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Your Flight is Boarding Now!

Vincenzo Tursi

Rosaria Silipo

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This is the last Call. Your Flight is Boarding Now!

1. Which conditions are more likely to cause delays?

2. Given those conditions, can we predict delays?

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This is the last Call. Your Flight is Boarding Now!

Predict Flight Departure Delay in US Airports

Selected Airport: **ORD**

Airline Dataset: **CSV**
http://stat-computing.org/dataexpo/2009/the-data.html

Airport Codes & Cities: **CSV**
https://www.world-airport-codes.com/

Aircraft Maintenance Data: **Web Crawling**
http://registry.faa.gov/aircraftinquiry/NNum_Results.aspx

Twitter: **Sentiment Analysis**
https://twitter.com/

US Weather Information:
https://www.ncdc.noaa.gov/cdo-web/datasets/

US Holiday Calendar:
https://www.calendar-365.com/2007-calendar.html

Radar Images:
http://vortex.plymouth.edu/rcm-u.html

Storm Watch Database (Reports): **CSV**
https://www.ncdc.noaa.gov/stormevents/

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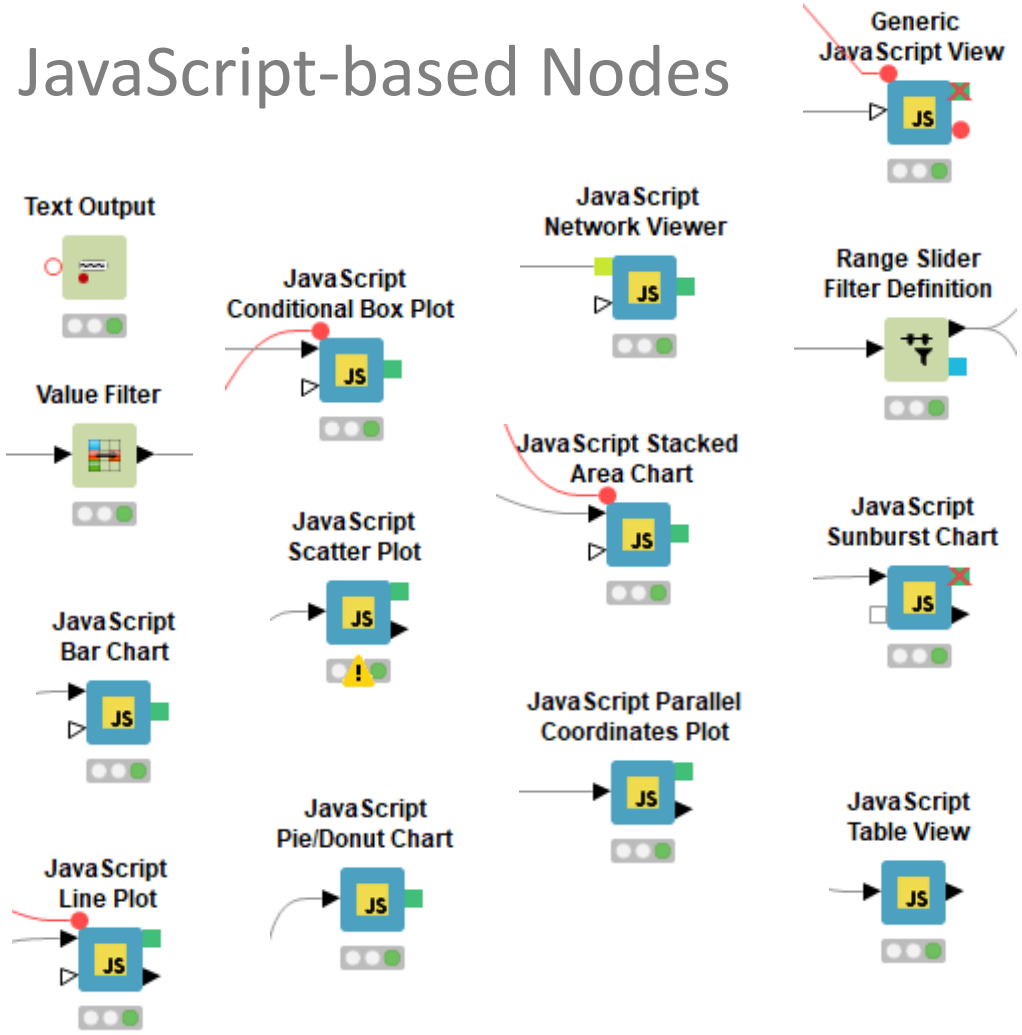
What are we Dealing with? Interactive Exploration

JavaScript-based Nodes



Wrapped Metanode

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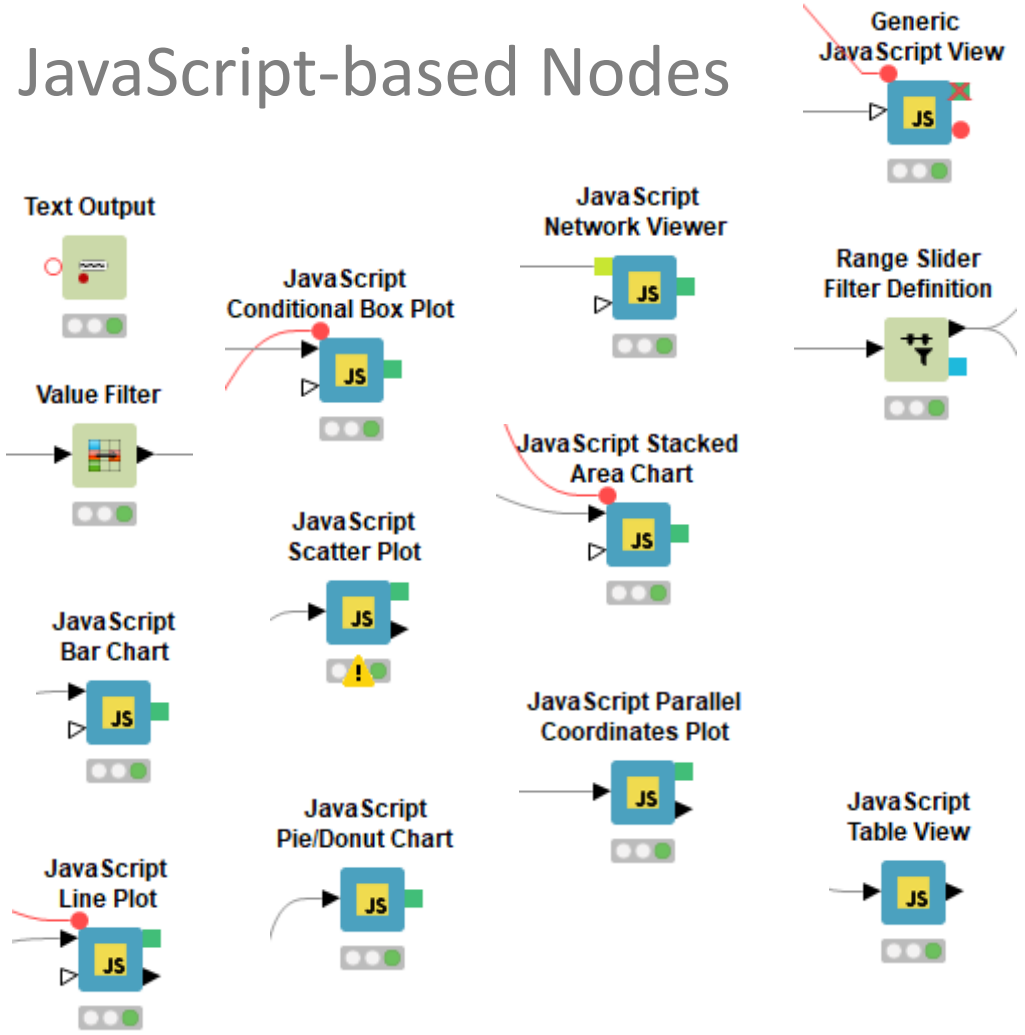

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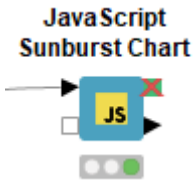

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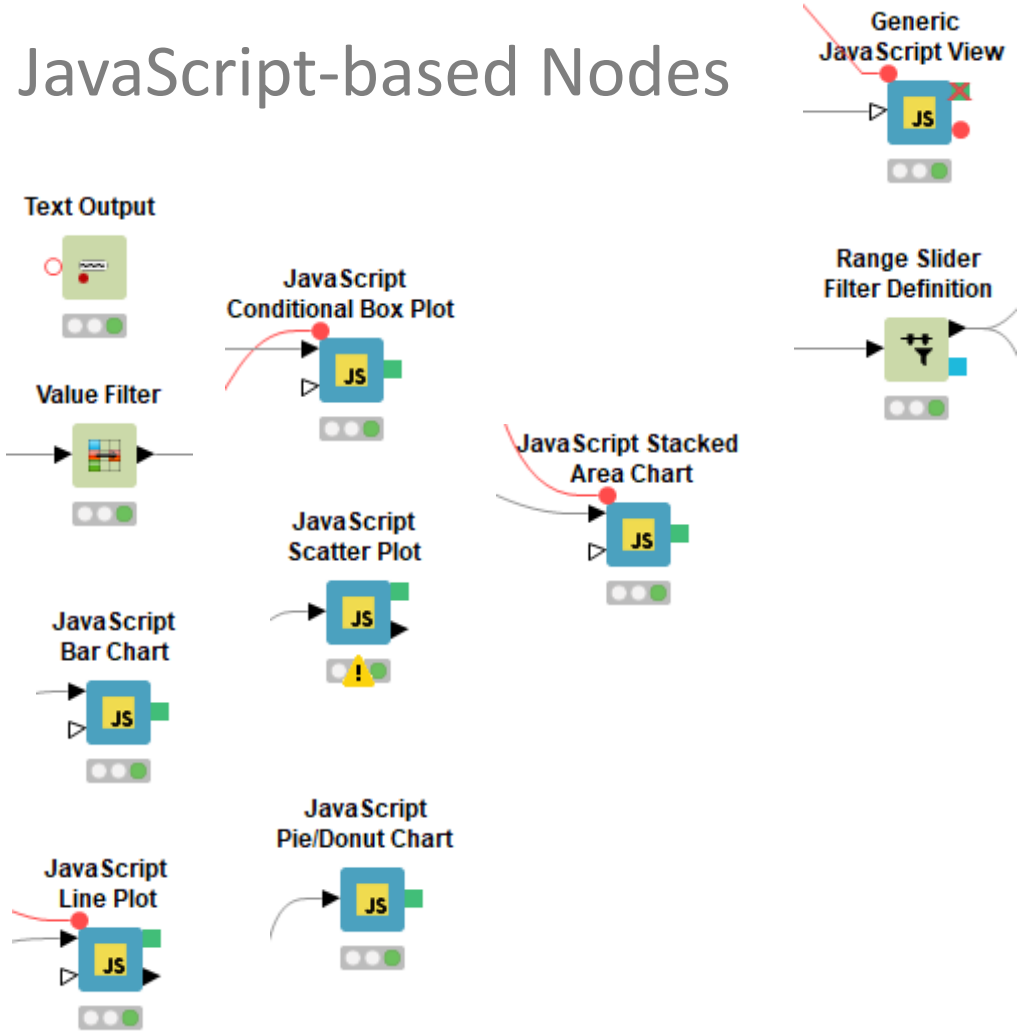

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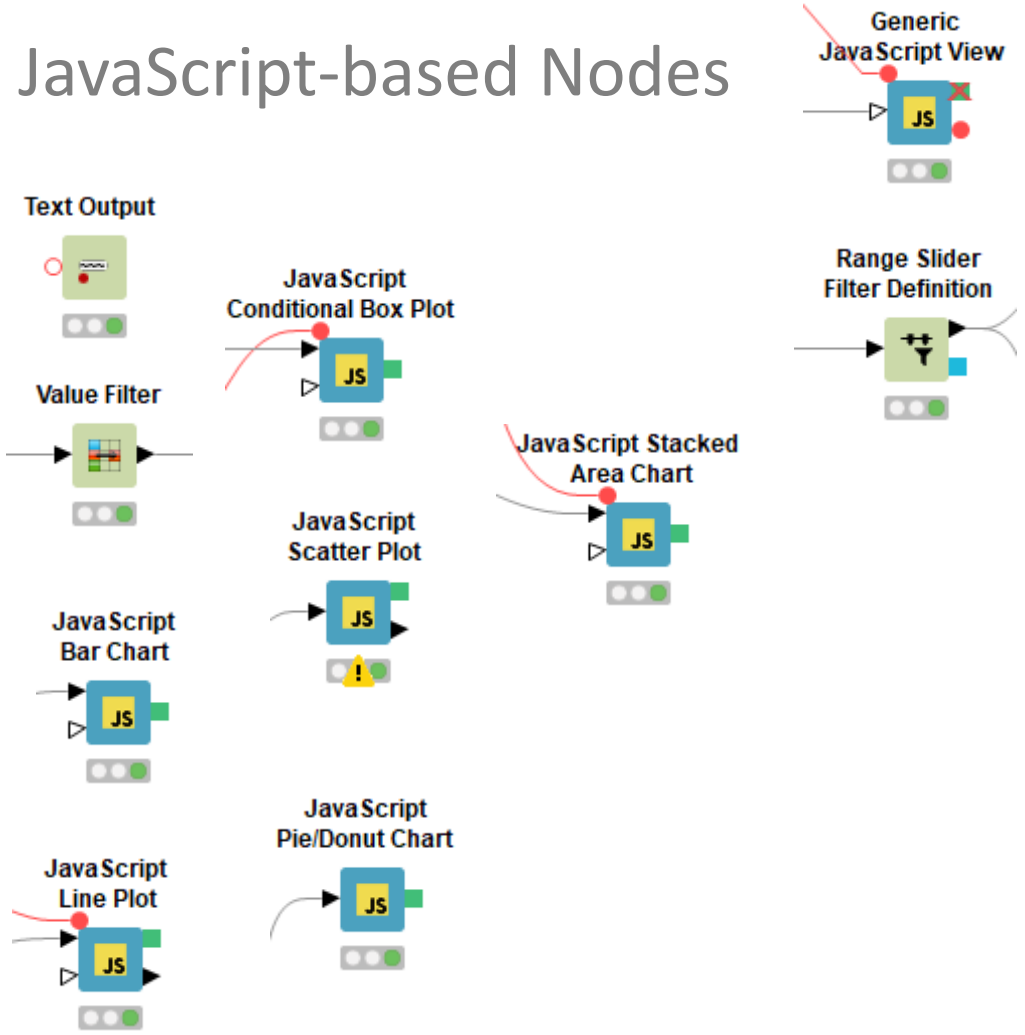

