

Extensibility & Add-ons

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Product Manager

Seeq

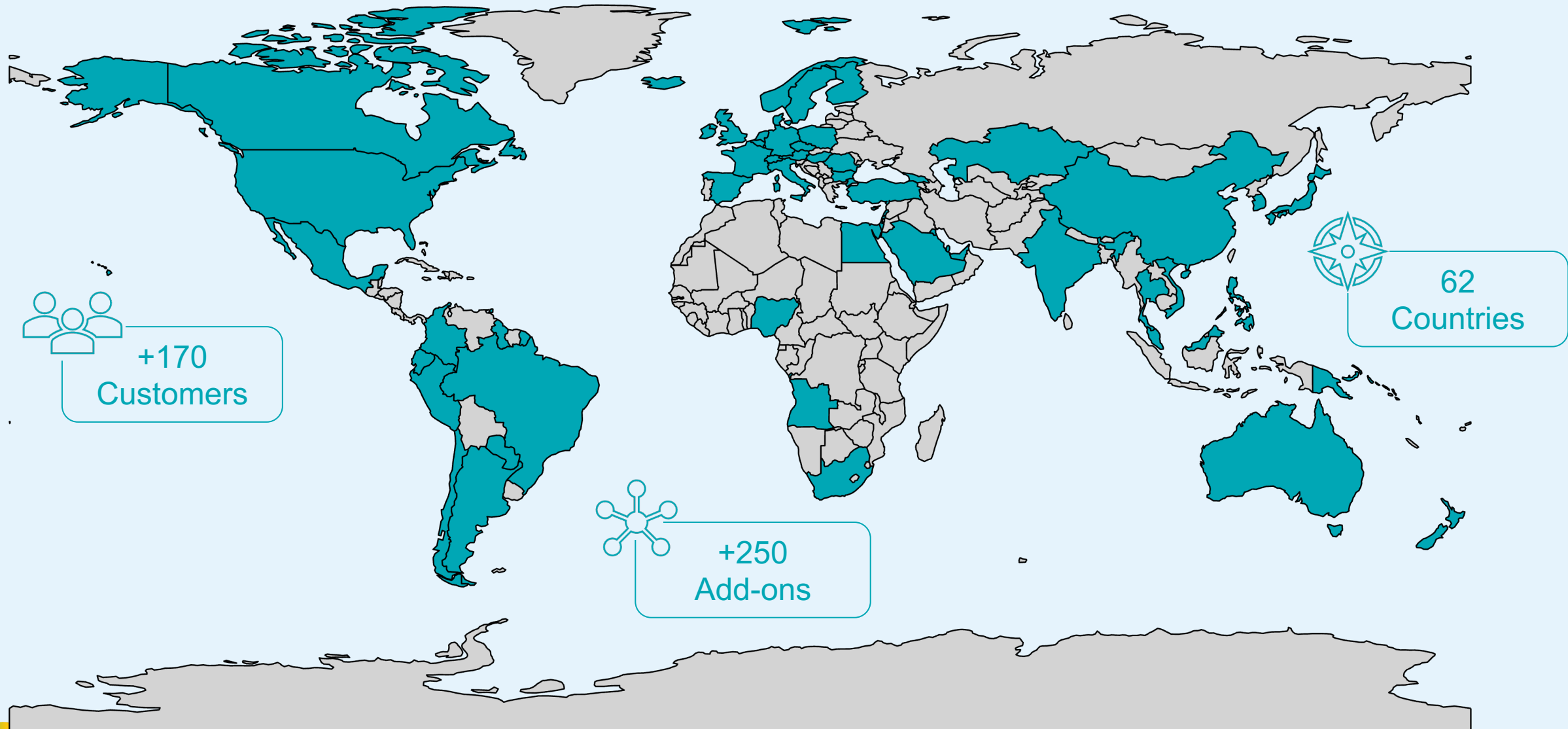


