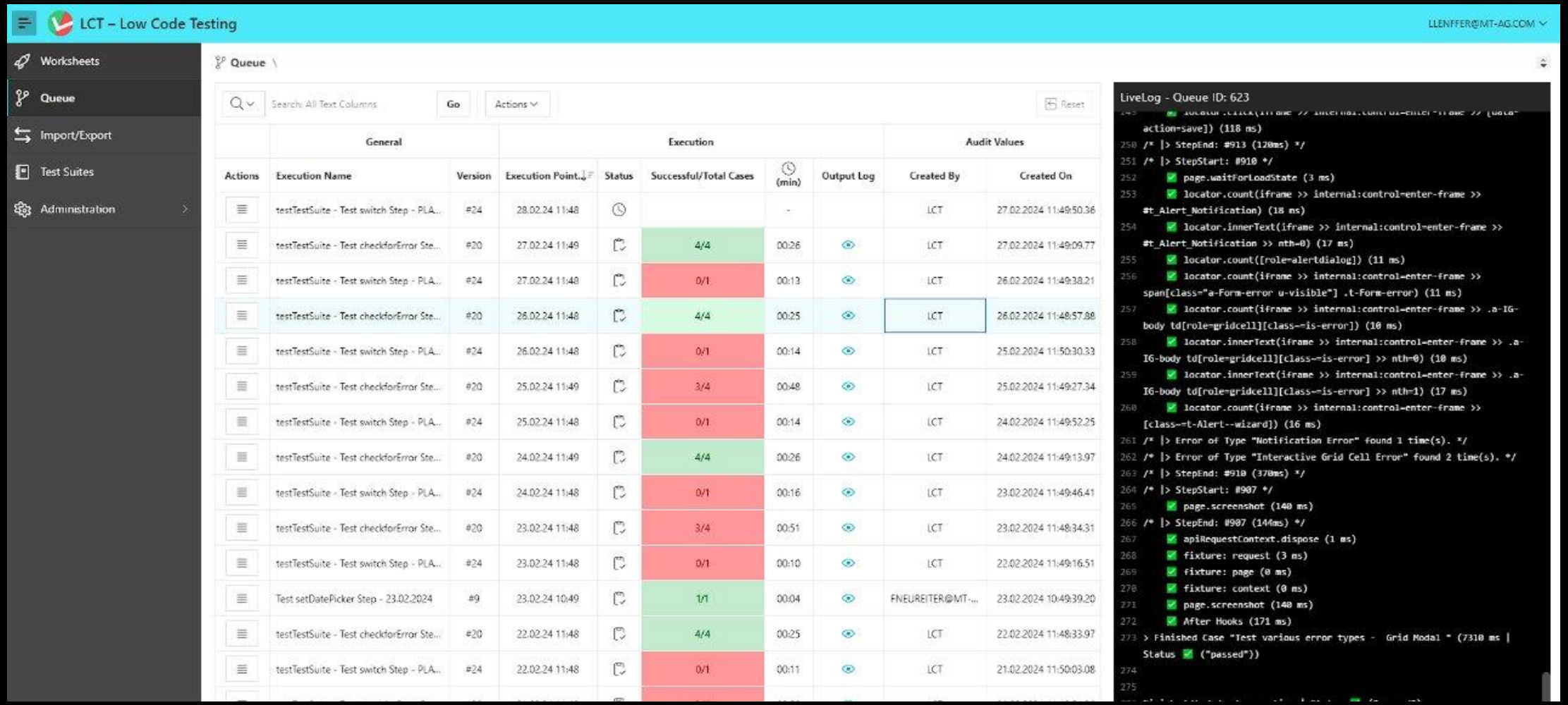
**2021** Testing our internal applications with LCT