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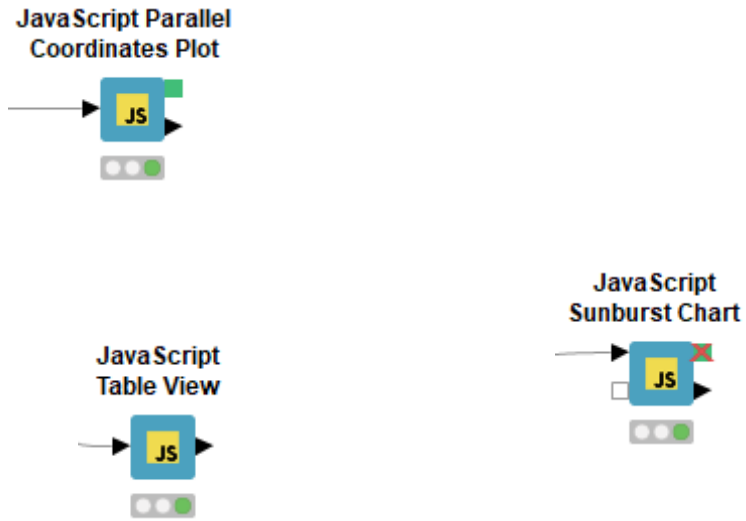

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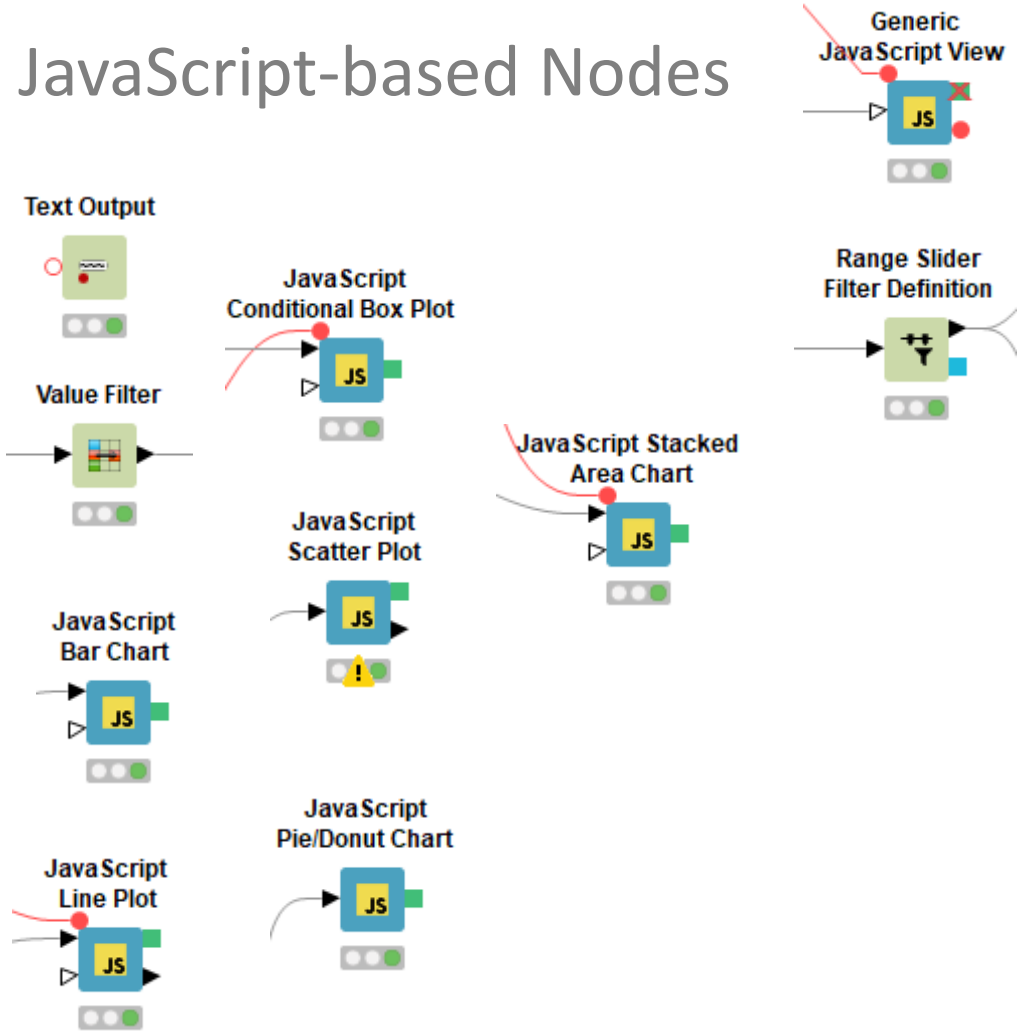

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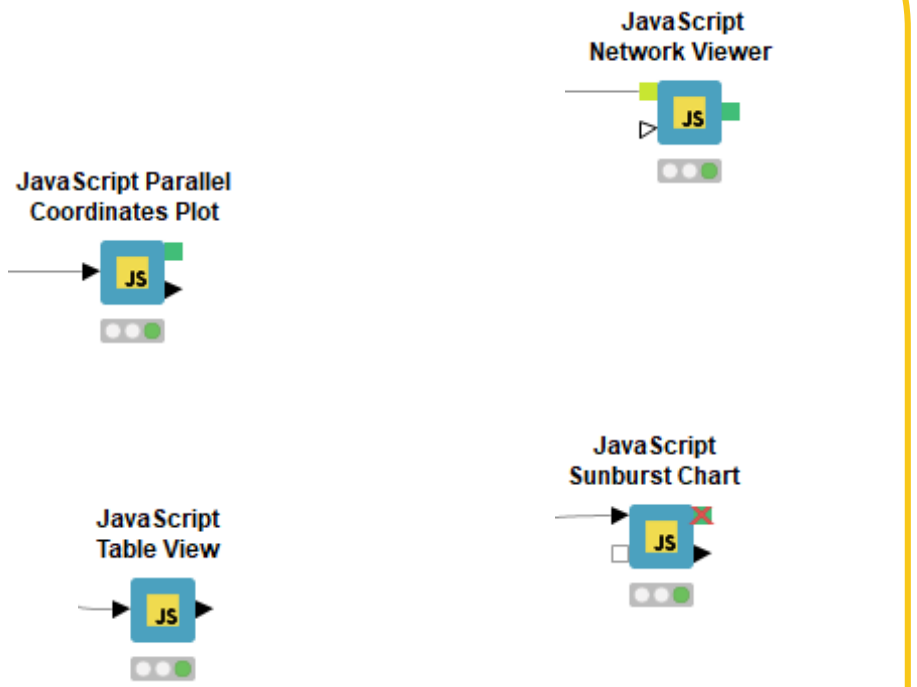

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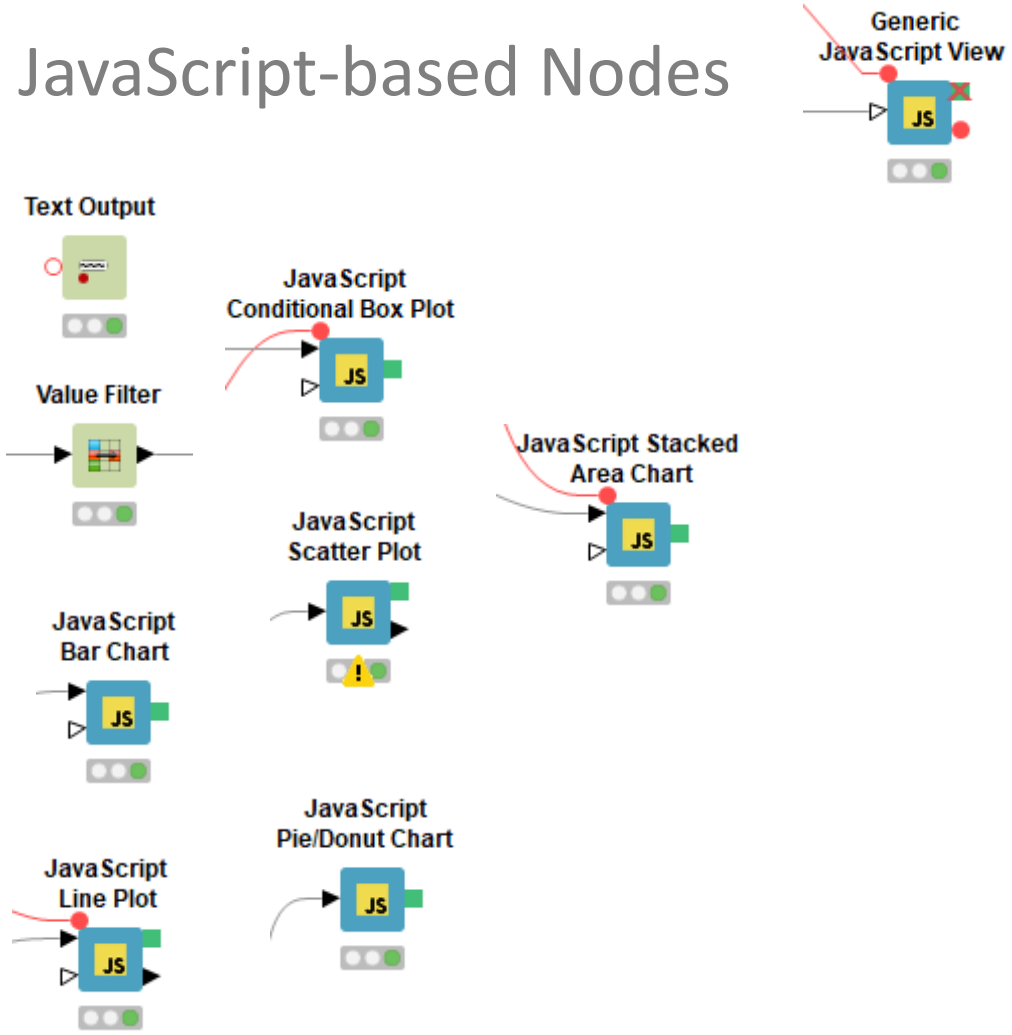

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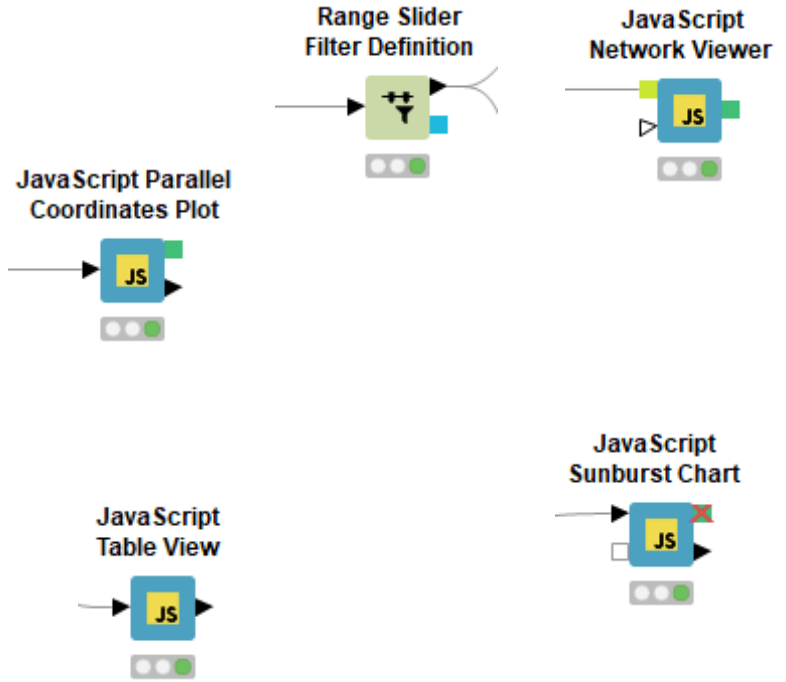