Extensibility

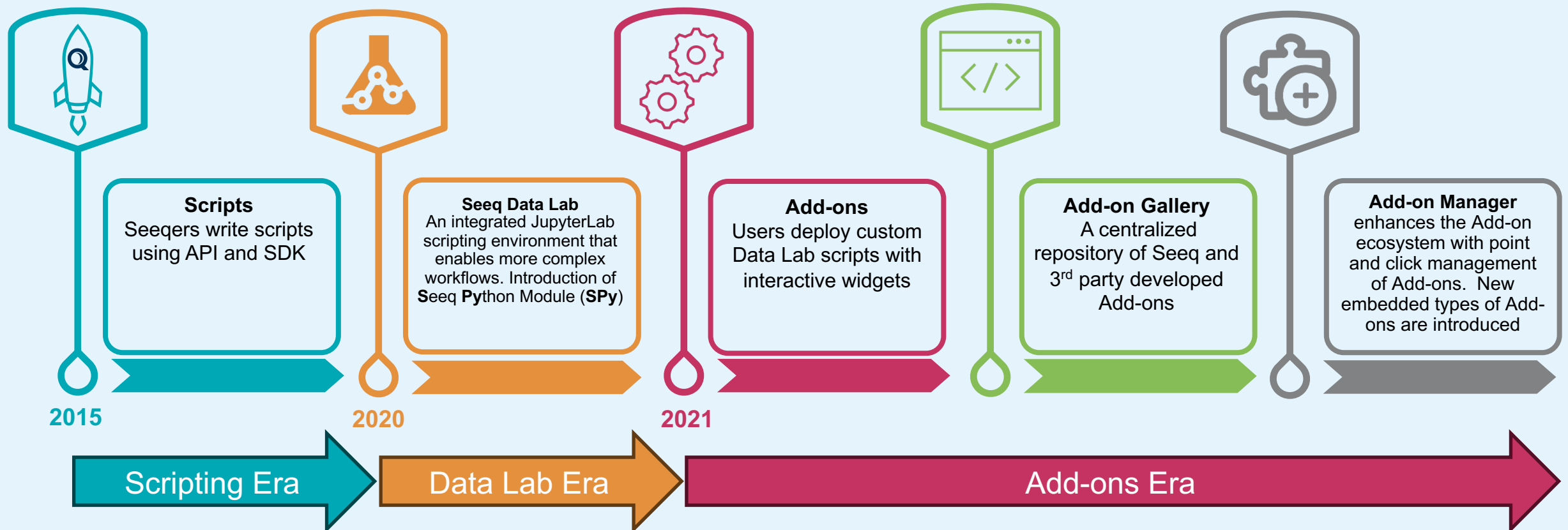


Add-ons

Add-ons Are Everywhere



The Eras Tour (Seeq's Version)

