

# Today's Agenda

- Wdata Overview
- Data Management
- Integrations & Orchestrations
- Scoping Considerations
- Live Q&A

# Today's Objectives

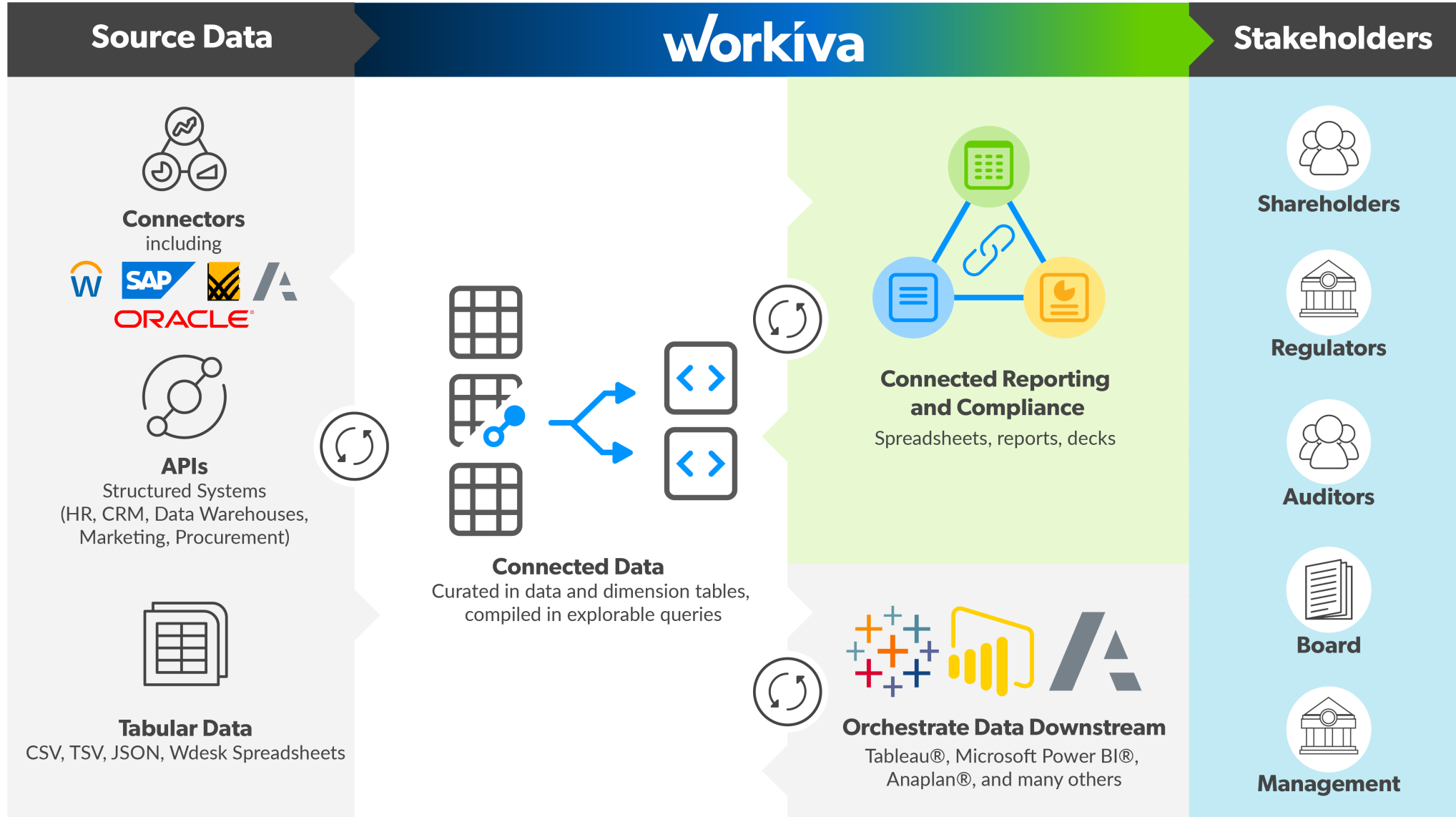


## Session Objectives:

- Understand how to manage the broad vision of Wdata
- Recognize Wdata components and how they work together
- Discern between simple and complex integration options
- Realize how to customize your own demo
- Master scoping of an implementation process

