

Tools Used in This Course

After this video you will be able to..

- Describe what KNIME is
- Describe what Spark MLlib is
- Contrast KNIME and ML as machine learning tools

Tools for This Course

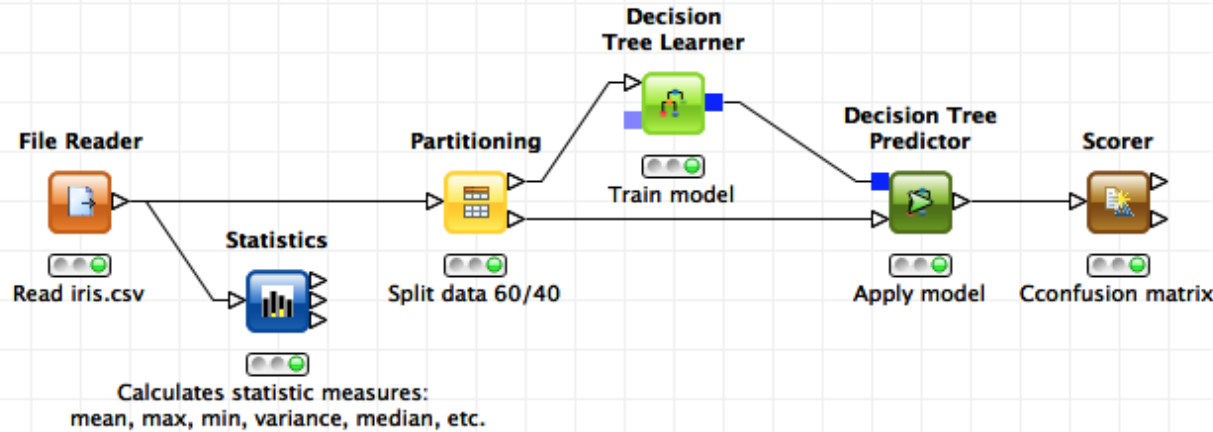


KNIME Analytics Platform

- Platform for data analytics, reporting, and visualization
- GUI-based approach with drag-and-drop interface
- Nodes provide functionality
- Nodes are assembled to create workflows