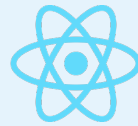


Add-ons – Frontend + Data Lab Functions Backend

Frontend

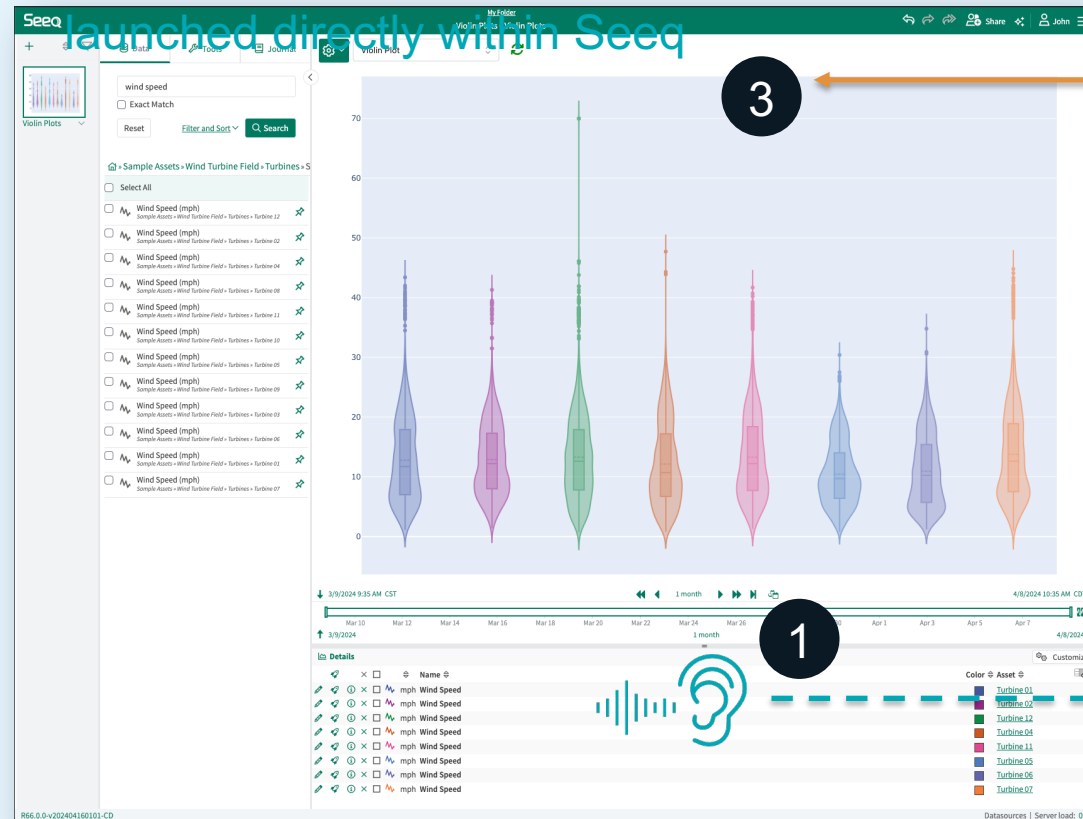
Reactive, immersive, and custom user experience built with frontend frameworks and

launched directly within Seeq



Backend

Data Lab Functions turn any Notebook cells into an API endpoint



API

POST /plot

```
1 # POST /plot
2 # Import libraries
3 import os
4 import logging
5 import plotly.graph_objects as go
6
7 my_log = logging.getLogger(os.environ['SEEQ_DATA LAB_FUNCTIONS_LOGGER'])
8 my_log.info("Violin Plot!")
9
10 # Get Signals
11 signals = pd.DataFrame(REQUEST['body']['signals'])
12 signals = signals.rename(columns={'id':'ID'})
13
14 # Determine start, end, and display pane size
15 start = pd.to_datetime(REQUEST['body']['start'], unit='ms')
16 end = pd.to_datetime(REQUEST['body']['end'], unit='ms')
17 height = REQUEST['body']['height']
18 width = REQUEST['body']['width']
19
20 # Pull Data
21 search = spy.search(signals, all_properties=True, quiet=True)
22 pull = spy.pull(search, start=start, end=end, grid=None, header="ID", quiet=True)
23
24 # Create Figure
25 fig = go.Figure()
26 for id in search['ID']:
27     fig.add_trace(go.Violin(x=list(search['ID'][search['ID'] == id])*len(pull[id]),
28                             y=pull[id],
29                             name=signals[signals['ID']==id]['name'].iloc[0],
30                             line_color=signals[signals['ID']==id]['color'].iloc[0],
31                             box_visible=True,
32                             meanline_visible=True,
33                             opacity=0.6
34                             ))
35 fig.update_layout(xaxis_showticklabels=False, showlegend=False)
36 fig.update_layout(
37     autosize=False,
38     margin=dict(l=0, r=0, t=0, b=0),
39     height=height,
40     width=width
41 )
42 svg = fig.to_image(format="svg", scale=1).decode()
43 svg
```