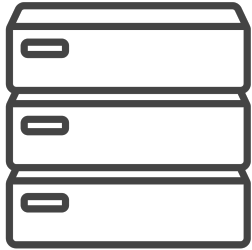
# Wdata | Overview

# Connected Reporting Process





# Why Wdata?



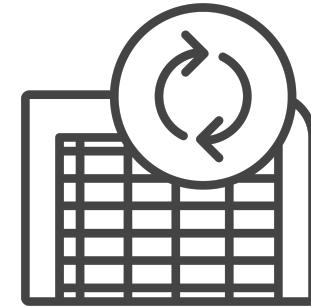
## Connectivity

Close the access gap by connecting to the systems and data teams depend on



## Automation & preparation

Automate data preparation with powerful aggregation and enrichment tools



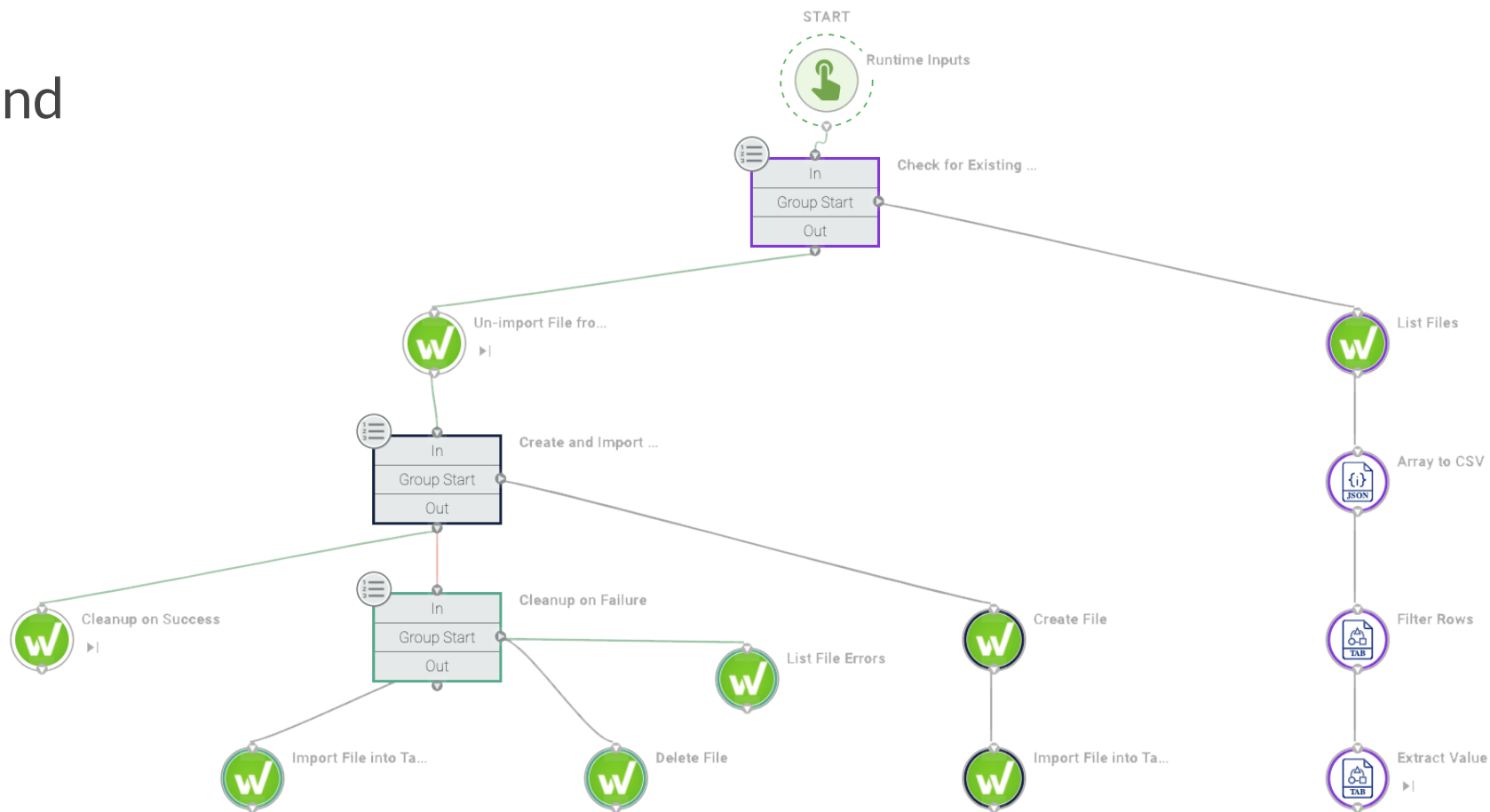
## Reporting

Add control and accessibility to reporting with easy to use data sharing tools, like connected sheets