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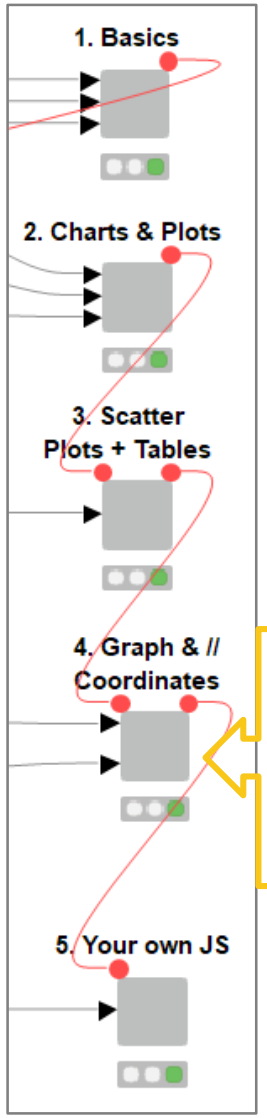
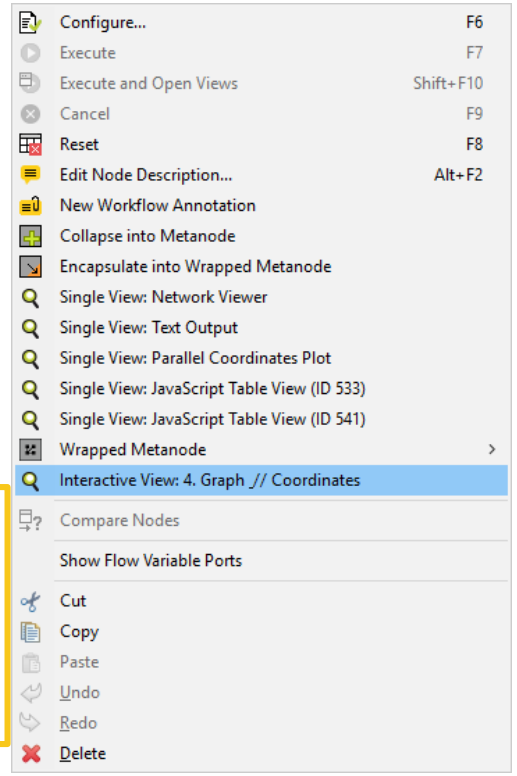
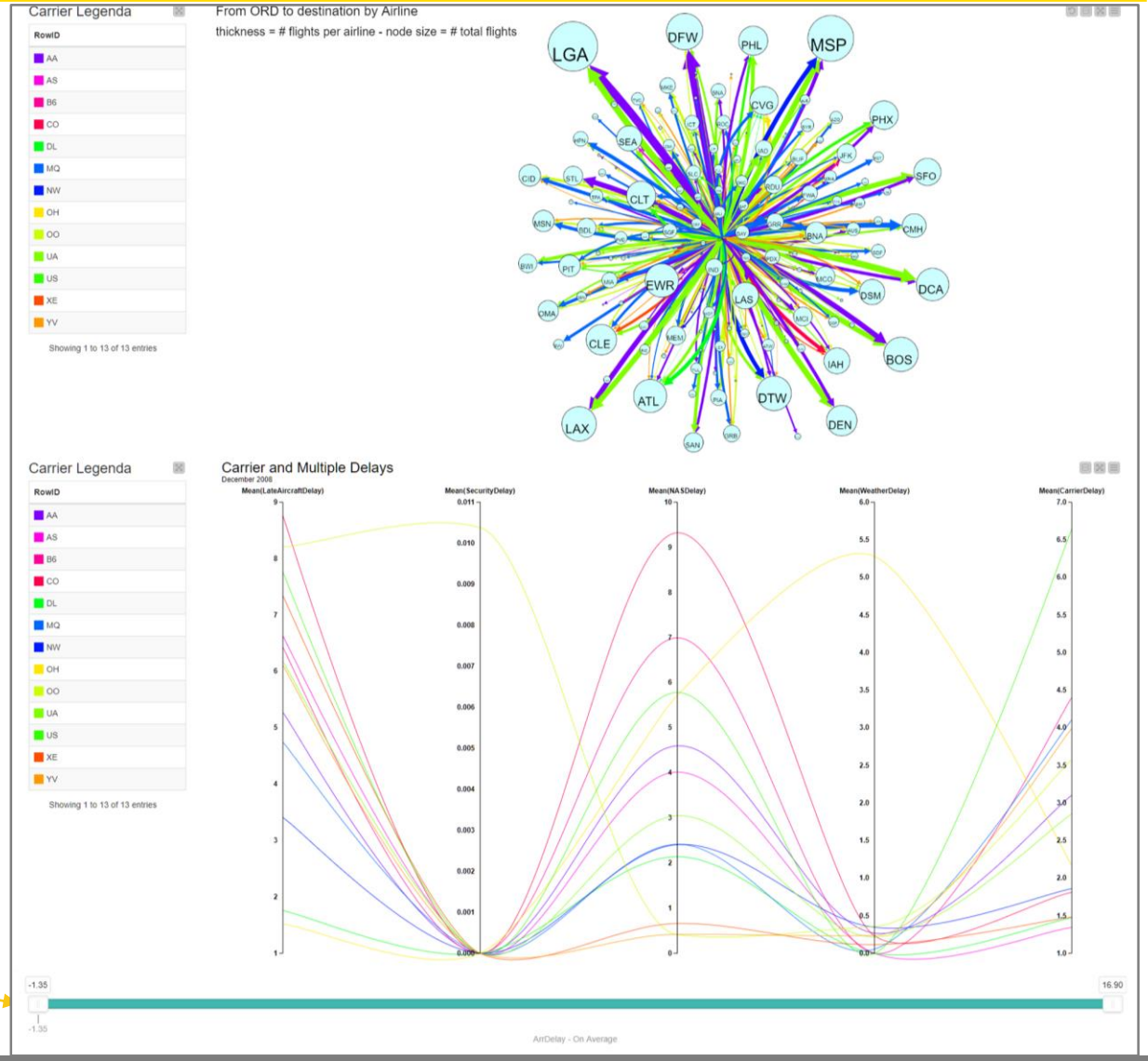
Wrapped Metanode View





Arrival Delay



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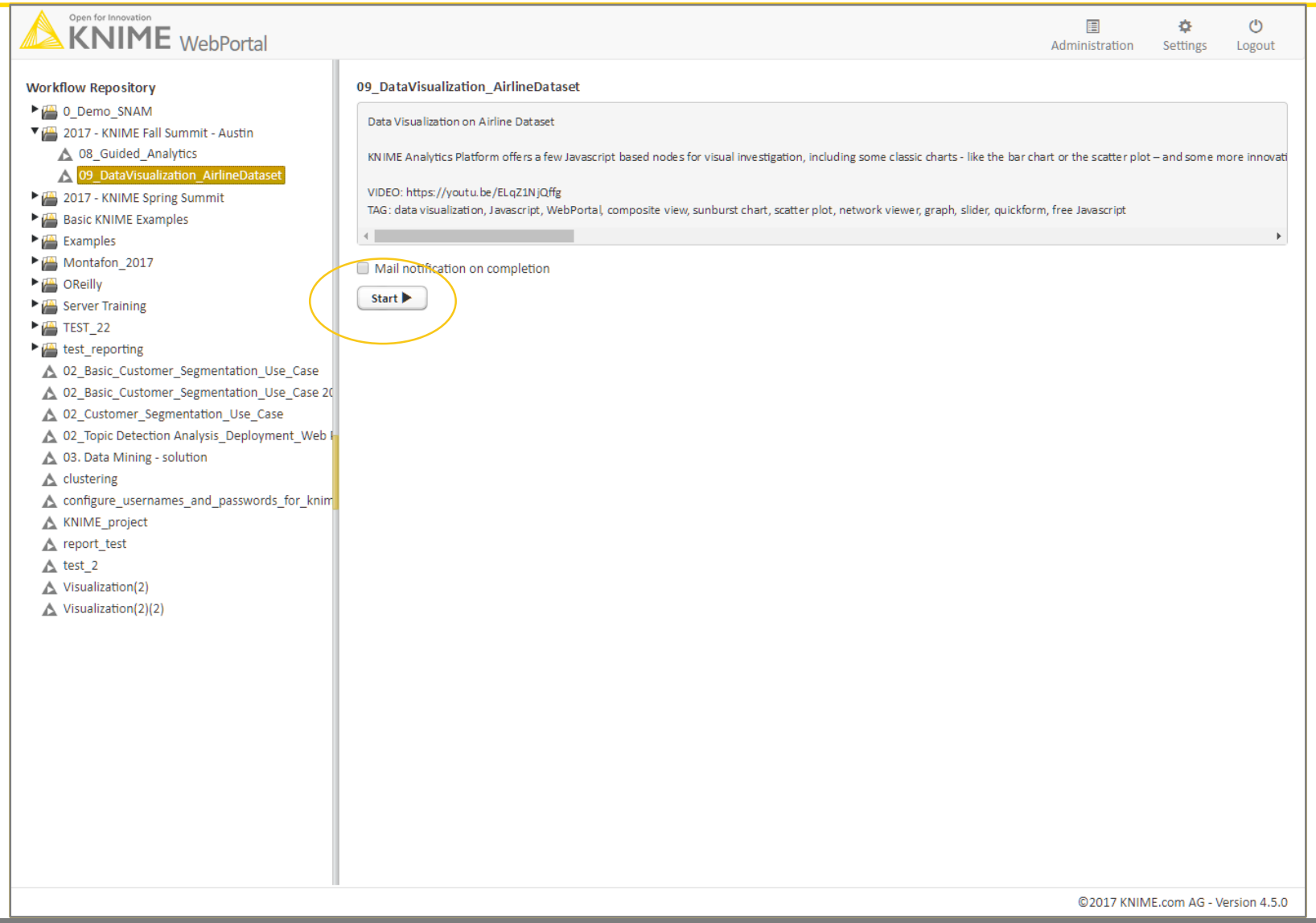
To the WebPortal!!!



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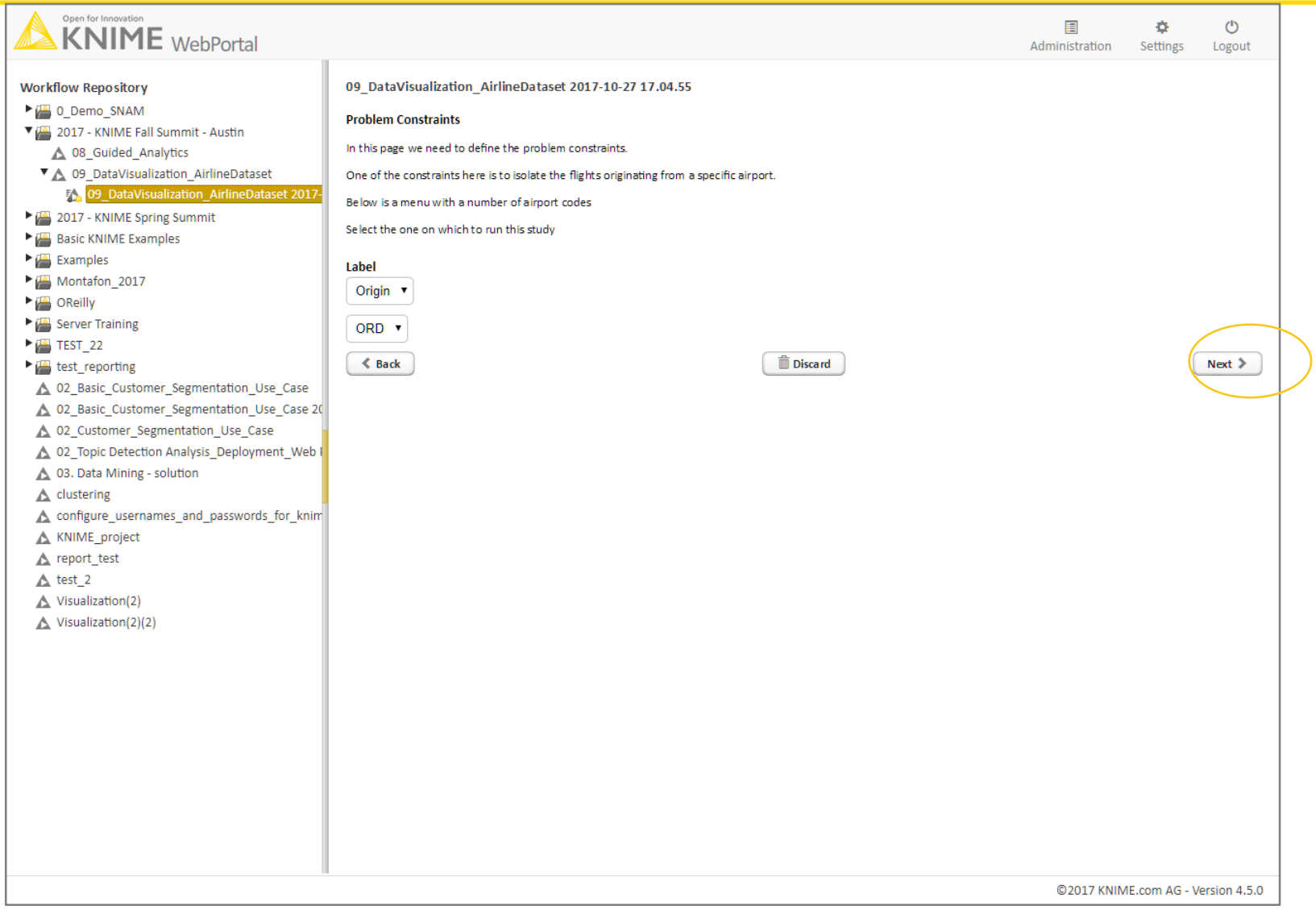