**2022-** LCT used by several different customers
More bachelor theses based on LCT

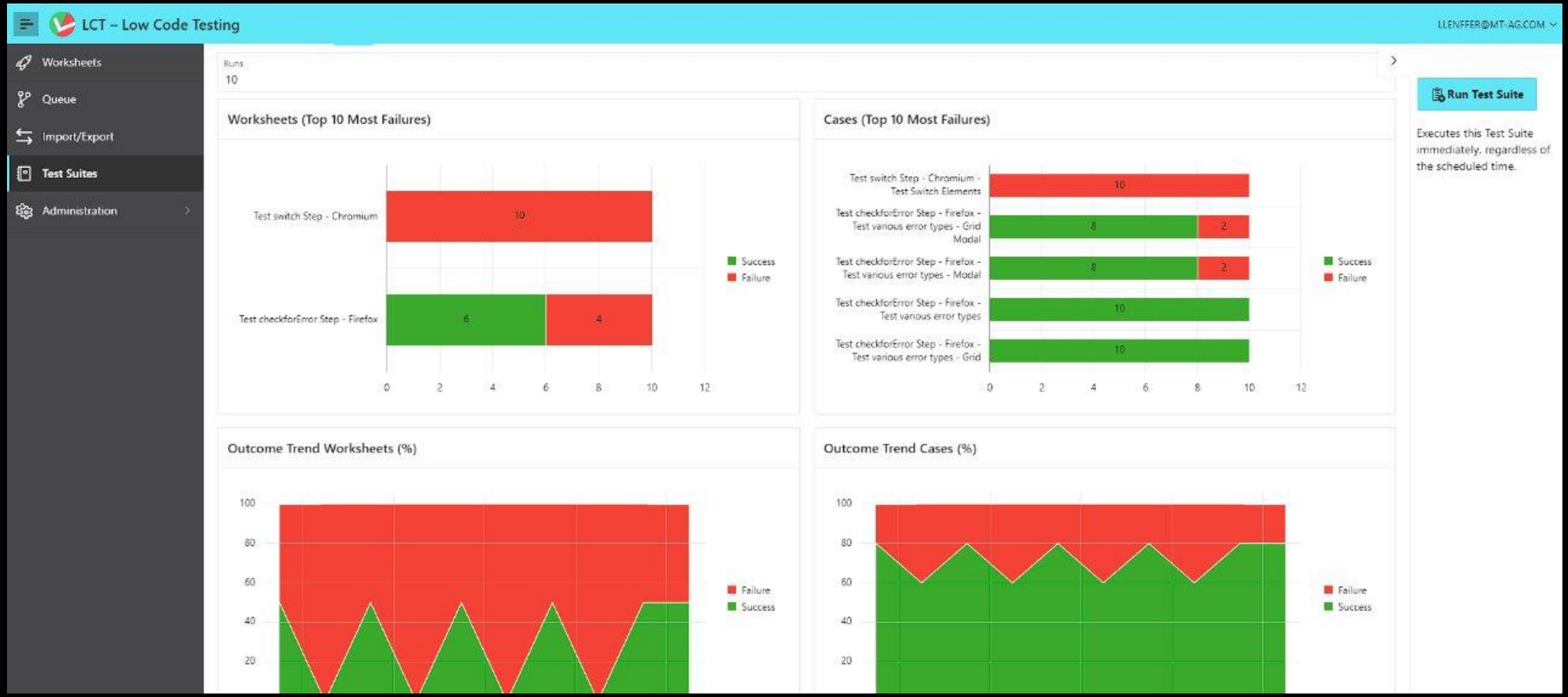
# LCT – Steps and Cases



# LCT – Queue


LCT – Low Code Testing
LLENFFER@MT-AG.COM
Worksheets
Queue
Import/Export
Test Suites
Administration
Queue \
Search: All Text Columns
Go
Actions
Reset
General
Execution
Audit Values
Actions
Execution Name
Version
Execution Point
Status
Successful/Total Cases
(min)
Output Log
Created By
Created On
testTestSuite - Test switch Step - PLA... #24 28.02.24 11:48 - LCT 27.02.2024 11:49:50.36
testTestSuite - Test checkforError Ste... #20 27.02.24 11:49 4/4 00:26 LCT 27.02.2024 11:49:09.77
testTestSuite - Test switch Step - PLA... #24 27.02.24 11:48 0/1 00:13 LCT 26.02.2024 11:49:38.21
testTestSuite - Test checkforError Ste... #20 26.02.24 11:48 4/4 00:25 LCT 26.02.2024 11:48:57.88
testTestSuite - Test switch Step - PLA... #24 26.02.24 11:48 0/1 00:14 LCT 25.02.2024 11:50:30.33
testTestSuite - Test checkforError Ste... #20 25.02.24 11:49 3/4 00:48 LCT 25.02.2024 11:49:27.34
testTestSuite - Test switch Step - PLA... #24 25.02.24 11:48 0/1 00:14 LCT 24.02.2024 11:49:52.25
testTestSuite - Test checkforError Ste... #20 24.02.24 11:49 4/4 00:26 LCT 24.02.2024 11:49:13.97
testTestSuite - Test switch Step - PLA... #24 24.02.24 11:48 0/1 00:16 LCT 23.02.2024 11:49:46.41
testTestSuite - Test checkforError Ste... #20 23.02.24 11:48 3/4 00:51 LCT 23.02.2024 11:48:34.31
testTestSuite - Test switch Step - PLA... #24 23.02.24 11:48 0/1 00:10 LCT 22.02.2024 11:49:16.51
Test setDatePicker Step - 23.02.2024 #9 23.02.24 10:49 1/1 00:04 FNEUREITER@MT-... 23.02.2024 10:49:39.20
testTestSuite - Test checkforError Ste... #20 22.02.24 11:48 4/4 00:25 LCT 22.02.2024 11:48:33.97
testTestSuite - Test switch Step - PLA... #24 22.02.24 11:48 0/1 00:11 LCT 21.02.2024 11:50:03.08
LiveLog - Queue ID: 623
action=save]) (118 ms)
/* |> StepEnd: #913 (120ms) */
/* |> StepStart: #910 */
page.waitForLoadState (3 ms)
locator.count(iframe >> internal:control=enter-frame >> #t_Alert_Notification) (18 ms)
locator.innerText(iframe >> internal:control=enter-frame >> #t_Alert_Notification >> nth=0) (17 ms)
locator.count([role=alertdialog]) (11 ms)
locator.count(iframe >> internal:control=enter-frame >> span[class="a-Form-error u-visible"] .t-Form-error) (11 ms)
locator.count(iframe >> internal:control=enter-frame >> .a-IG-body td[role=gridcell][class~=is-error]) (10 ms)
locator.innerText(iframe >> internal:control=enter-frame >> .a-IG-body td[role=gridcell][class~=is-error] >> nth=0) (10 ms)
locator.innerText(iframe >> internal:control=enter-frame >> .a-IG-body td[role=gridcell][class~=is-error] >> nth=1) (17 ms)
locator.count(iframe >> internal:control=enter-frame >> [class~=t-Alert--wizard]) (16 ms)
/* |> Error of Type "Notification Error" found 1 time(s). */
/* |> Error of Type "Interactive Grid Cell Error" found 2 time(s). */
/* |> StepEnd: #910 (370ms) */
/* |> StepStart: #907 */
page.screenshot (140 ms)
/* |> StepEnd: #907 (144ms) */
apiRequestContext.dispose (1 ms)
fixture: request (3 ms)
fixture: page (0 ms)
fixture: context (0 ms)
page.screenshot (140 ms)
After Hooks (171 ms)
> Finished Case "Test various error types - Grid Modal " (7310 ms | Status ("passed"))