# Wdata Functionality

## Chains

- Data connectivity and automation



# Wdata Functionality

## Tables

- Storage and staging of data

The screenshot displays the Wdata interface for a table named 'Head Count'. The interface includes a header with navigation icons (Preview, Add Column, Permissions, Rename) and a description: 'Corporate Head Count'. Below the description is a table defining the columns and their types.

COLUMN NAME	DESCRIPTION	COLUMN ID	COLUMN TYPE
VERSION	Version	VERSION	Text
SOURCE	Source	SOURCE	Text
ACCOUNTING_PERIOD	Accounting_Period	ACCOUNTING_PERIOD	M/d/yyyy
DEPT_ID	Dept_ID	DEPT_ID	Text
TYPE	Type	TYPE	Text
HEAD_COUNT	Head_Count	HEAD_COUNT	Number

Below the column definition is a 'Table Preview' section showing a sample of data rows:

VERSION	SOURCE	ACCOUNTING_PERIOD	DEPT_ID	TYPE	HEAD_COUNT	_TAGS	_FILENAME
Actual	ADP	2015-01-31 00:00:00...	40100	INT	3.0	{}	Full HC_L
Actual	ADP	2015-01-31 00:00:00...	40100	RFT	3.0	{}	Full HC_L
Actual	ADP	2015-01-31 00:00:00...	10101	INT	3.0	{}	Full HC_L
Actual	ADP	2015-01-31 00:00:00...	10101	RFT	3.0	{}	Full HC_L
Actual	ADP	2015-01-31 00:00:00...	11101	INT	3.0	{}	Full HC_L

On the right side of the interface, there is a 'Datasets' panel showing a dataset named 'Full HC\_Data.csv' with a green checkmark and a timestamp of 'Aug 6, 2019 11:22 AM'.

# Wdata Functionality

## Queries

- Transformation and aggregation of data

The screenshot displays the Wdata interface for a query titled "Detailed TB Summary". The interface includes a toolbar with actions like "Run Query", "Save", "Save As", "Reset", "Create View", "Layout", "Export", "Permissions", and "Properties". Below the toolbar, there are tabs for "Sources", "Fields", "Filters", and "Relationships". The "Sources" panel lists various data sources, including "GL DATA" and "DIM Account Mapping - Extern...". The "Fields" panel shows a list of fields with their corresponding source and column names. The "Query Results" section displays a table with 8 columns and 8 rows of data.

	1	2	3	4	5	6	7	8
1	ACCOUNTING_PERIOD	ENTITY_NAME	ACCOUNT_GROUP2	ACCOUNT_GROUP	ACCOUNT_NAME	ACCOUNT	DEPT_NAME	CITY_I
2	01/31/2016	Canada	Expenses	Cost of Goods Sold	Cost of Goods Sold	600000	(blank)	Montrea
3	01/31/2016	Latin America	Expenses	Cost of Goods Sold	Cost of Goods Sold	600000	(blank)	Brasilia
4	01/31/2016	EMEA	Expenses	Cost of Goods Sold	Cost of Goods Sold	600000	(blank)	Cape Tc
5	01/31/2016	Asia Pacific	Expenses	Cost of Goods Sold	Cost of Goods Sold	600000	Sales Support	Tokyo
6	01/31/2016	USA	Expenses	Cost of Goods Sold	Cost of Goods Sold	600000	(blank)	Des Mo
7	01/31/2016	Asia Pacific	Expenses	Depreciation	Depreciation	630000	Sales Support	Tokyo
8	01/31/2016	Canada	Expenses	Depreciation	Depreciation	630000	(blank)	Montree

# Wdata | Data Management

# Data Management

## Wdata Tables



### Data Tables

- Contains data that builds up over time, like general ledger data, metric tracking, or other event based data.
- Highly scalable