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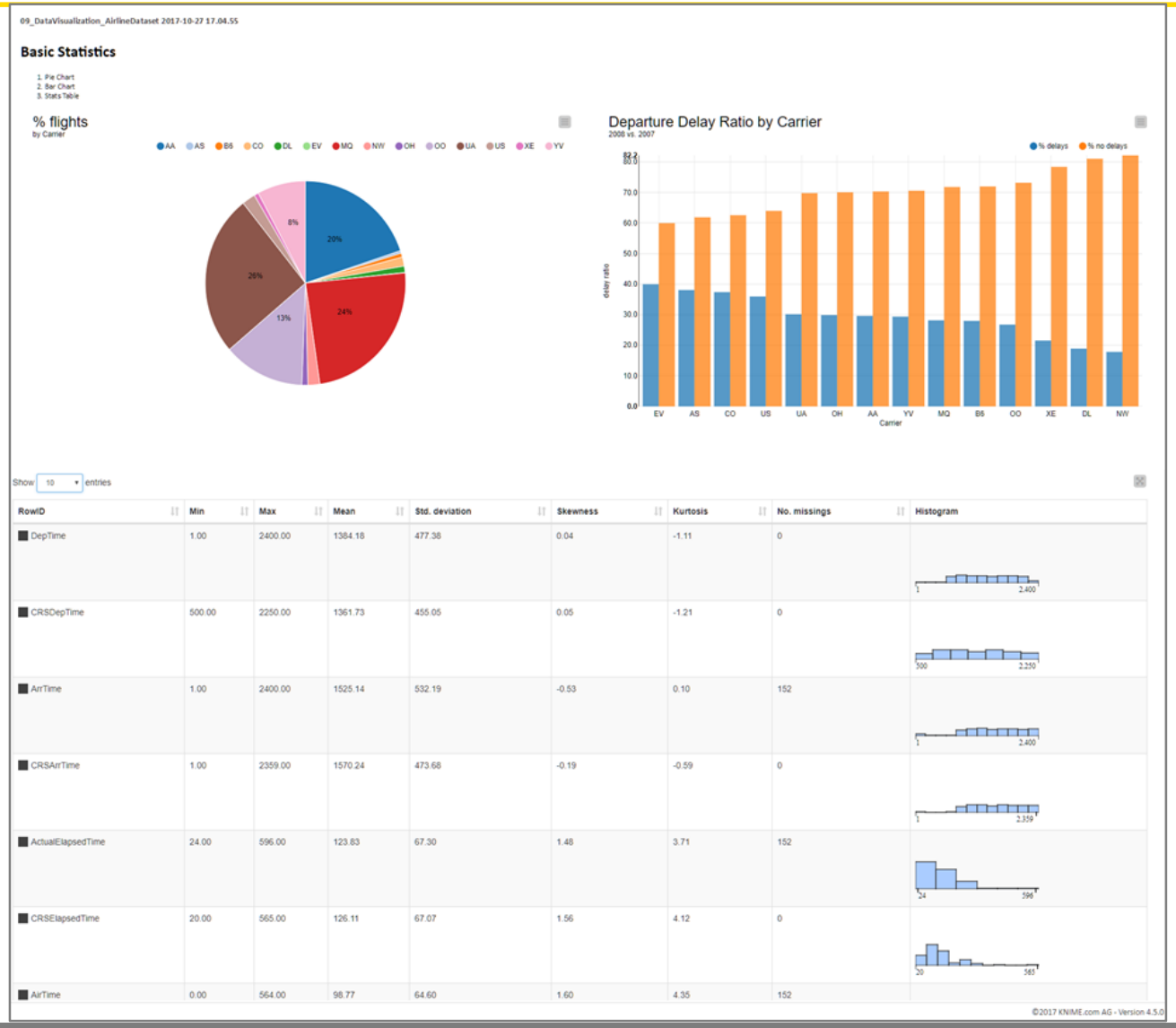

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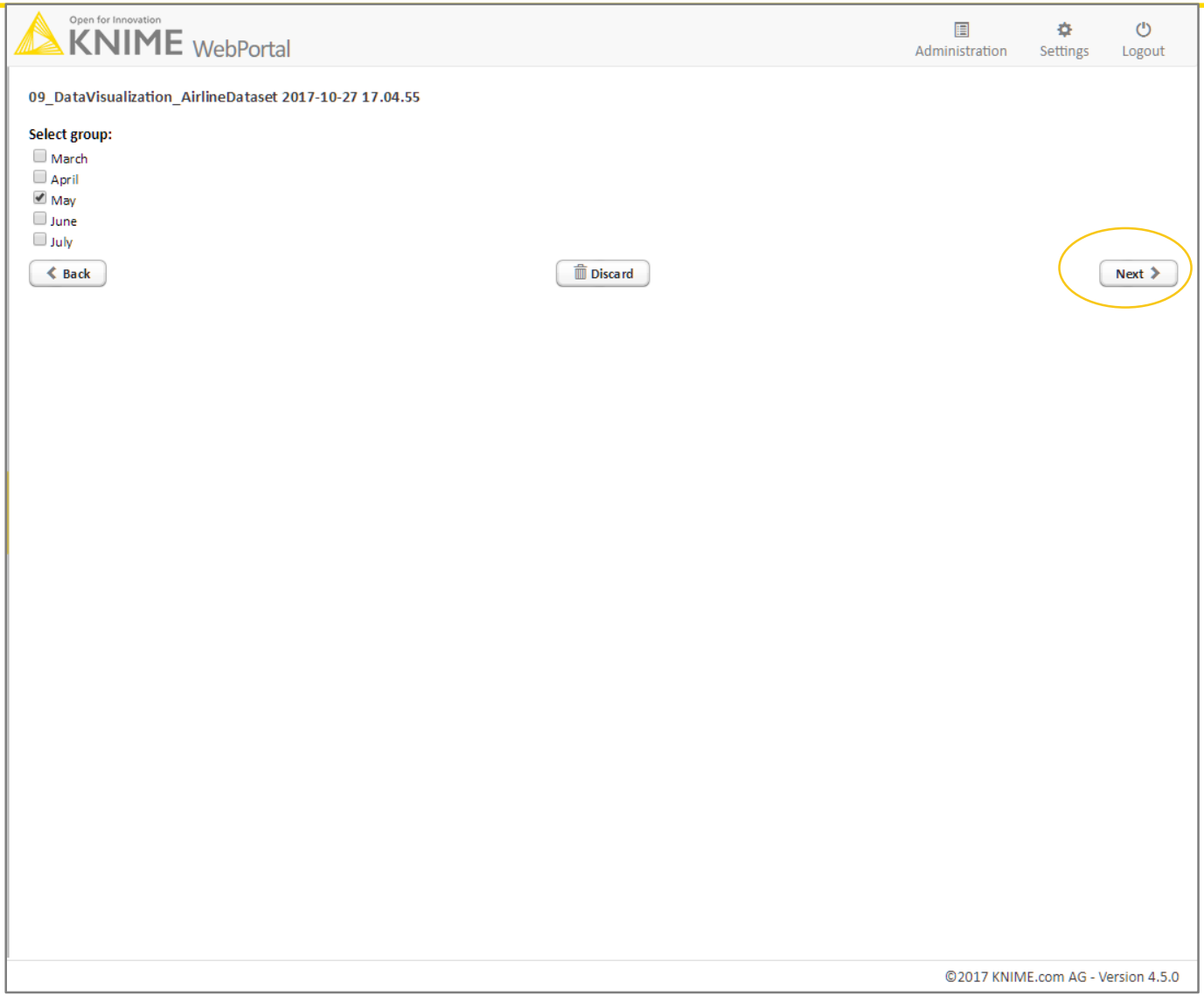

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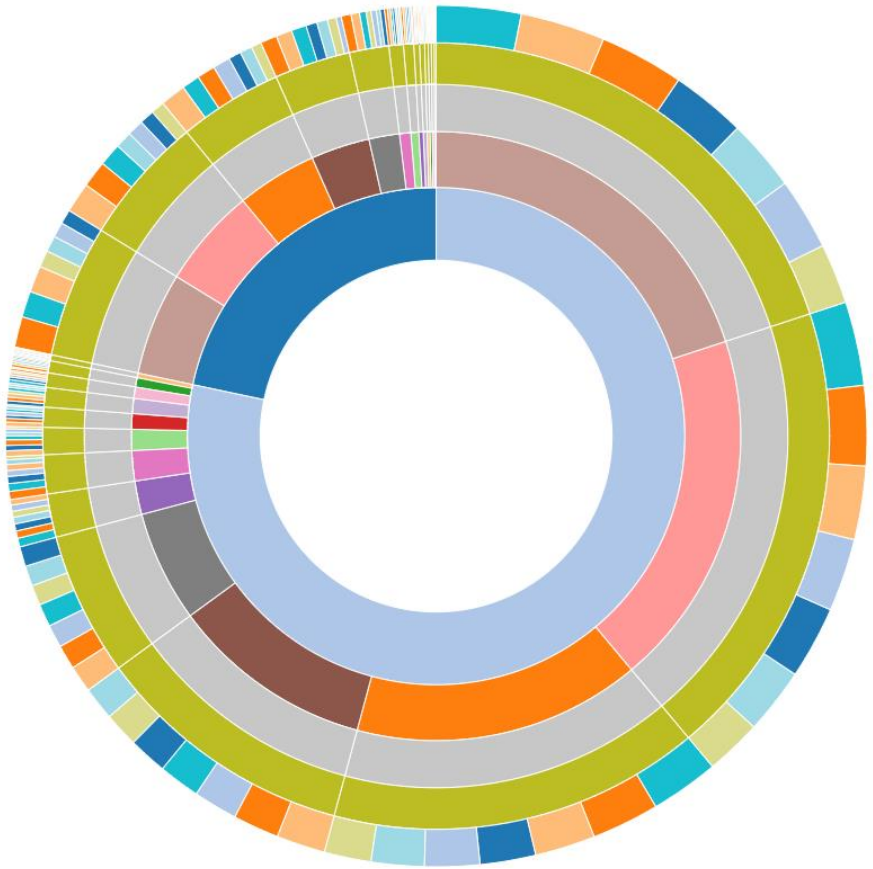
To the WebPortal!!! - LIVE DEMO -

Data Visualization

1. Sunburst Chart
2. Line Plot and Stacked Chart
3. Box Plot

Sunburst Chart



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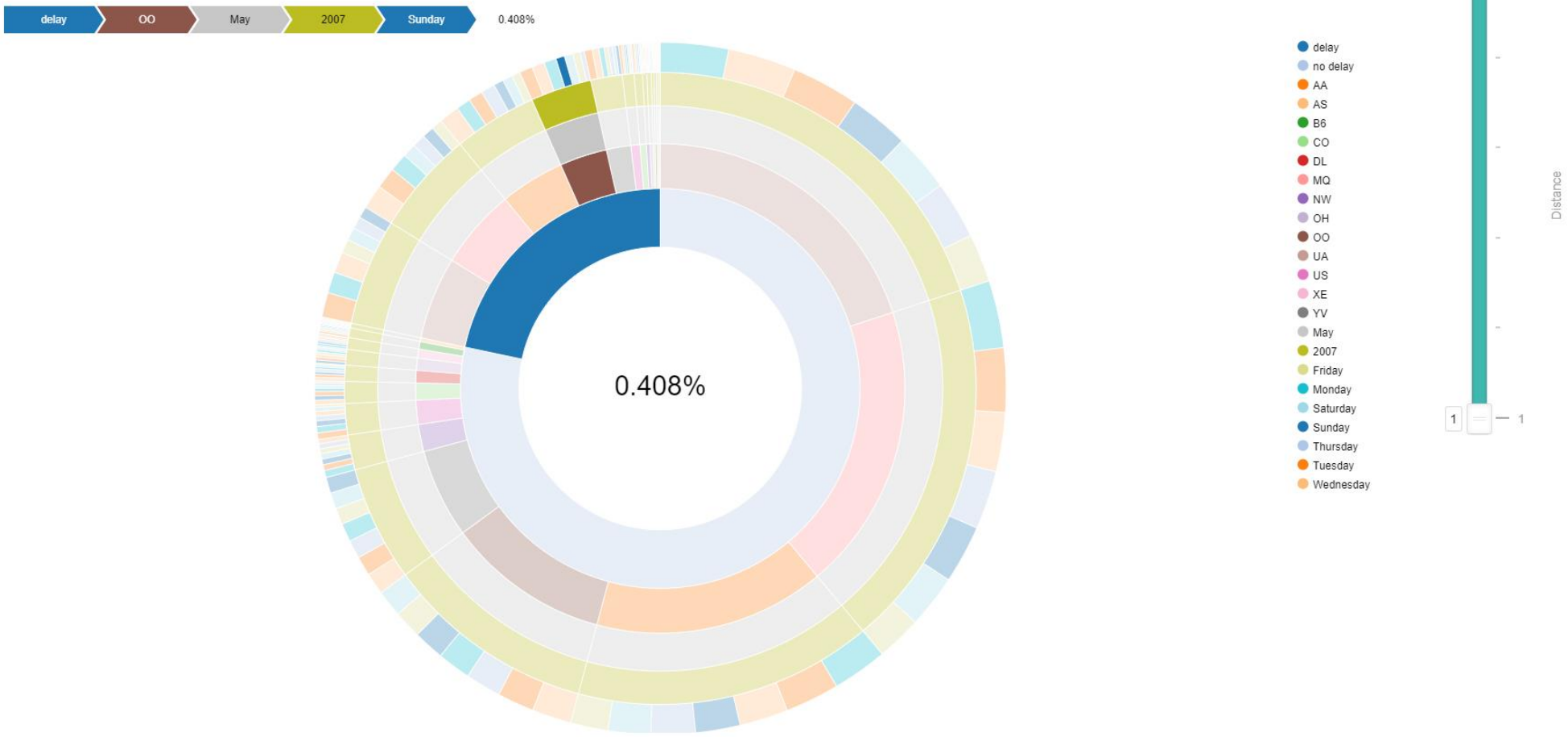