# LCT – Test Suites



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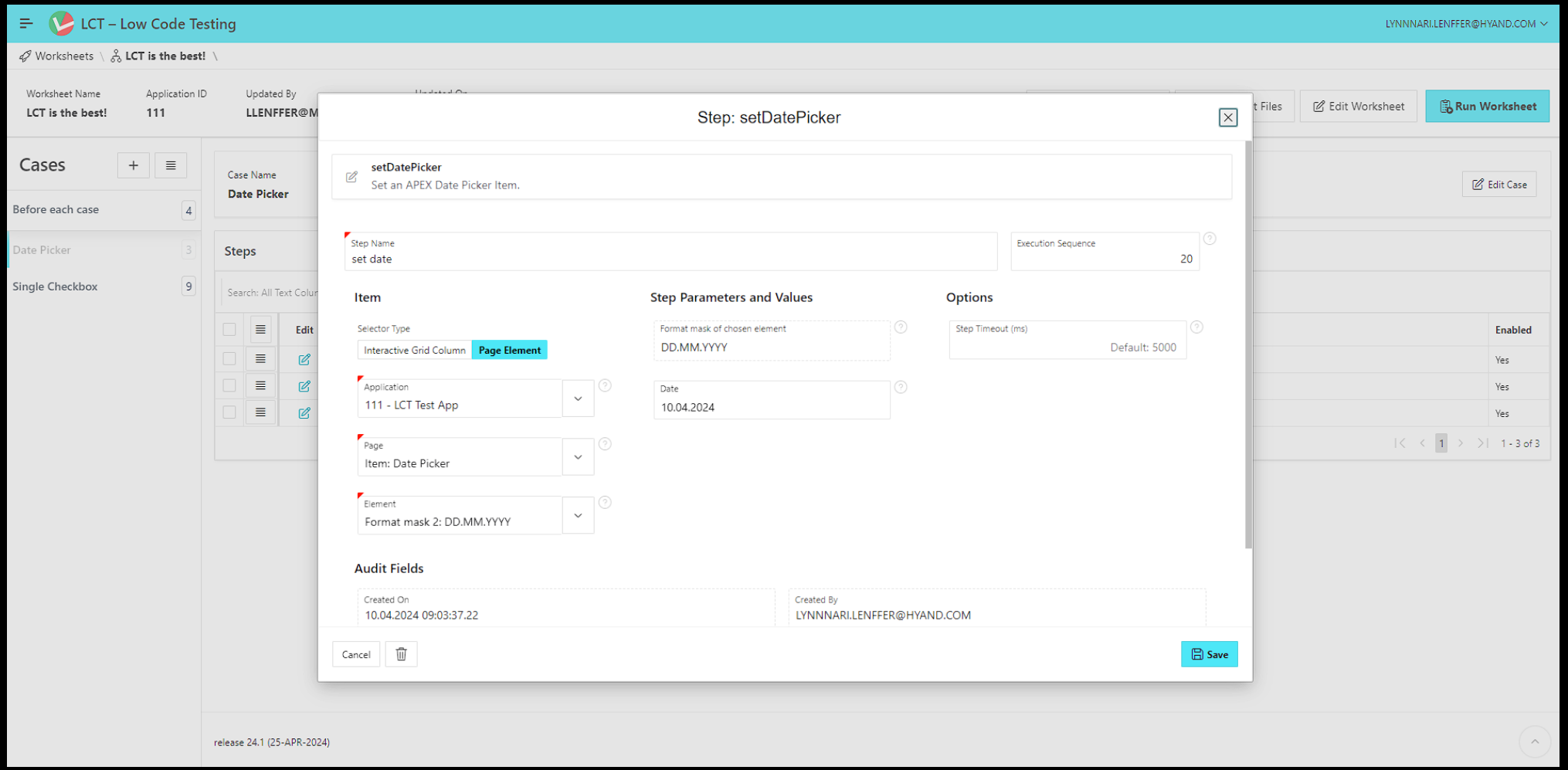