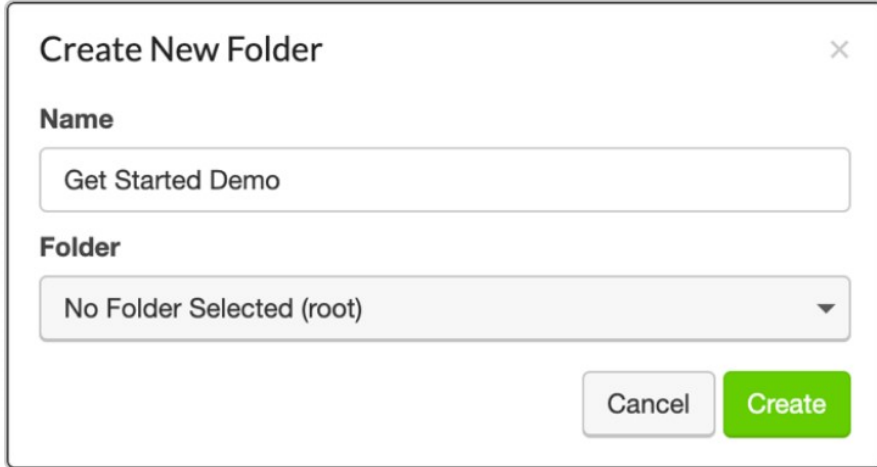
### Dimension Tables

- Contains list, mapping, flatten hierarchy, and descriptive data, like chart of accounts, financial statement mappings, and product information.
- Limited scale (2M records)

## Step 1. Create a Folder for the Tables

To get started, create the folder where you'll save the tables:

- 1 From Wdata Home, click **Create** .



Create New Folder

Name

Get Started Demo

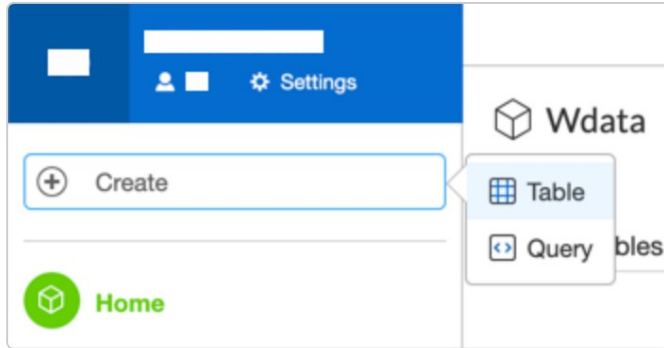
Folder

No Folder Selected (root)

Cancel Create

- 2 Enter the folder's name, such as Get Started Demo.
- 3 In **Folder**, select where to save the folder. For this example, leave the default No Folder Selected to create the folder at the root of Home.
- 4 Click **Create**.

- 1 Click **Create**, and select **Table**.



- 2 Enter a unique name and description to help identify the table and its data. In this example, TB Data and "Trial balance information".

A screenshot of the 'New Table' form in the Wdata application. The form has a title bar that says 'New Table'. Below the title bar, there are two text input fields. The first field contains 'TB Data' and has a red asterisk indicating it is required. The second field contains 'Trial balance information'. Below these fields, there are several controls: a 'Table Type' dropdown menu set to 'Data', a 'Folder' dropdown menu set to 'Get Started Demo', and a section titled 'Add Columns from a .CSV or .TSV file'. This section includes a text input field containing '2018 TB.csv', a 'Browse' button, and a green '+ Add Column' button.

- 3 For **Table Type**, select whether to create a data or dimension table. Since a trial balance accrues *new entries over time*, select Data.
- 4 To base the table's structure on an existing file, under **Add Columns from a .CSV or .TSV file**, browse to and select a sample trial balance CSV—start with the downloaded `2018 TB.csv`.



5 Review the details about the uploaded file's columns:

Table Type ? Folder Add Columns from a .CSV or .TSV file

Data ▼ Get Started Demo ▼ 2018 TB.csv Browse + Add Column

DISPLAY NAME	DESCRIPTION	COLUMN ID	TYPE <span>?</span>	SOURCE VALUE
* scenario	Enter New Descriptic	* scenario	Text <span>”</span>	Actual <span>▼</span>
* fiscal_year	Enter New Descriptic	* fiscal_year	Decimal <span>1.00 .01</span>	2018 <span>▼</span>
* fiscal_period	Enter New Descriptic	* fiscal_period	Decimal <span>1.00 .01</span>	1 <span>▼</span>
* period_ending	Enter New Descriptic	* period_ending	M/d/yyyy <span>📅</span>	1/31/2018 <span>▼</span>