connect

For more info go to <https://support.seeq.com>, Add-on Development

Tool Pane Add-on: Seeq ML in Process Health Solution

Immersive multi-modal interface

Interactive user experience

Frontend written with
React & Typescript



TS

The screenshot displays the Seeq ML interface. The main panel is titled 'Seeq ML Create & Deploy' and includes a description of the framework, a 'See full documentation' link, and two buttons: 'Create a new model' and 'Load an existing model'. Below this is a 'Real Time Jobs' section with a table of jobs and an 'Add a new job' button. A configuration modal is open on the right, showing settings for a specific model. The modal includes a search bar, a list of signals to select, a date range selector, and a 'Load' button. The background shows a data visualization with a trend line and a table of values.

Seeq ML Create & Deploy

Seeq ML is a pattern matching framework that allows identification of periods of time that are similar to a training set.

[See full documentation](#)

Create a new model

Load an existing model

Real Time Jobs:

Job	Status
Name: Seeq_ML(trained_2024-03-20_21.27) Model: Seeq_ML(trained_2024-03-20_21.27).qsm Frequency: every 20 minutes Execution Condition:	
Name: T-11 Model: Seeq_ML(trained_2024-03-20_21.27).qsm Frequency: every 30 minutes Execution Condition:	

Add a new job

Seeq_ML(trained_2024-04-23T01:49)

1. My process is
☒ continuous ☐ batch

2. Quick run
☐ Check this box to perform a quick run.

3. Select any signal that may contribute to your target event(s)
Optionally load signals from asset path
Example >> Cooling Tow Load

Name	Assets	Color
<input type="checkbox"/> Compressor Power	Area C	
<input type="checkbox"/> Optimizer	Area C	
<input type="checkbox"/> Relative Humidity	Area C	
<input type="checkbox"/> Temperature	Area C	

4. Select the range that will be used for training your QSearch model.
Start Date End Date
03/30/2024 04/19/2024
☐ Limit to conditions within training

5. If you know what your target event(s) look like, select the date below or highlight them on the trend
Select a condition Load

Date/Time **Date/Time**
7/2024 7:54 PM - 4/22/2024 8:54 PM

← Back

Calculation Hierarchy

R63.1.2-v202404172028-SNAPSHOT

Backend powered
by Seeq Data Lab

+ New

Home

My Folder

- > Add-on Development
- > Add-on Manager
- > CRABs
- > CRAB-28190
- > CRAB-32942
- > Data Lab
- > Example Use Cases
- > Folder Copy Problem
- > GPT_Hackathon
- > john.garramone@seeq.com
- > John's Demo
- > Organizer Topic Testing
- > pJkR6S7JzSrJug89jf1ju-aoXA68.I8tGA3sUwN79Ffw

Shared

Corporate

Users

Trash

Add-ons

Name

Search in current folder

Q

Welcome to Seeq

Hi John, it looks like you're new to Seeq. Learn about navigation, visualizations and analytics below.

[Get Started](#)

Want to keep learning? Access hands-on analytics training:

1. Get Branch Code (from your Seeq Sales Executive, admin or training@seeq.com)
2. Click "Register" on training.seeq.com and enter Branch Code
3. Choose your role/desired learning path

Helpful Links

- Training & Certifications
- Skill Explorer
- Knowledge Base
- Seeq User Community
- Office Hours

Company Links

- [Seeq Webinars](#)
- [Seeq Use Case Examples](#)