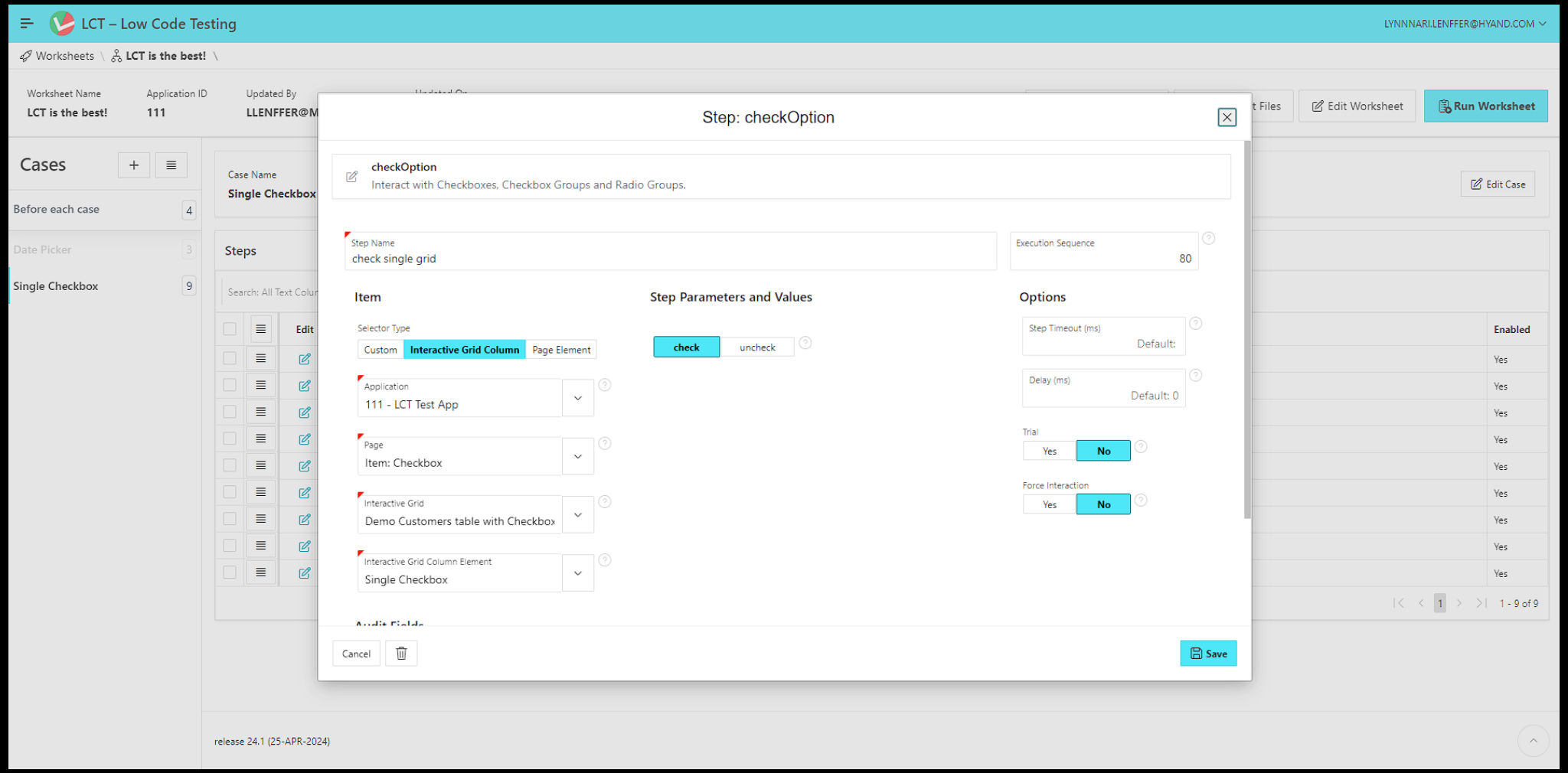
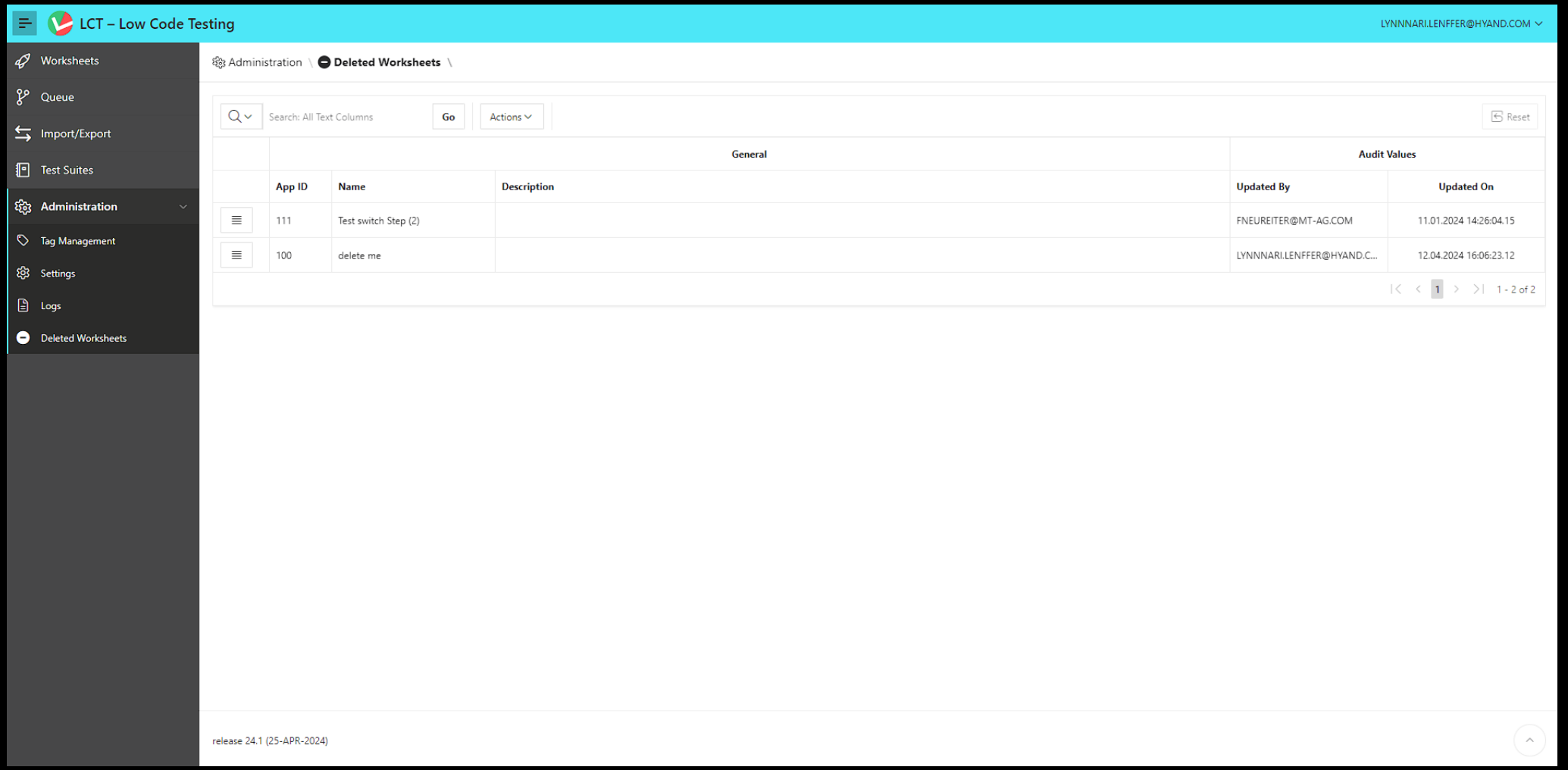
# Date Picker Step