File Preview

SCENARIO	FISCAL_YEAR	FISCAL_PERIOD	PERIOD_ENDING	ENTITY_ID	DEPT_ID	LOCATION_ID	ACCOUNT_ID	VALUE	VIEW	CURRE
Actual	2018	1	1/31/2018	1000	10000	101	815000	-489342.38	Periodic	USD
Actual	2018	1	1/31/2018	1000	10101	101	602000	130831.14	Periodic	USD
Actual	2018	1	1/31/2018	1000	10101	101	604100	262928.26	Periodic	USD
Actual	2018	1	1/31/2018	1000	10101	101	604200	195.39	Periodic	USD

Cancel Create Table

Note: Double check types

- Under **Display Name** and **Column ID**, each column's header appears.
- Under **Type**, the type of data the column contains appears, based on the **Source Value** from its first row.

**Note:** For view the data from the imported file for reference, click **File Preview**.

6 Adjust the column details as necessary:

- Under **Display Name**, edit the column's header as necessary for clarity.
- Under **Description**, enter an optional explanation of the column's data. For example, for `value`, enter MTD to clarify the month-to-date status of its data.
- Under **Column ID**, verify the values match the IDs of columns you'll map from other data sources over time.
- Under **Type**, verify the data type selected matches how you intend to use the data. In this example, to ensure values appear as *whole numbers*, select Integer for `fiscal_year`, `fiscal_period`, `entity_id`, `dept_id`, `location_id`, and `account_id`.

DISPLAY NAME	DESCRIPTION	COLUMN ID	TYPE ?	SOURCE VALUE
<input type="text" value="scenario"/>	<input type="text" value="Enter New Description"/>	<input type="text" value="scenario"/>	<input type="text" value="Text"/>	Actual
<input type="text" value="fiscal_year"/>	<input type="text" value="Enter New Description"/>	<input type="text" value="fiscal_year"/>	<input type="text" value="Integer"/>	2018
<input type="text" value="fiscal_period"/>	<input type="text" value="Enter New Description"/>	<input type="text" value="fiscal_period"/>	<input type="text" value="Decimal"/>	1
<input type="text" value="period_ending"/>	<input type="text" value="Enter New Description"/>	<input type="text" value="period_ending"/>	<input type="text" value="M/d/yyyy"/>	1/31/2018

- Text
- Integer**
- Decimal
- Boolean
- Timestamp
- Date

File Preview

SCENARIO	FISCAL_YEAR	FISCAL_PERIOD	PERIOD_ENDING	ENTITY_ID	DEPT_ID	LOCATION_ID	ACCOUNT_ID	VALUE	VIEW	CURRENCY
----------	-------------	---------------	---------------	-----------	---------	-------------	------------	-------	------	----------

7 Click Create Table.

**Description:** Trial balance information

COLUMN NAME	DESCRIPTION	COLUMN ID <sup>?</sup>	COLUMN TYPE <sup>?</sup>
scenario	Enter column description	scenario	Text <span>99</span>
fiscal_year	Enter column description	fiscal_year	Integer <span>123</span>
fiscal_period	Enter column description	fiscal_period	Integer <span>123</span>
period_ending	Enter column description	period_ending	M/d/yyyy <span>?</span>
entity_id	Enter column description	entity_id	Integer <span>123</span>
dept_id	Enter column description	dept_id	Integer <span>123</span>
location_id	Enter column description	location_id	Integer <span>123</span>
account_id	Enter column description	account_id	Integer <span>123</span>

Table Preview

SCENARIO	FISCAL_YEAR	FISCAL_PERIOD	PERIOD_ENDING	ENTITY_ID	DEPT_ID	LOCATION_ID	ACCOUNT_ID	VALUE	VIEW
Actual	2019	6	2019-06-30	1000	40201	104	604200	384.63	Periodic
Actual	2019	10	2019-10-31	1000	10601	103	609000	26.32	Periodic
Actual	2019	5	2019-05-31	3000		301	300000	-1328945.0	Periodic
Actual	2019	12	2019-12-31	1000	40202	104	604300	6.93	Periodic
Actual	2019	8	2019-08-31	1000	21301	103	608000	308729.08	Periodic