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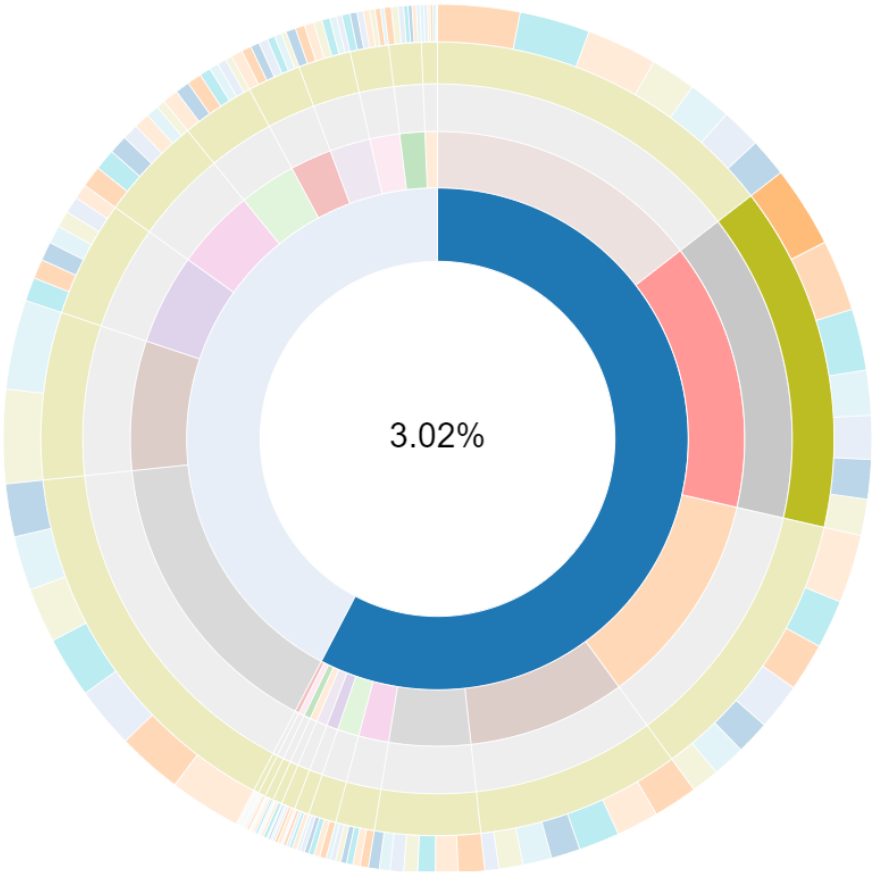

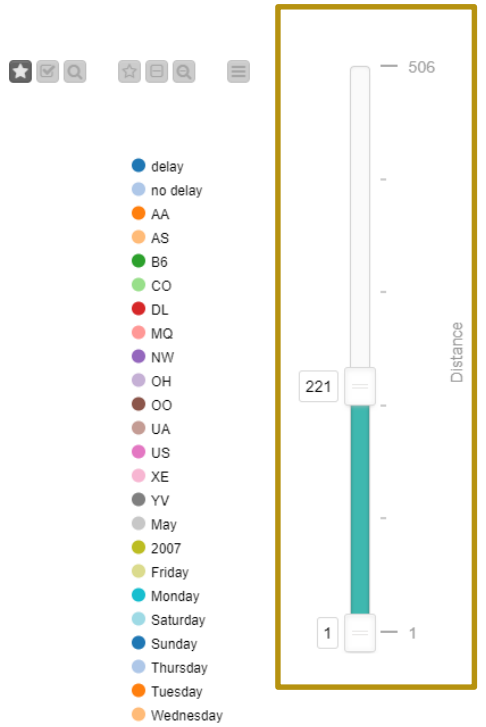

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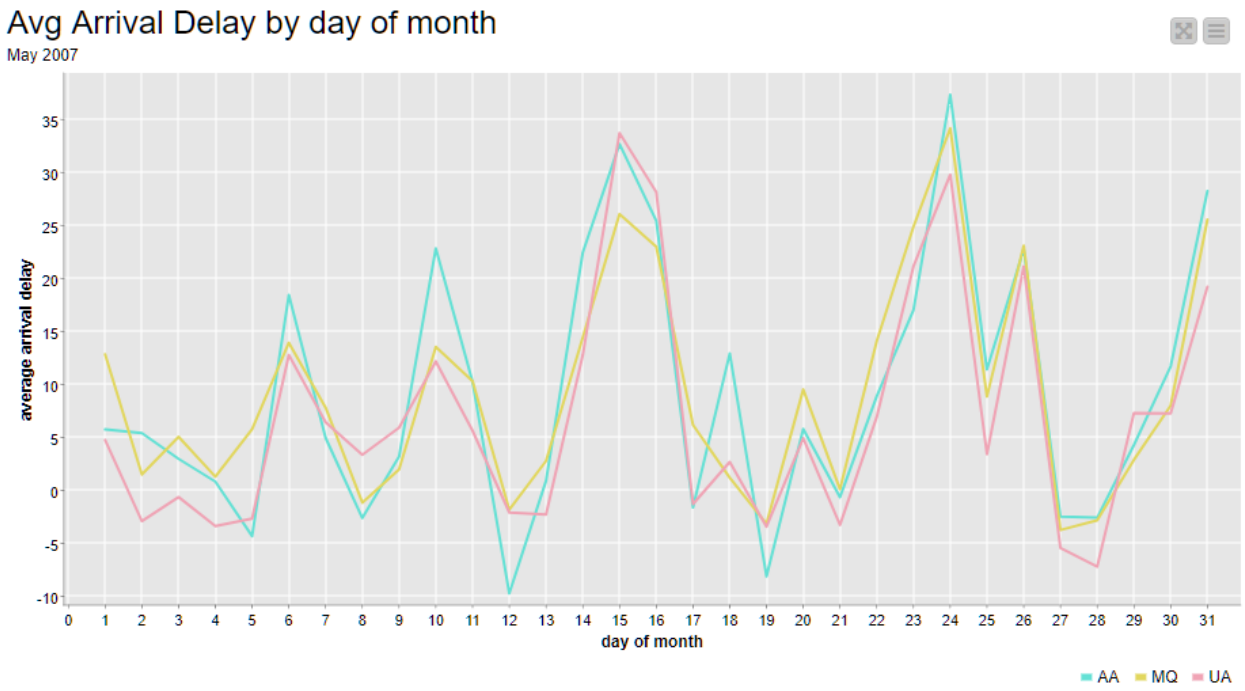

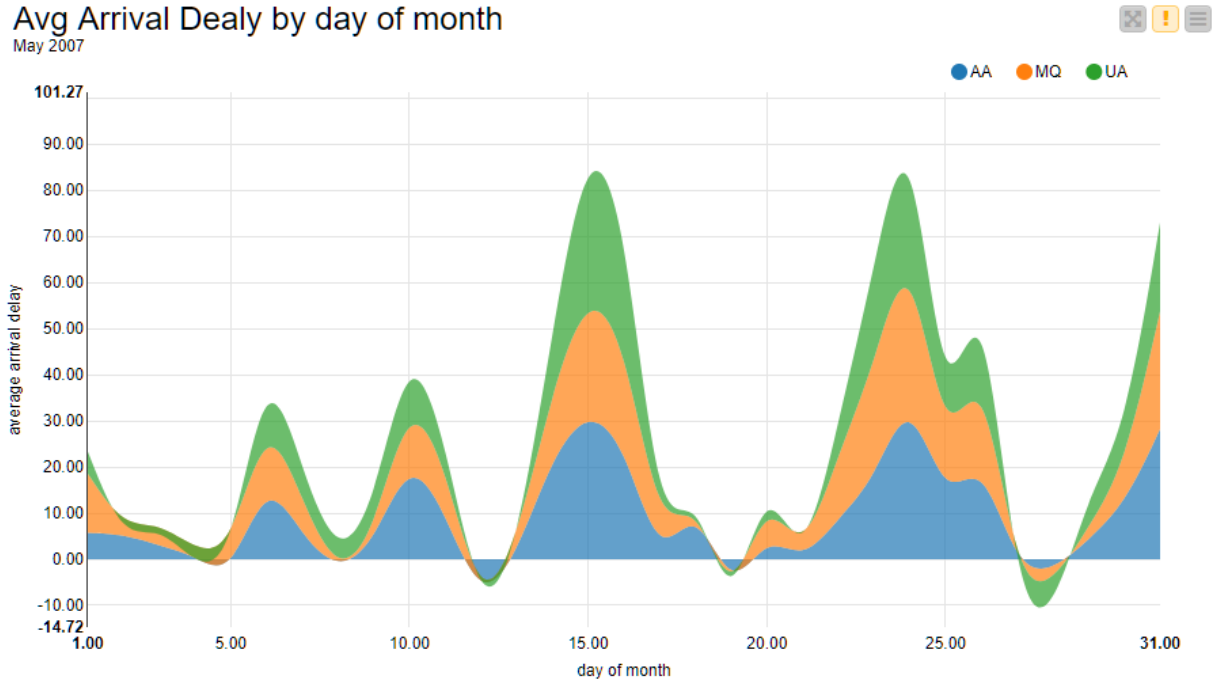

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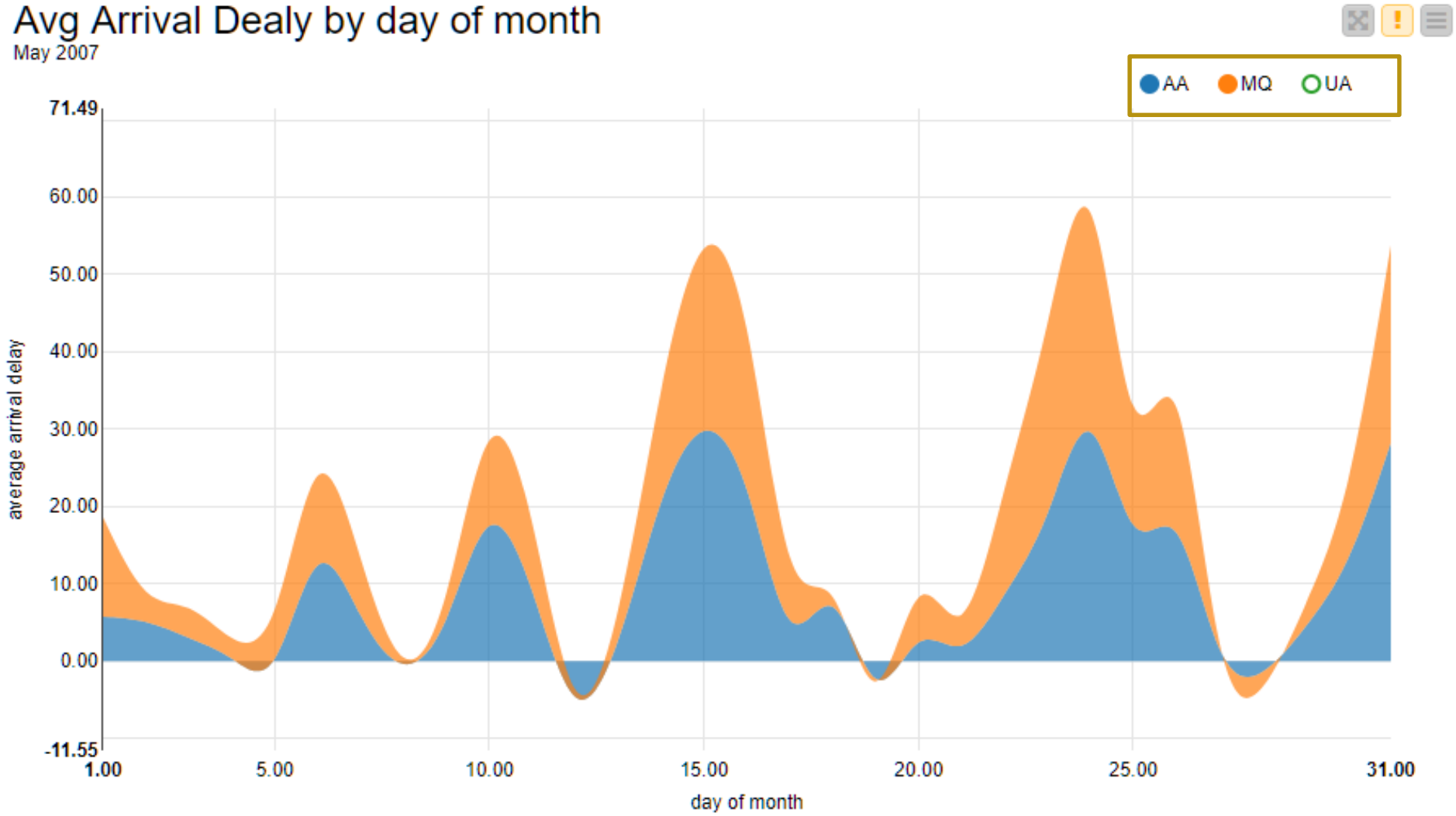