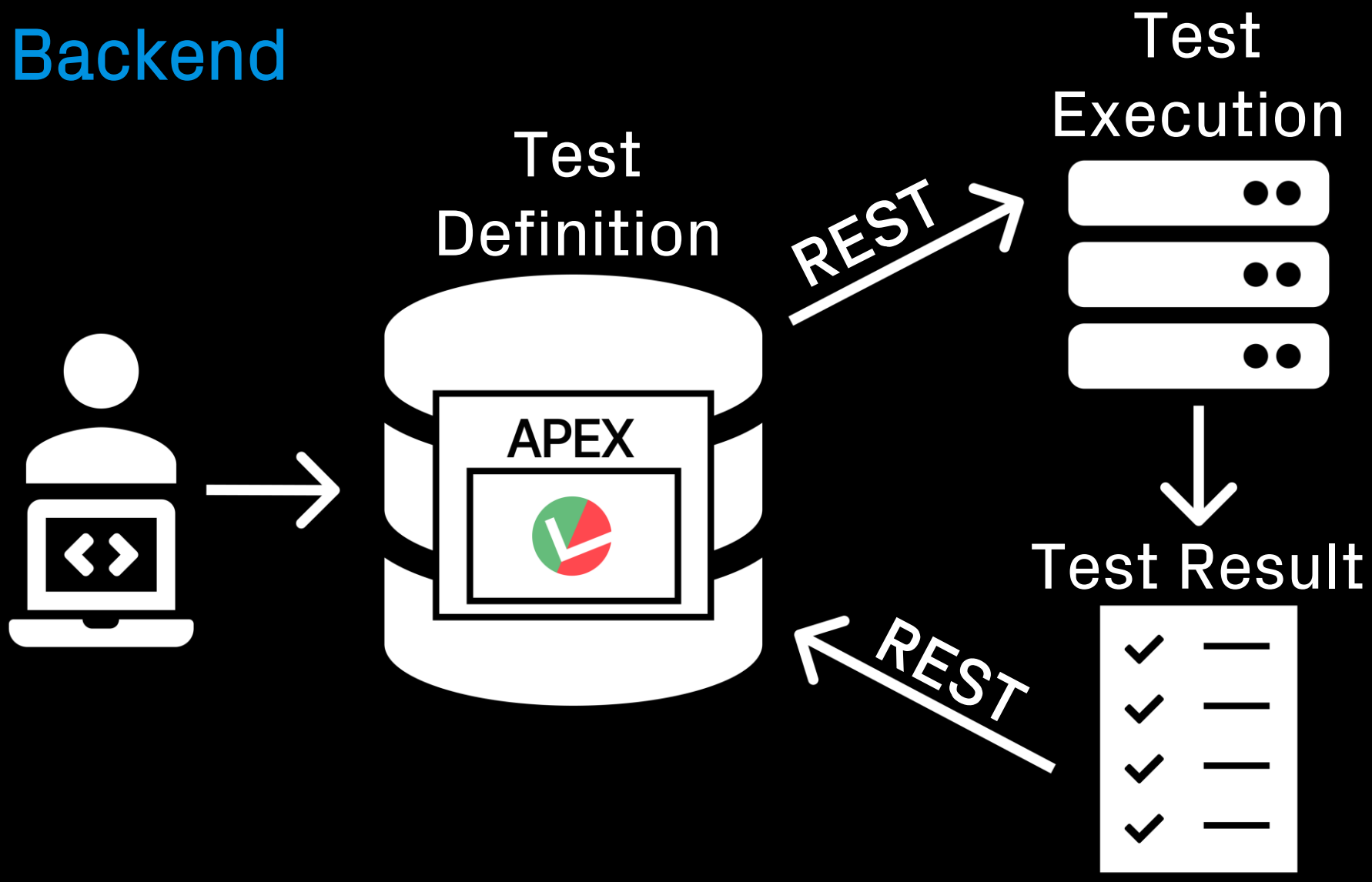
# Single Checkbox Step



# Soft Delete Worksheets



# REST Backend



# More Features

- Custom email procedure
- UI Enhancements
- Changes in Playwright
- Various minor bug fixes

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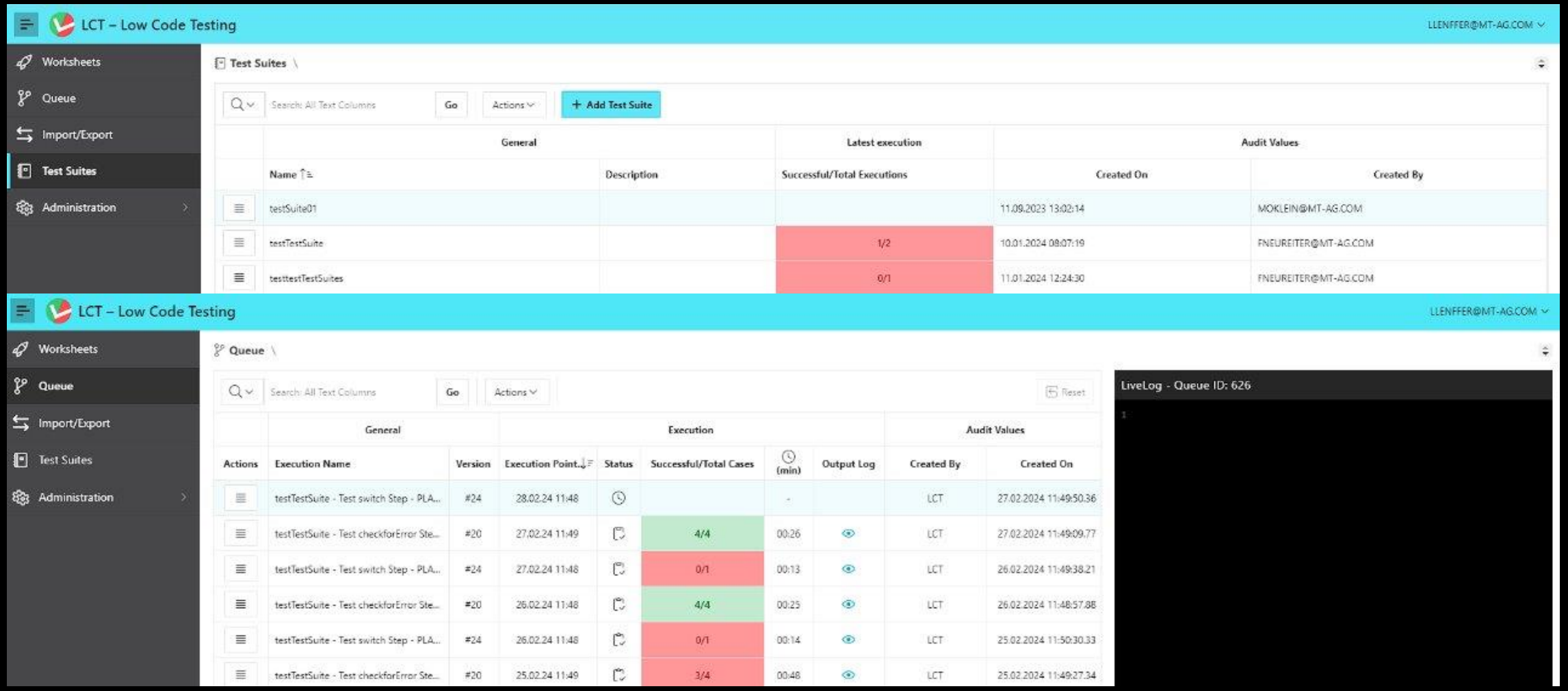
# Lessons learned