Datasets

- Add Dataset
 
 9
- ? 2020 TB.csv ✓

steve stegelin Jun 24, 2020 2:12 PM  
 Tags: Data Source: General Ledger, Scenario: Actual
  - ? 2019 TB.csv ✓

steve stegelin Jun 24, 2020 2:12 PM  
 Tags: Data Source: General Ledger, Version: Actual
  - ? 2018 TB.csv ✓

steve stegelin Jun 24, 2020 12:46 PM  
 Tags: Data Source: General Ledger, Scenario: Actual

1 From the Datasets panel, click **Add Dataset**, and select **Upload File**.

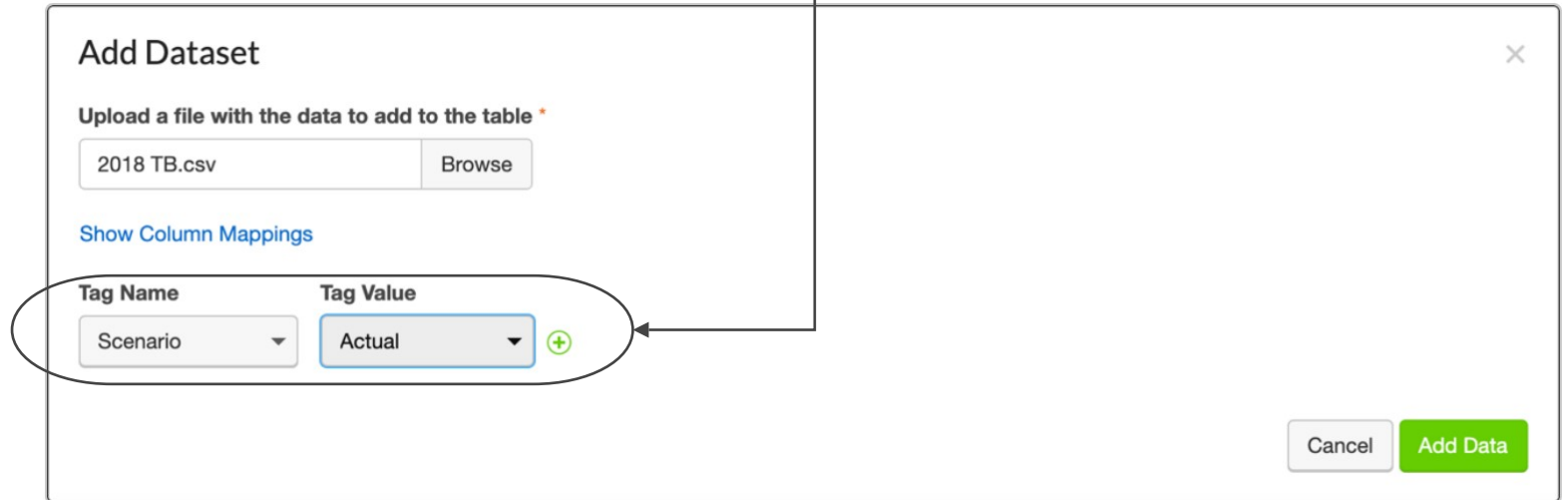


2 Browse to and select the CSV.

3 Apply any applicable tags, and click **Add Data**.

If your organization routinely tracks information about the datasets used in tables, workspace owners can set up tags to use as metadata. For example, use tags to track:

- Versioning, such as Draft or Final
- Data sources
- Scenario or intent, such as Budget or Forecast



# Table Summary

## Table Types

- Data - Highly scalable storage
- Dimension - Mappings or lists

## File Types

- .CSV, TSV, JSON
- Headers must match table column ids, but order doesn't matter

## Tags

- Used for additional metadata associated with the file upload

Validate column\_ids and column Types

# Data Extraction



## Wdata Queries

### Builder Mode

- Drag & Drop query builder designed for moderate users.

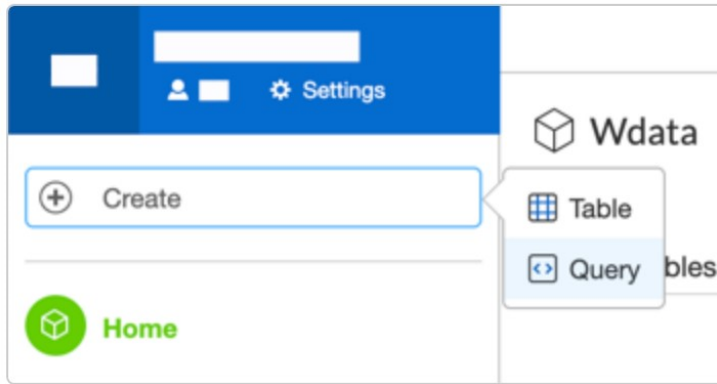
### SQL Mode

- SQL editor for advanced queries not supported within Builder Mode.