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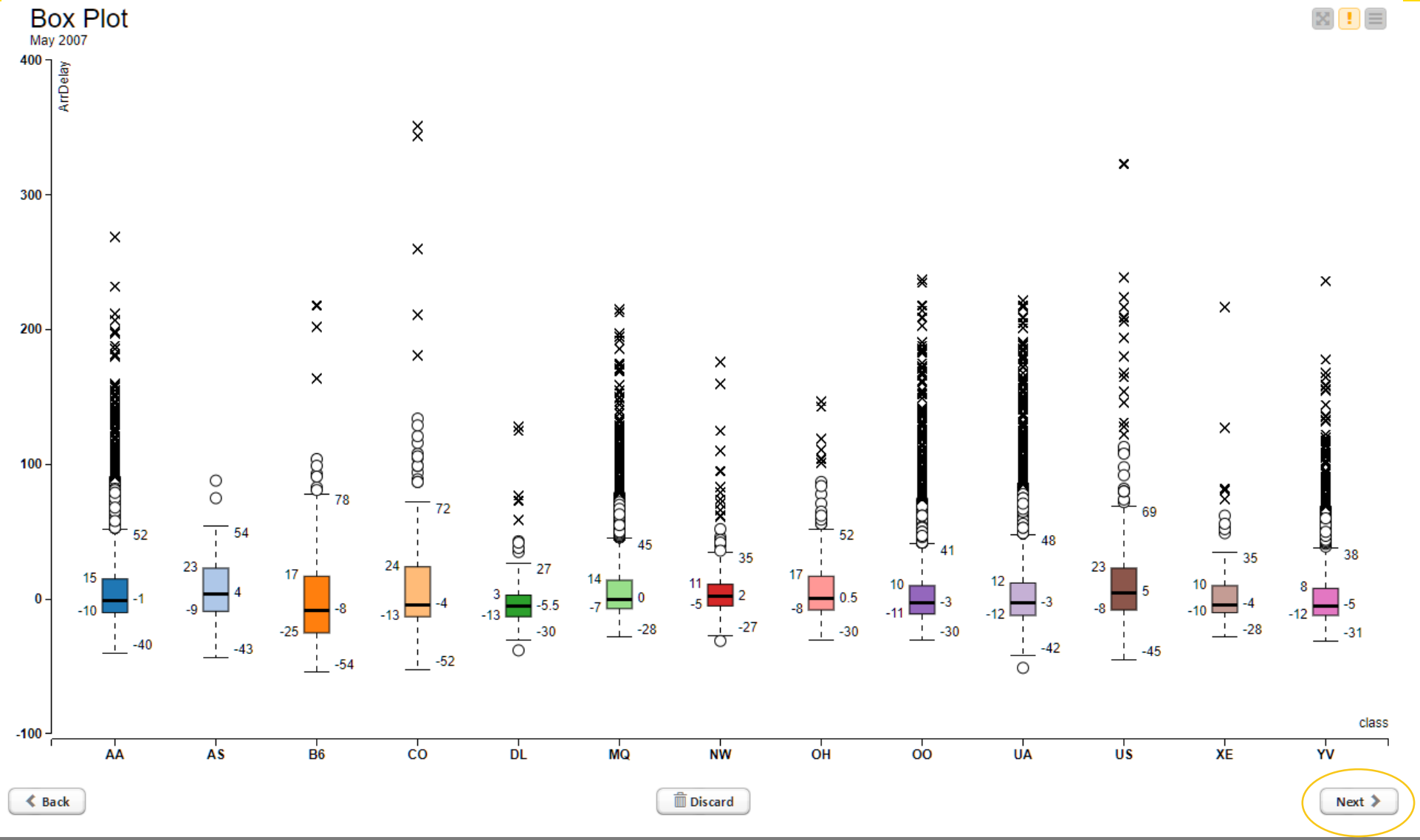

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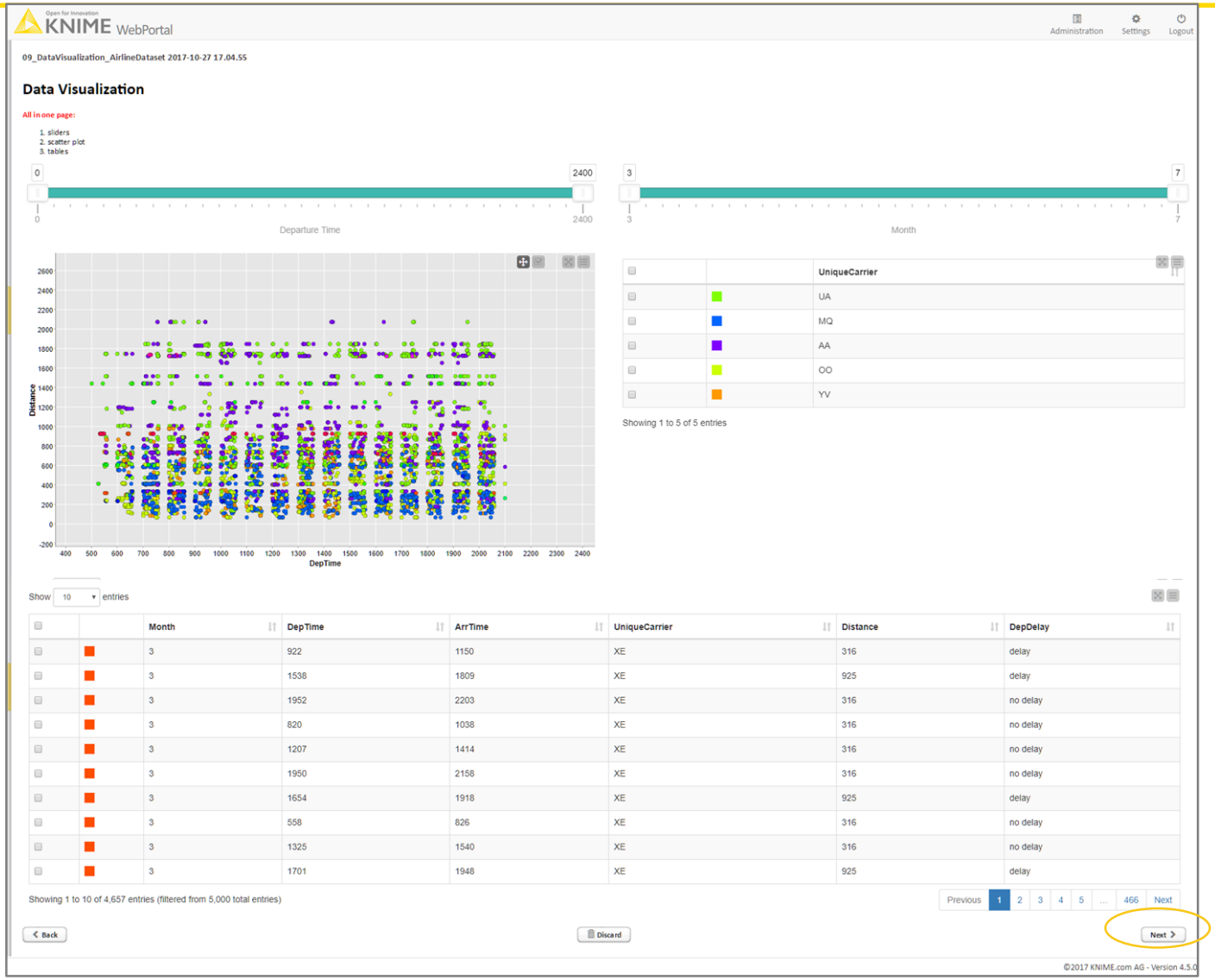

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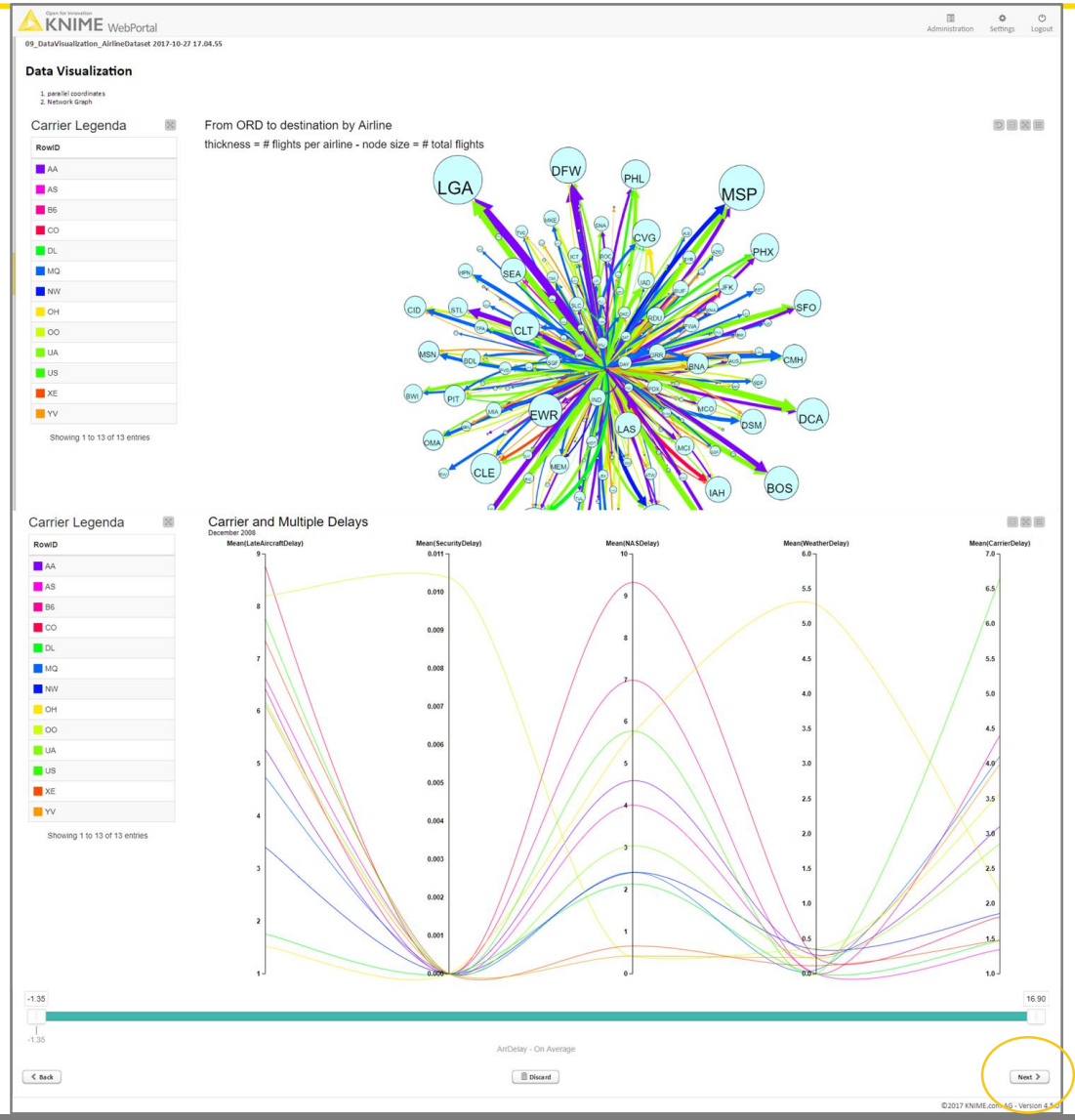

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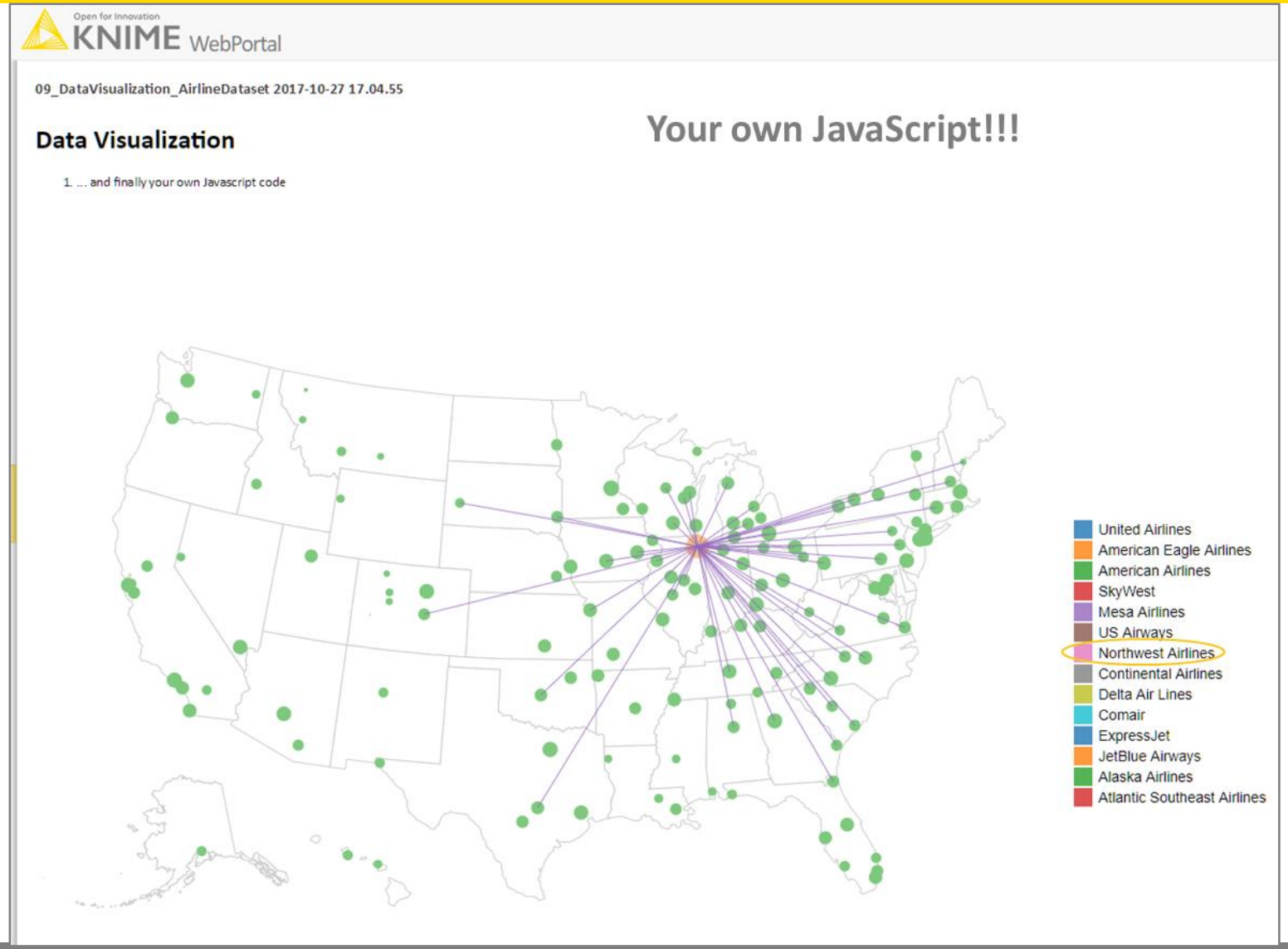