Name	Owner	Created	Last Updated
com.seeq.add-on-manager	John Garramone	4/22/2024 4:31 PM	4/22/2024 4:32 PM
Project Apr 9, 2024 10:17 AM	John Garramone	4/9/2024 10:17 AM	4/9/2024 10:17 AM
Test7	John Garramone	3/26/2024 5:03 PM	3/26/2024 5:03 PM
Update Migrated Add-on Tools	John Garramone	8/10/2022 4:00 PM	1/13/2024 2:13 PM
Add-on Manager	John Garramone	4/6/2023 11:28 AM	12/12/2023 10:00 PM
Project Dec 8, 2023 4:57 PM	John Garramone	12/8/2023 4:57 PM	12/8/2023 5:00 PM
workbook jobs	John Garramone	12/5/2023 9:21 AM	12/7/2023 3:04 PM
getProjectIdFromName	John Garramone	12/5/2023 5:19 PM	12/5/2023 6:06 PM
R99 Advanced Analytics Exercises	John Garramone	12/5/2023 5:18 PM	12/5/2023 5:18 PM
R61 Advanced Analytics Exercises	John Garramone	12/5/2023 5:16 PM	12/5/2023 5:16 PM
Project Nov 28, 2023 5:12 PM	John Garramone	11/28/2023 5:12 PM	11/29/2023 10:11 AM
Jira Charts	John Garramone	6/13/2023 1:45 PM	11/28/2023 5:43 PM
Project Nov 28, 2023 8:55 AM	John Garramone	11/28/2023 8:55 AM	11/28/2023 9:23 AM



Updates

Multiple Python Version in Data Lab



Flexibility

- Supporting multiple Python versions allows users to choose the one that best suits their project requirements.
- Knowing the next default version in advance allows you to upgrade your Add-ons on your schedule



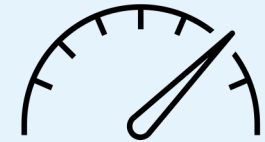
Security

- Regularly updating Python versions ensures access to security patches and bug fixes.
- Older Python versions may have vulnerabilities that can be mitigated by using newer releases.



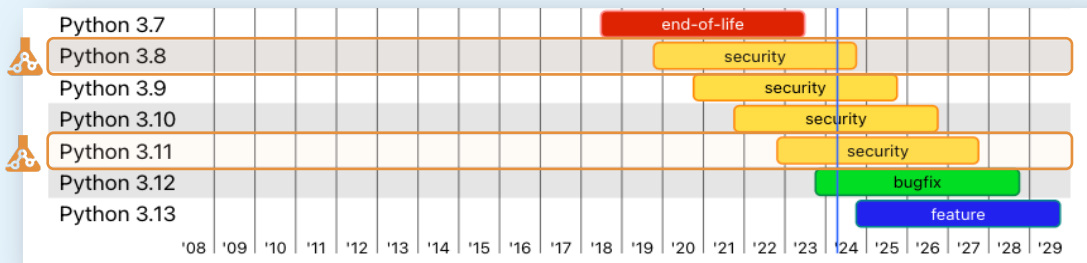
Features

- Each Python release introduces enhancements, libraries, and language features.
- Offering multiple versions allows developers to leverage the latest capabilities.

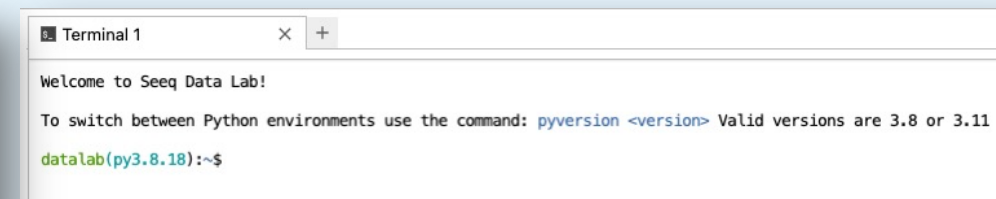


Performance

- Newer Python versions often include performance improvements, optimizing execution speed.
- Developers can choose the version that aligns with their performance needs.