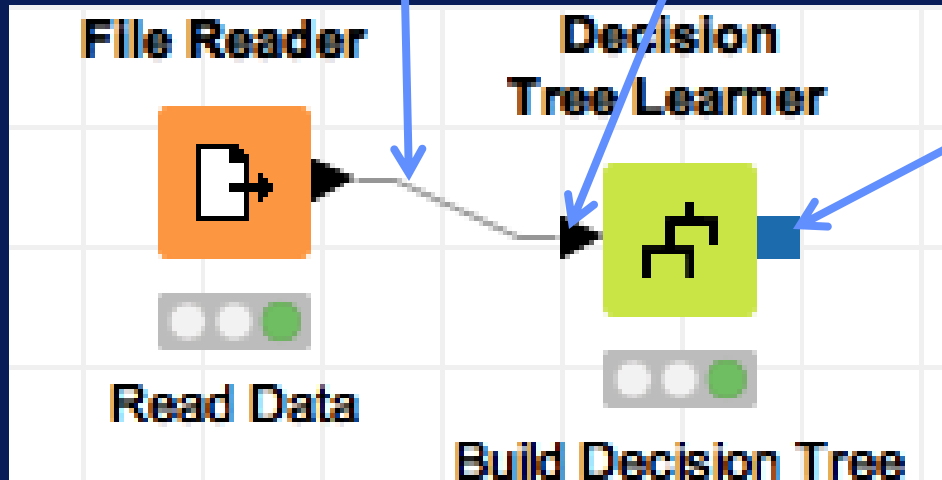
KNIME Workflow

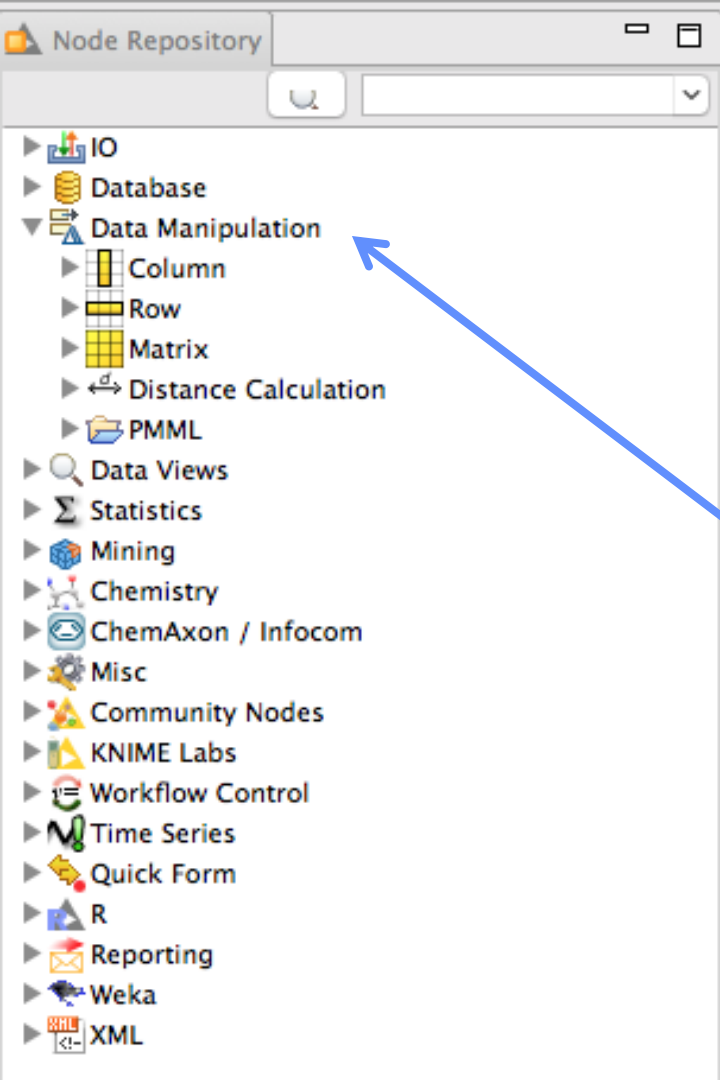


- Visual representation of steps in analysis process
- Workflow is composed of nodes

KNIME Node

Node implements
specific operation





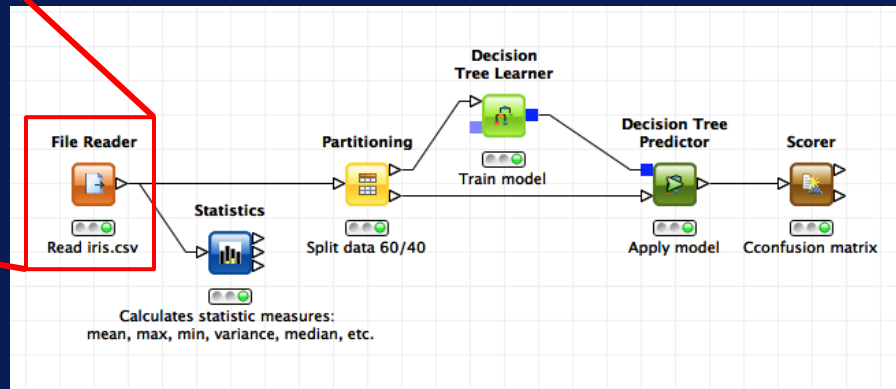
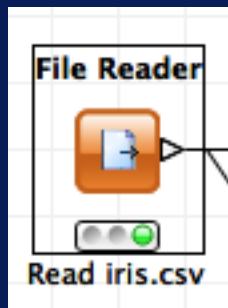
Node Repository

**Contains nodes organized
by category**

Expand category
to see
subcategories
and nodes

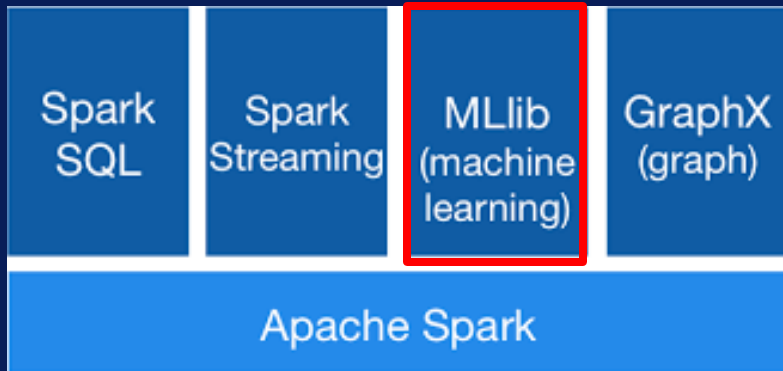
KNIME

- GUI-based
- Drag-and-drop
- Interactive
- For small datasets



Spark MLlib

- **Scalable machine learning library**
- **Runs on Spark**
 - Distributed computing platform



Spark MLlib

- Write code to implement machine learning operations

Read and parse data

```
data = sc.textFile("data.txt")
```

Decision tree for classification

```
model = DecisionTree.trainClassifier  
    (parsedData, numClasses=2)  
print(model.toDebugString())  
model.save(sc, "decisionTreeModel")
```

Spark MLlib

- Provides APIs for

Java

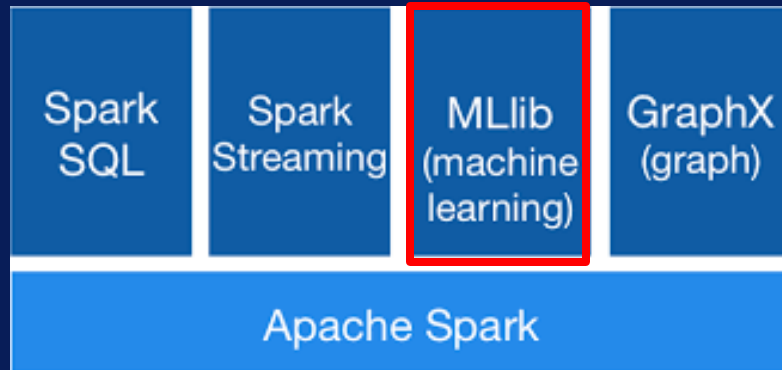
Scala

Python

R

Spark MLlib

- **Distributed platform**
- **Scalable algorithms & techniques**
- **For large datasets**
- **Requires coding**



KNIME & Spark MLlib