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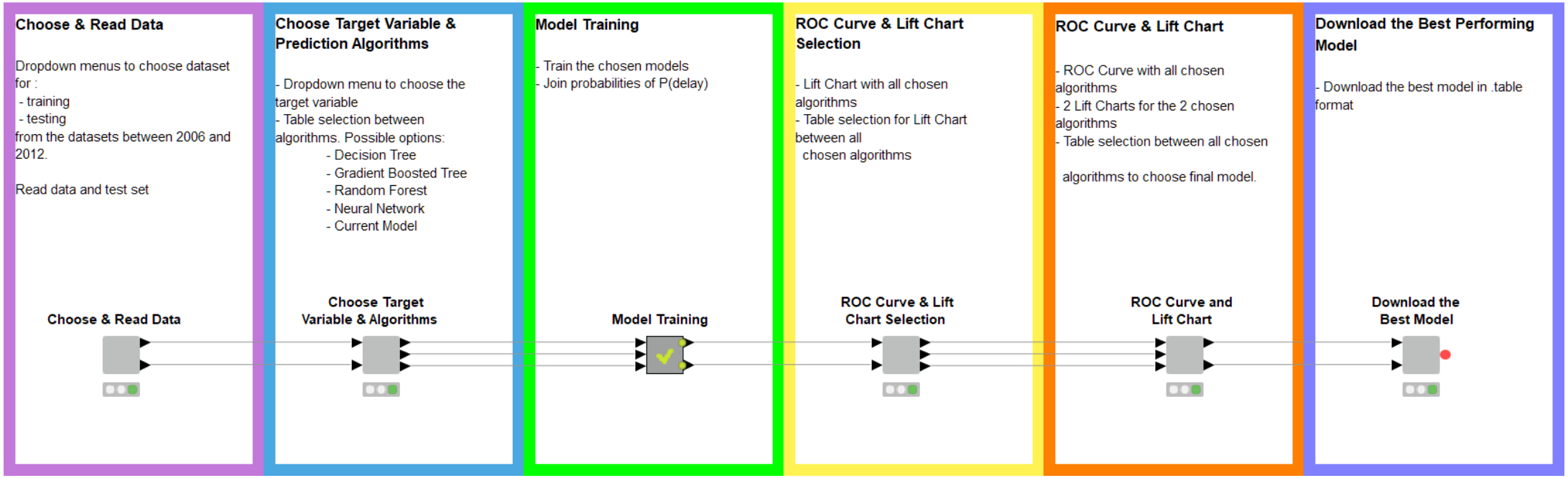
Model Training for Predictive Analytics – for the Data Scientist

Model Selecion via WebPortal

This workflow creates a model selction on the webportal, where data analysts can choose a training and a test set between the datasets of 2006 to 2012, the target variable and the algorithms, which should be considered for the model comparison. The results are then displayed in a ROC Curve.
For further comparison two algorithms can be chosen to compare them via a Lift Chart, before the data analysts can decide for a final algorithm.



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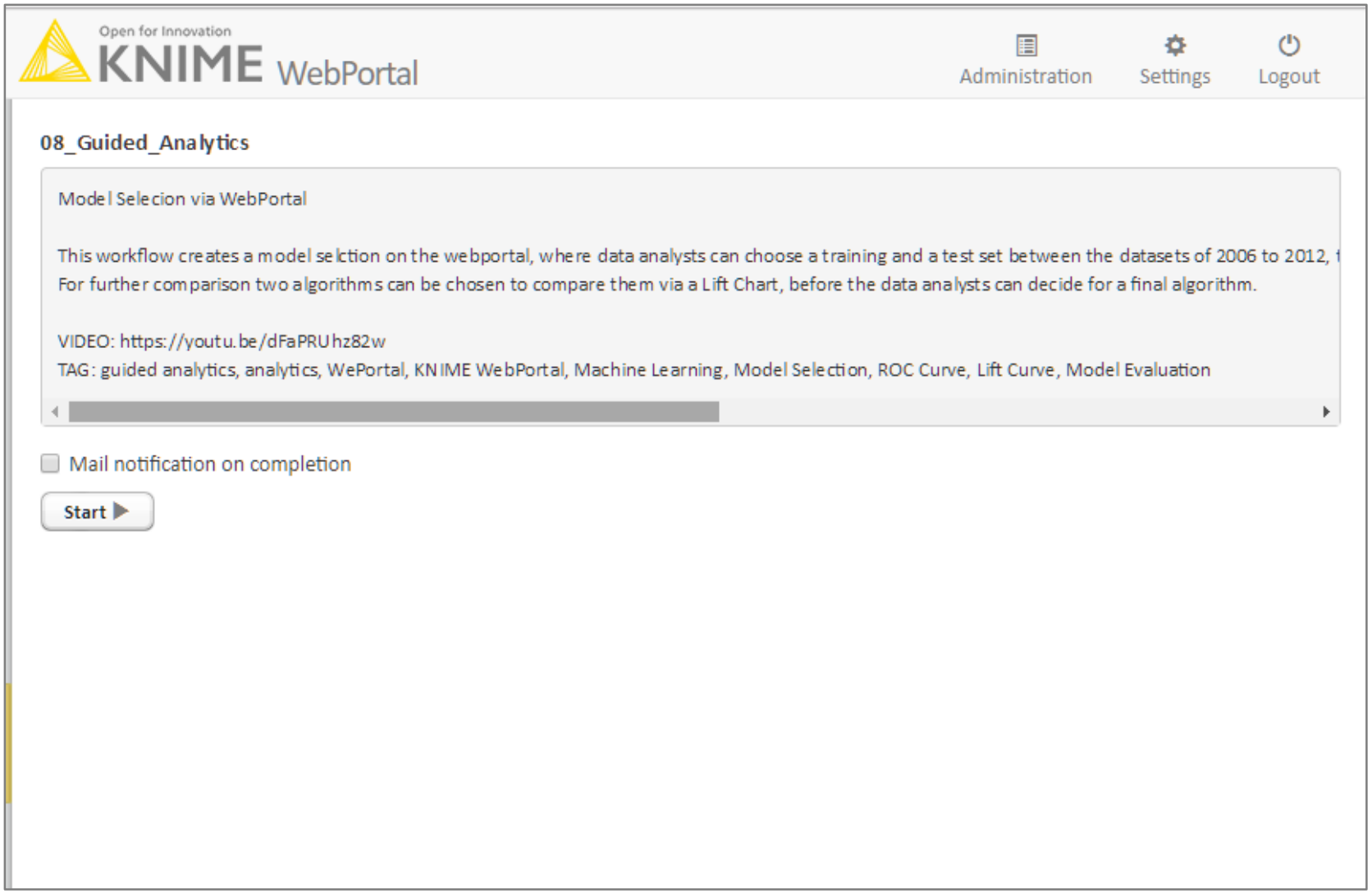
Model Training for Predictive Analytics – for End User



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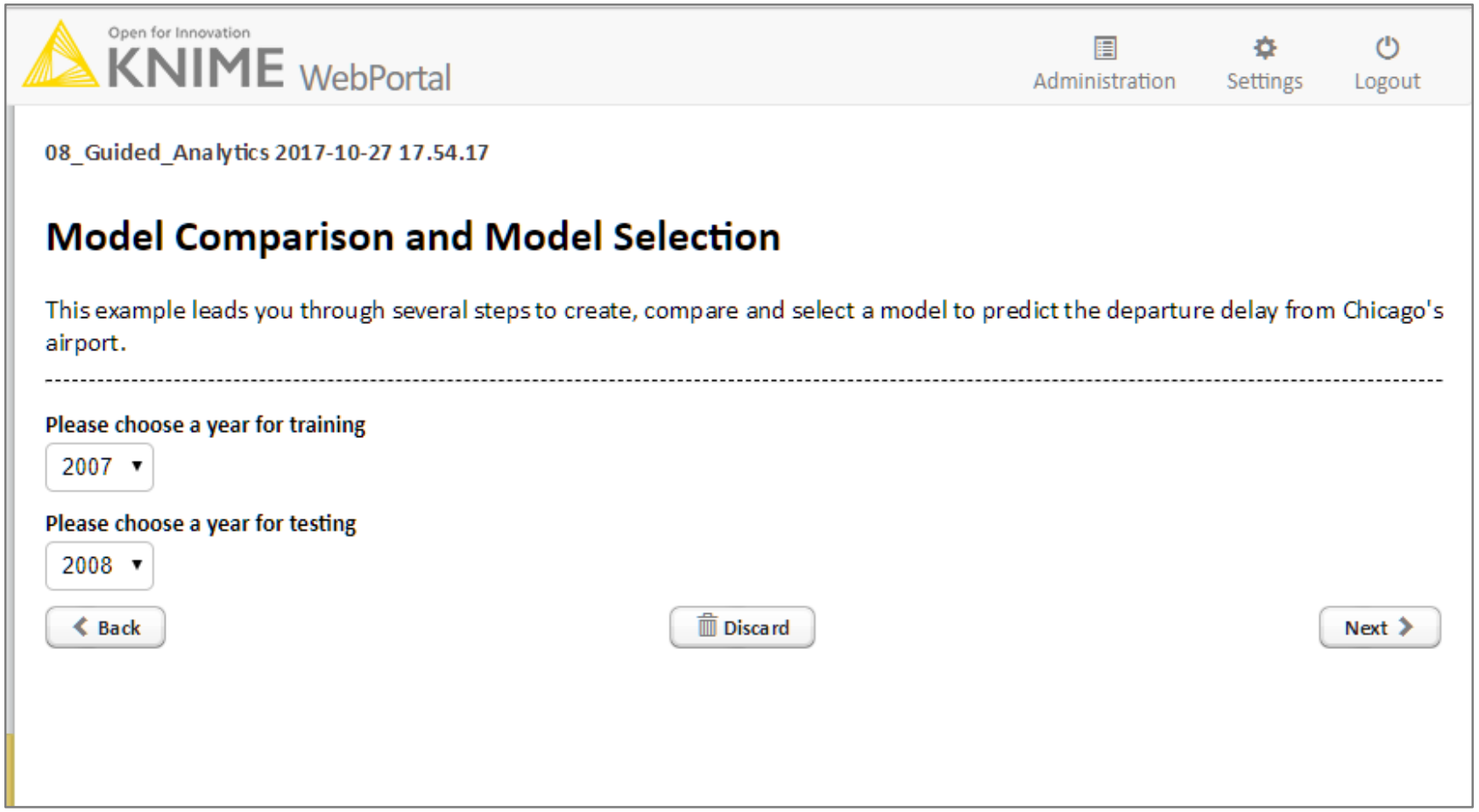

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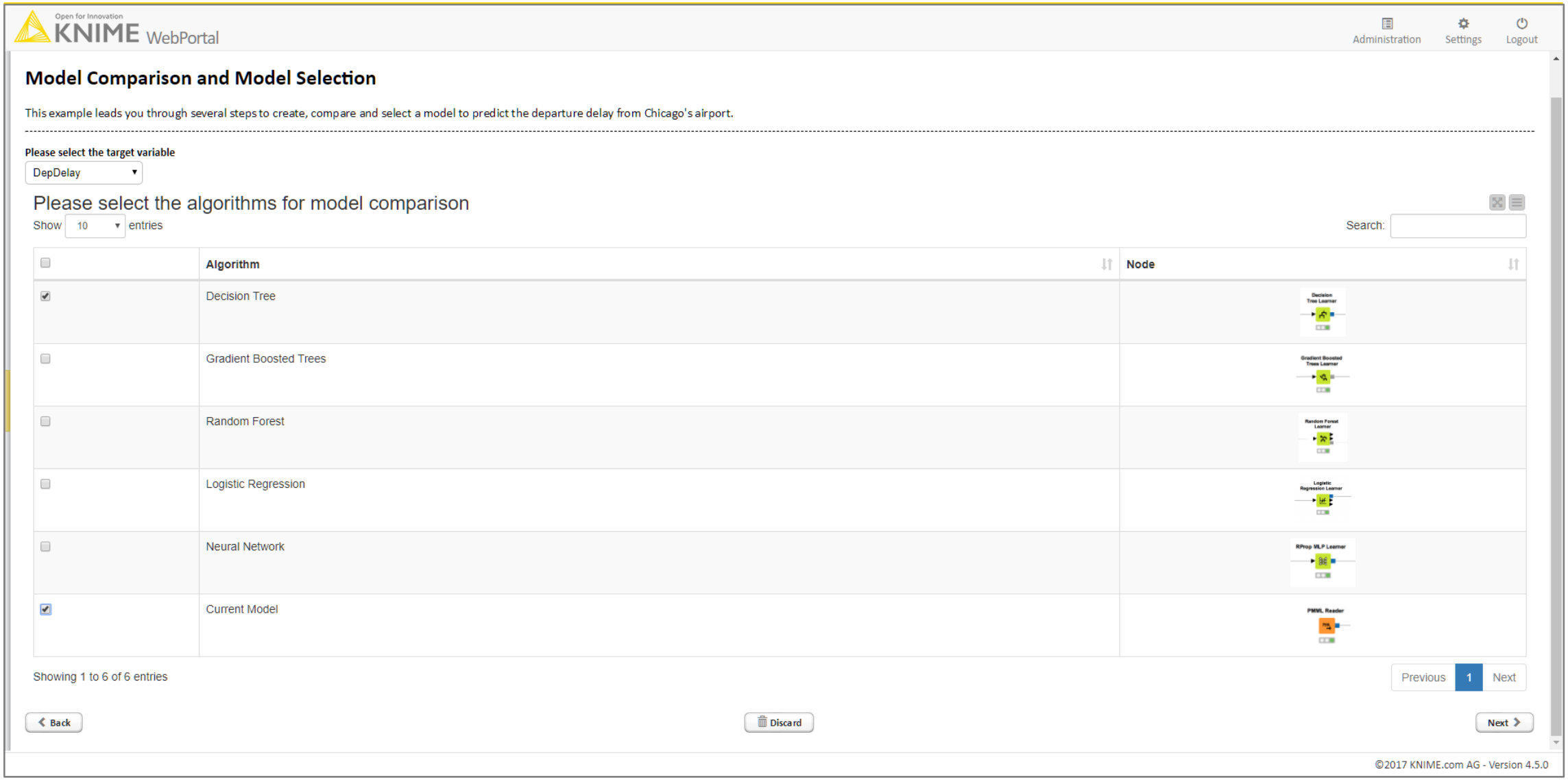