- No one has time to test!
- Users have different backgrounds/levels of knowledge
- Management views are very important
- Not every customer has the latest version of APEX
- Following and knowledge of Best Practices
- Features based on users

# Management Views



# Lessons learned

- No one has time to test!
- Users have different backgrounds/levels of knowledge
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- Not every customer has the latest version of APEX
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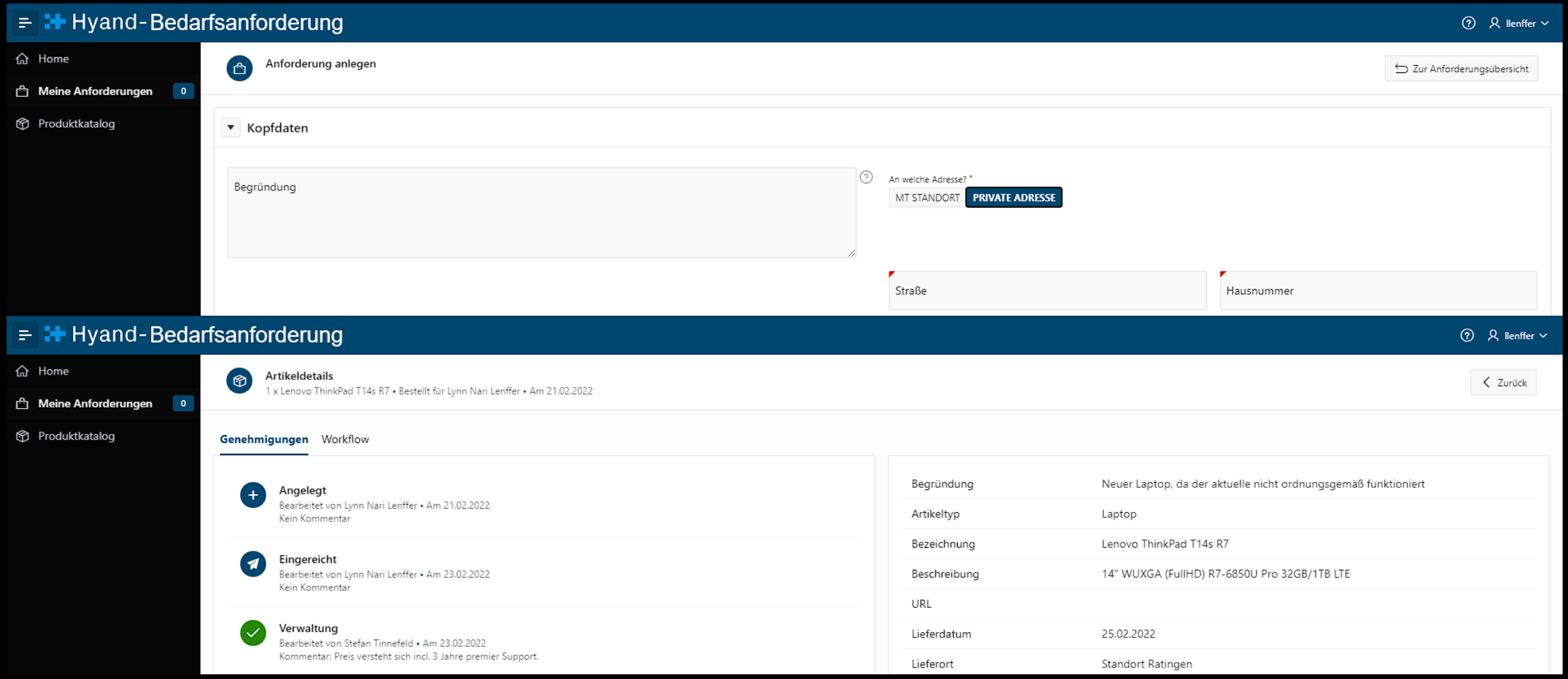
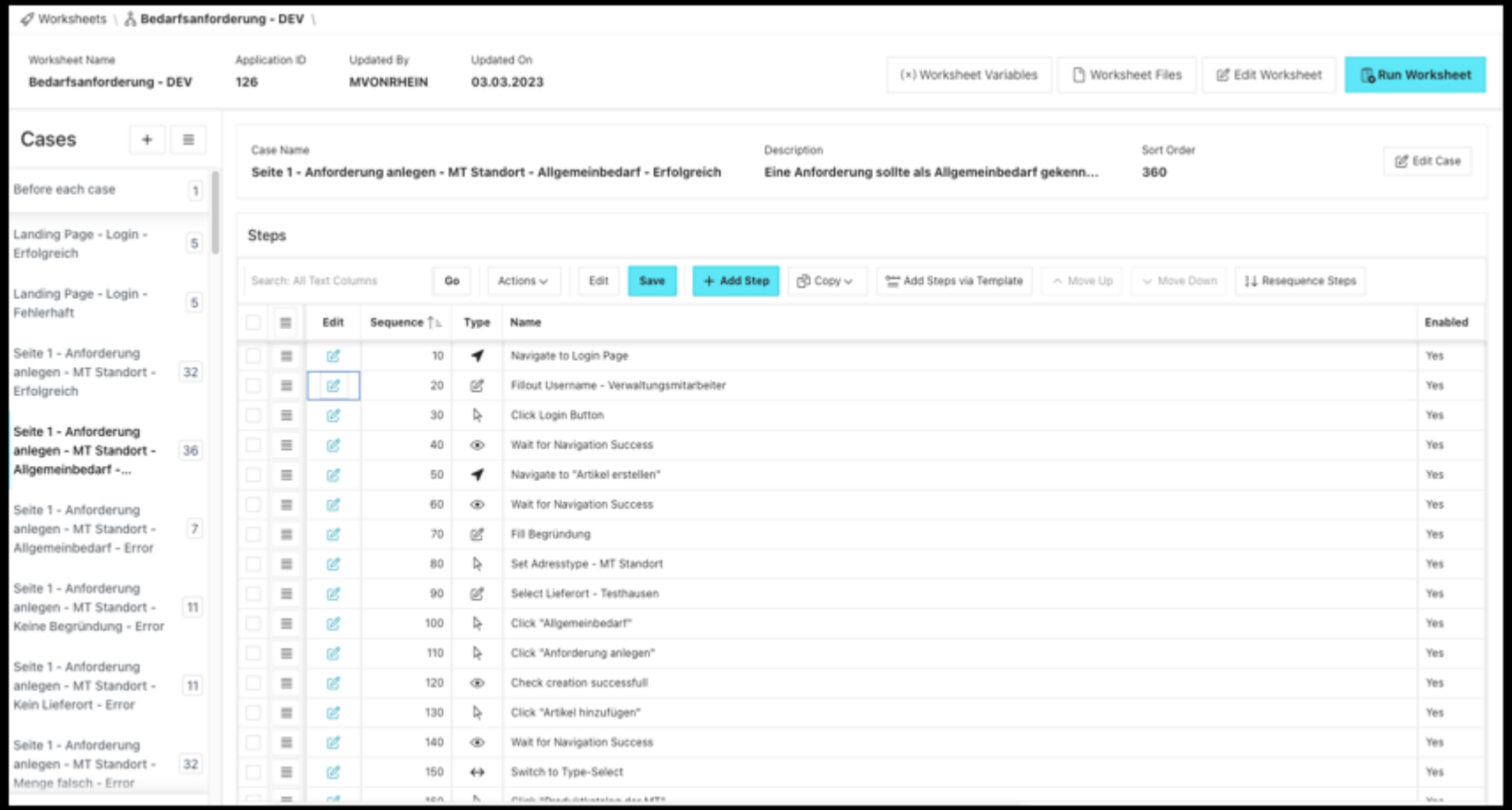
# „Bedarfsanforderung“ - Requirement requests