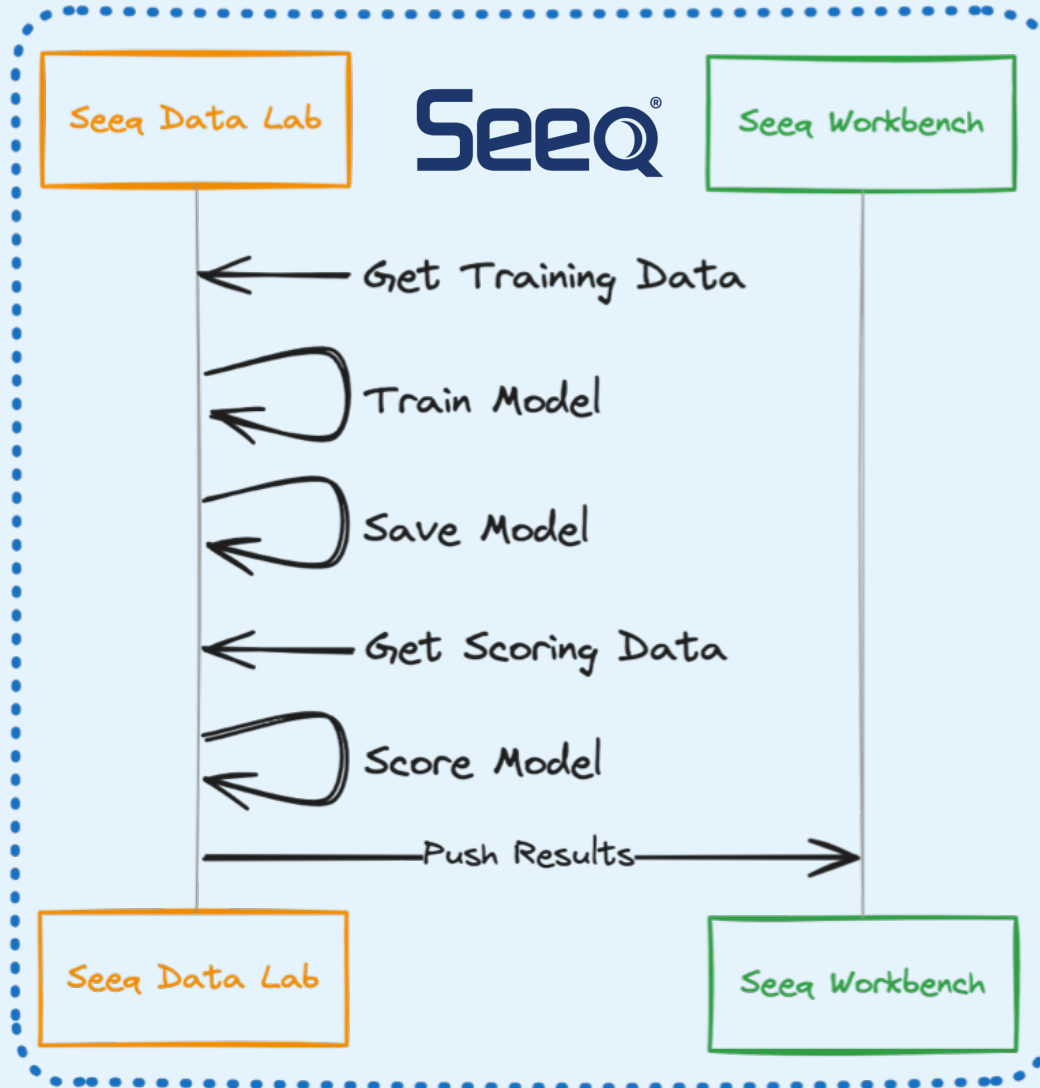
<https://devguide.python.org/versions/>



For more info go to <https://support.seeq.com>, Data Lab Python Versions

conneqt

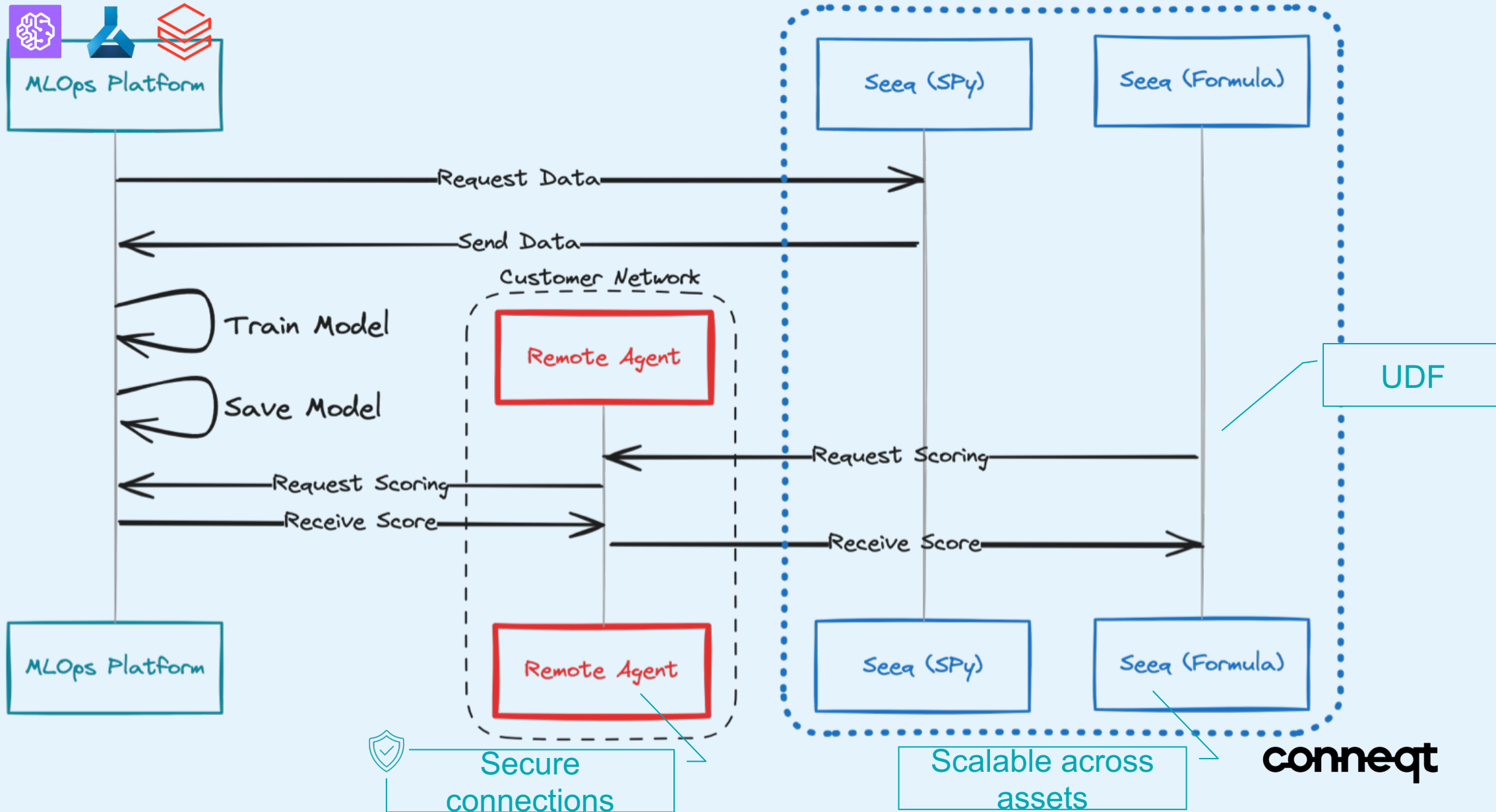
Current ML Workflow Challenges



Challenges

- Resource Constrained
 - Limited to Data Lab resource configurations
- Difficult to scale
 - Scaling across assets requires code changes
- Limited MLOps Capabilities
 - Does not utilize 3rd party platforms

The Future of ML Workflows





Questions?