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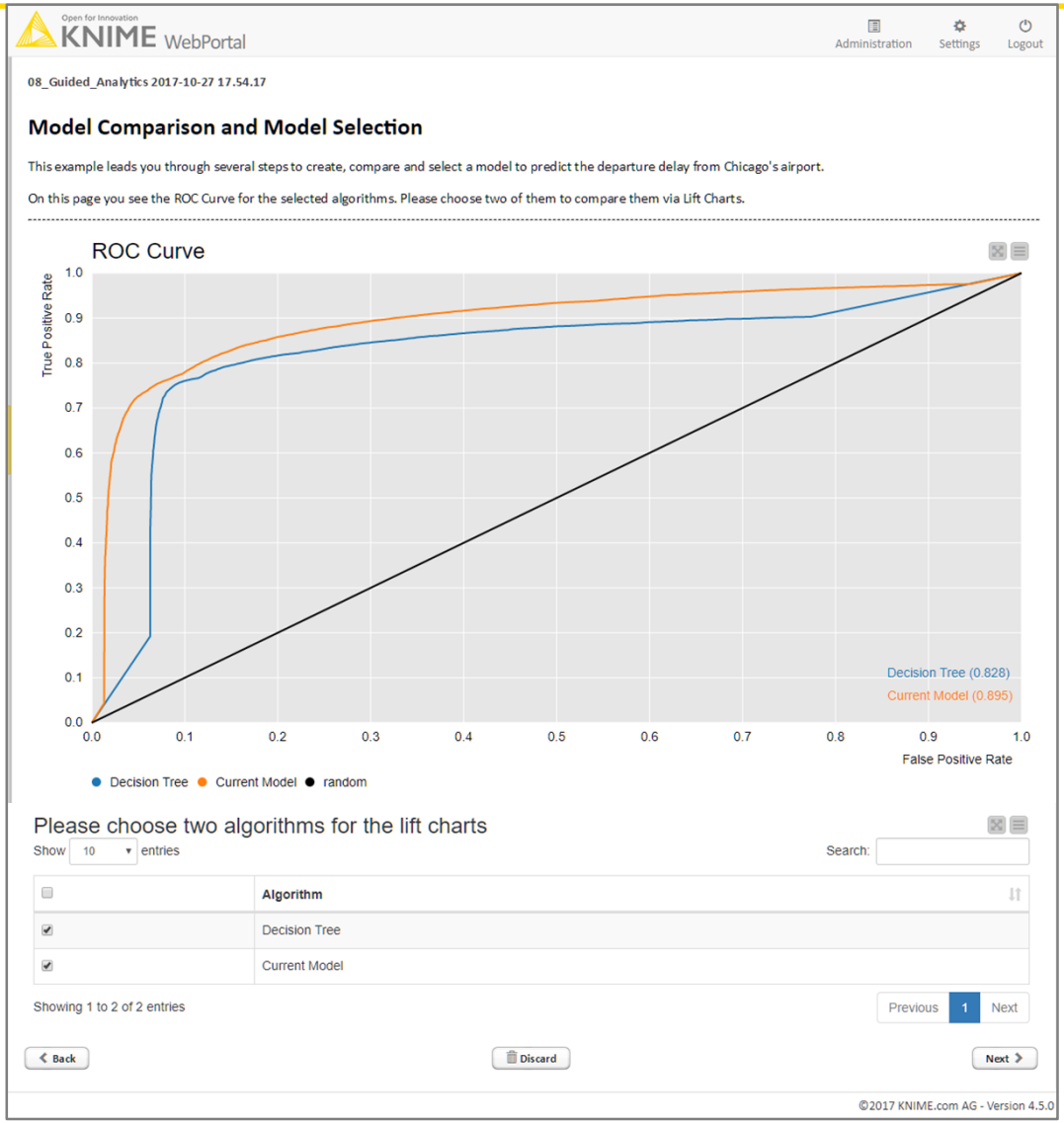

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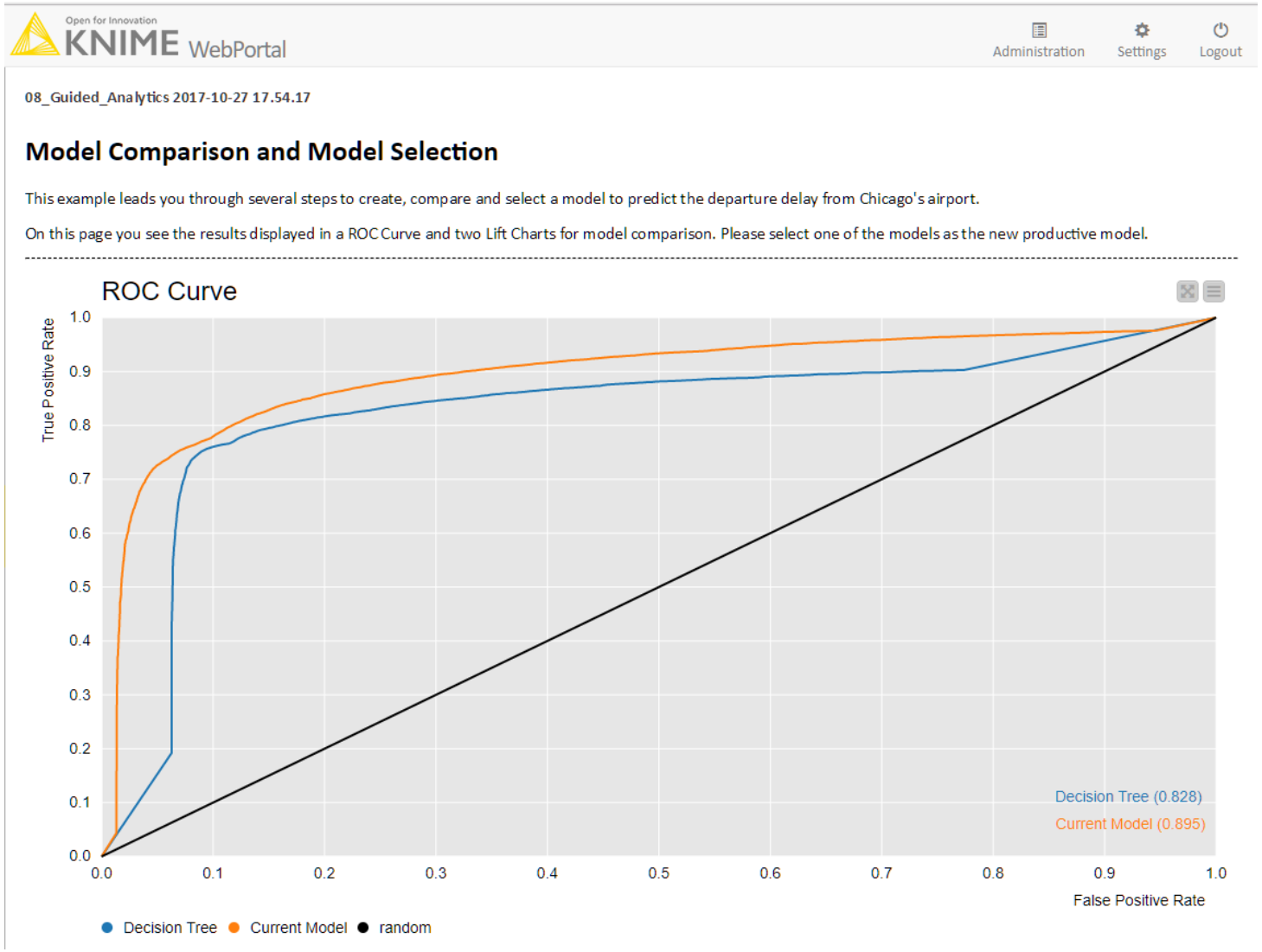

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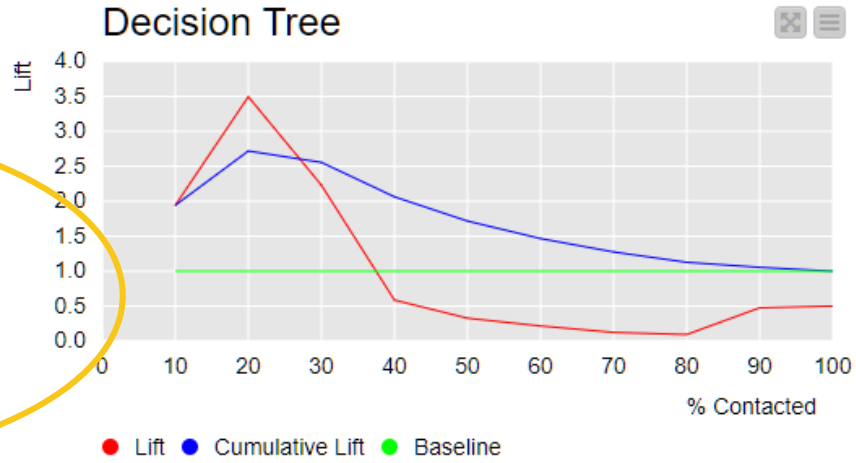

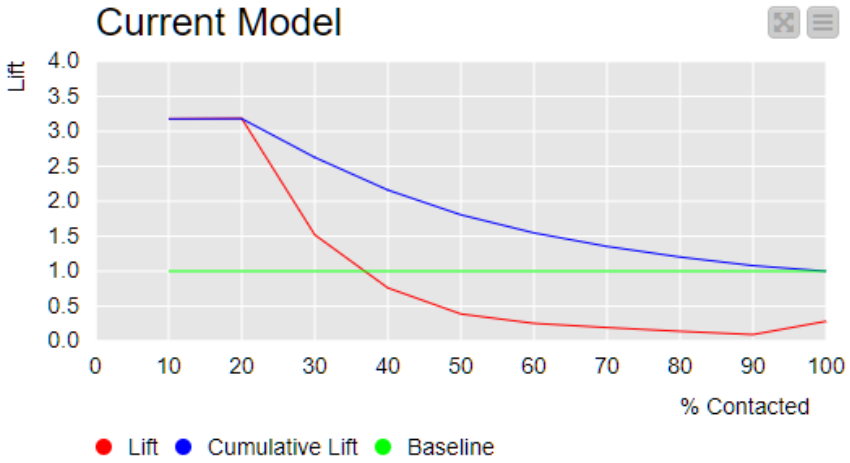

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Model Training for Predictive Analytics – for End User

Please select the algorithms for model comparison
Show 10 entries
Search:
Algorithm
Node
Decision Tree
Gradient Boosted Trees
Random Forest
Logistic Regression
Neural Network
Current Model
Showing 1 to 6 of 6 entries
Previous
1
Next
Back
Discard
Next
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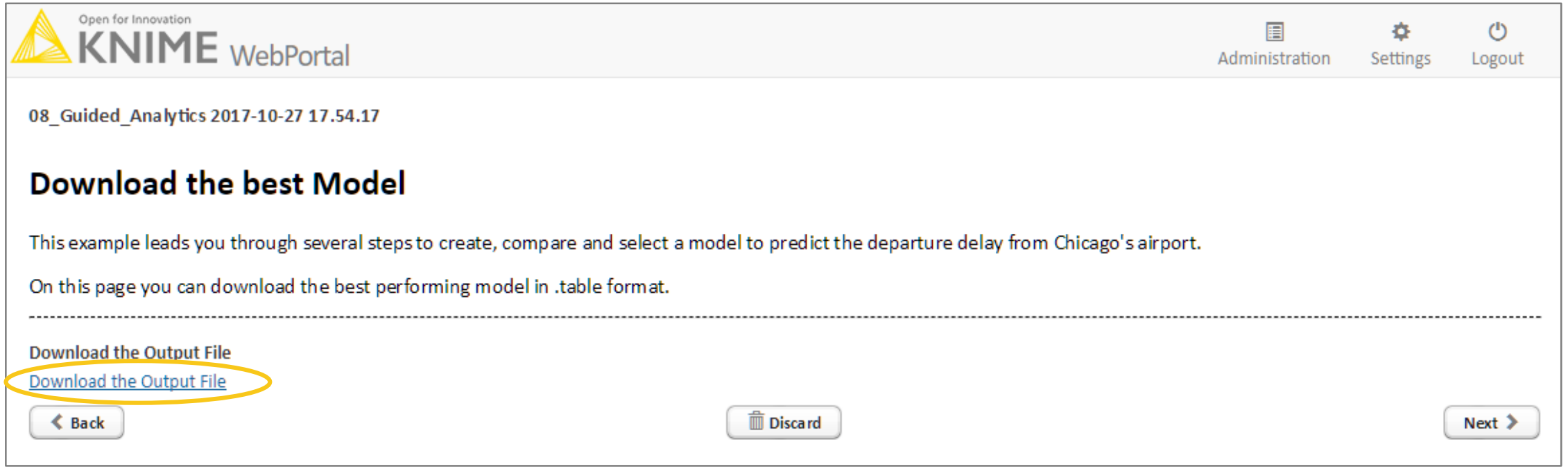

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Summary

- Data visualization matters!
  - New JS based nodes offer large variety of visualization techniques
  - Composite views with JS node views and input Quickforms
  - Running on KNIME Analytics Platform and Web Portal

Data Visualization and Interactive Exploration with KNIME

- Guided Analytics from a web browser to guide also the end users through a data science cycle

Guided Analytics

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On behalf of KNIME we thank you for flying with us today!

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