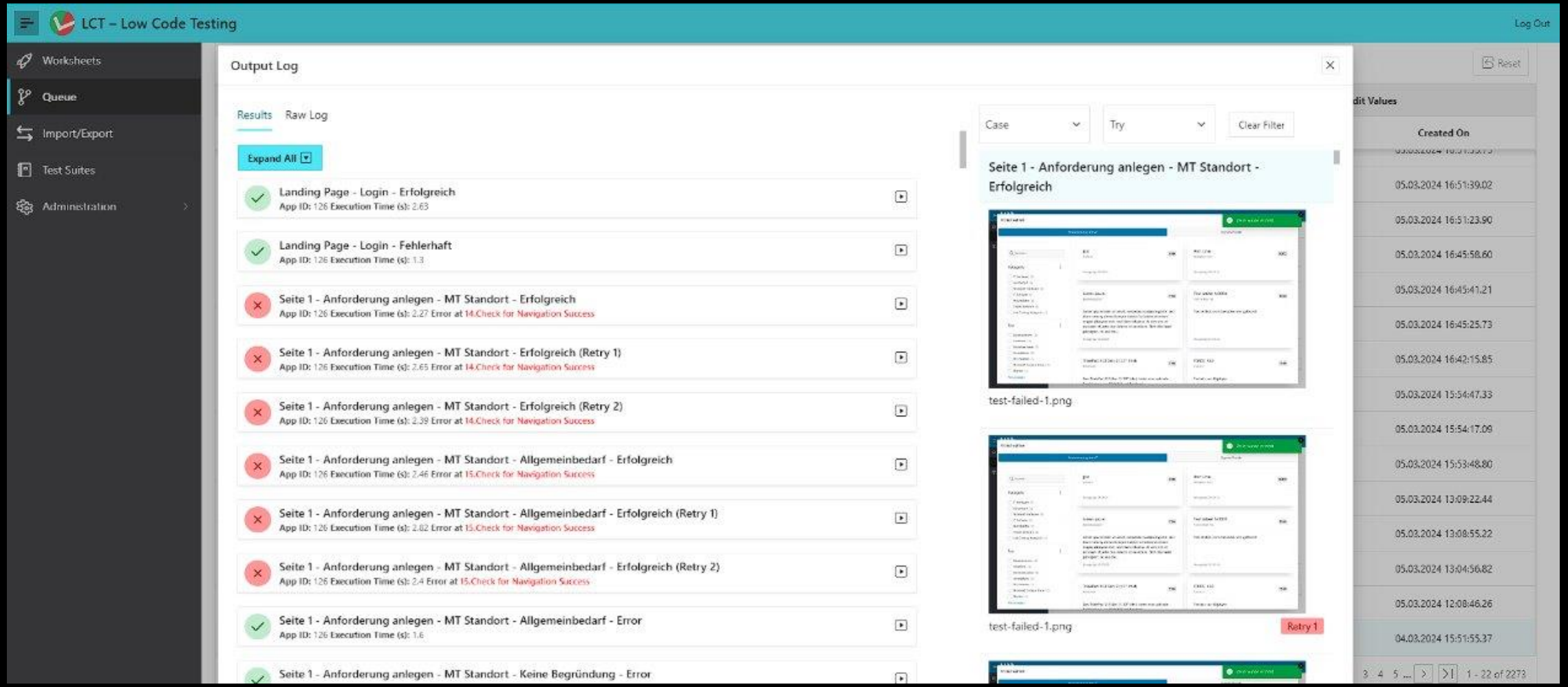
# „Bedarfsanforderung“ – Lessons learned

- 70 + Cases
- -> each with an average of 30 steps (ranging from 8 to 83)
- Huge Application -> Time saving steps make a huge difference (e.g. Interactive Grid)
- Static Ids are your best friend!
- Good knowledge of application makes testing easier
- Regression tests make releases to production much easier

# „Bedarfsanforderung“ – Cases



# „Bedarfsanforderung“ – Output Log



# „Bedarfsanforderung“ – Output Log

LCT – Low Code Testing

Log Out

Worksheets

Queue

Import/Export

Test Suites

Administration

Output Log

Results Raw Log

Expand All

Seite 1 - Anforderung anlegen - MT Standort - Menge falsch - Error
App ID: 126 Execution Time (s): 4.83

Full Trace

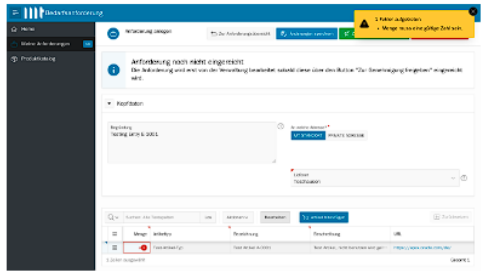
1: GET - apex-entw (115ms)
2: Navigate to Login Page (711ms)
3: Fillout Username - User (31ms)
4: Click Login Button (44ms)
5: Check for Navigation Success (313ms)
6: Navigate to Artikel bestellen (218ms)
7: Check for Navigation Success (51ms)
8: Fill Begründung (10ms)
9: Check Option - MT Standort (6ms)
10: Select Lieferort - Testhausen (10ms)
11: Click - Anforderung anlegen (48ms)
12: Check for creation successful (461ms)
13: Click - Artikel hinzufügen (62ms)
14: Check for Navigation Success (131ms)
15: Switch to Type-Select (0ms)
16: Check Option - Standard Option (102ms)
17: fill Search-Bar (270ms)
18: press "Enter" (19ms)
19: Look for Article (112ms)
20: Click Article (53ms)
21: Switch Back to Page (0ms)
22: Check for Successfully added Artikel (507ms)
23: Click - Bearbeiten (30ms)
24: Click on Interactive Grid - Menge (115ms)
25: fill Interactive Grid - Menge (25ms)
26: Click on Interactive Grid - Artikeltyp (Unfocus Menge) (96ms)
27: Click - Änderungen speichern (43ms)
28: Check for errors on the current page (594ms)
29: (124ms)
30: Click on Interactive Grid - Menge (97ms)
31: fill Interactive Grid - Menge - a (21ms)

Case

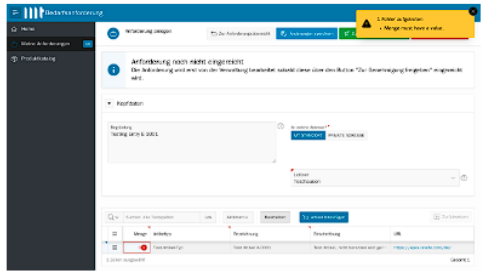
Try

Clear Filter

Seite 1 - Anforderung anlegen - MT Standort - Menge falsch - Error



Case_8.png



Case_8_1.png

Reset

dit Values

Created On

05.03.2024 17:27:33.24
05.03.2024 17:27:14.69
05.03.2024 17:26:45.21
05.03.2024 16:57:25.69
05.03.2024 16:57:11.11
05.03.2024 16:56:33.85
05.03.2024 16:52:13.26
05.03.2024 16:51:55.75
05.03.2024 16:51:39.02
05.03.2024 16:51:23.90
05.03.2024 16:45:58.60
05.03.2024 16:45:41.21
05.03.2024 16:45:25.73

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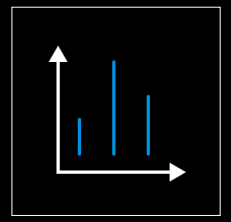
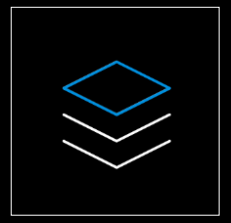
# Future Plans and Enhancements

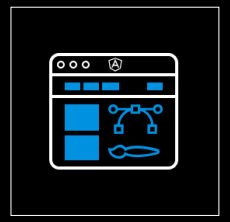
REST endpoints
for jira, git, etc.



Test coverage
statistics



Step Groups/
Templates



UI
enhancements

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# *Questions?*

# *Questions?*

Fabian Neureiter

# Say Hy_

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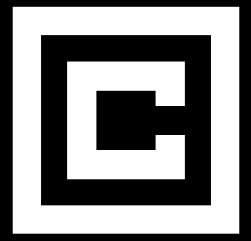

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