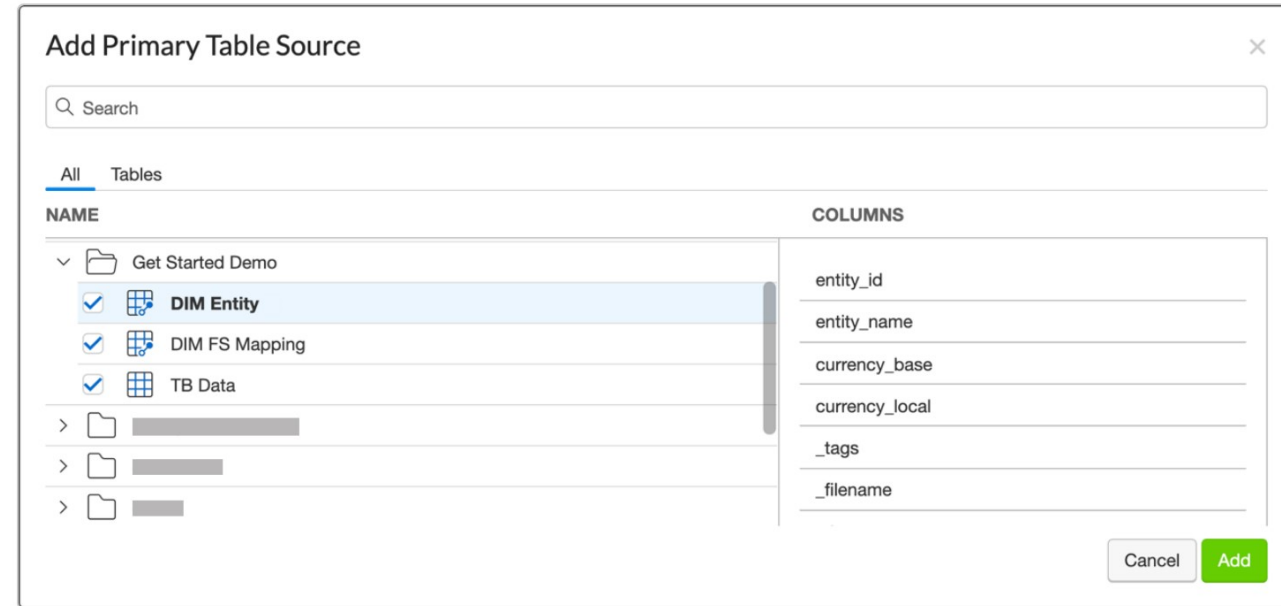
### Runtime Parameter Support

- Query Parameters - Set at the query
- Global Parameters - Set at the Workspace and updates

1 From Wdata Home, click **Create** (+), and select **Query** (<>).



3 Select the tables to include—in this case, all tables in the Get Started Demo folder—and click **Add**.



2 From the **Sources** panel, click **Add Sources** (+), and select **Add table data**.



1

Select the **Relationships** tab.

The screenshot shows a query builder interface with the following components:

- Top Bar:** Includes a "New Query" tab, a toolbar with icons for Run Query, Save, Save As, Reset, Create View, Layout, Export, Feedback, and Help.
- Sources Panel (Left):** Titled "Sources", it contains a list of data sources: Calculation, DIM Entity, TB Data, and DIM FS Mapping. Each source has a checkbox and a plus icon.
- Relationships Tab (Center):** The "Relationships" tab is selected. It contains a text instruction: "To use multiple sources, define their corresponding columns and how to join their records." Below this, there are two "Drop column to add to" input boxes, a "LEFT JOIN" dropdown menu, and a small dropdown arrow.
- Query Properties Panel (Right):** Titled "Query Properties", it includes:
  - Query name:** A text input field with the placeholder "Enter query name".
  - Query description:** A text area with the placeholder "Enter query description".
  - Limit:** A text input field containing the value "1000000".
  - Show only distinct rows:** A checkbox that is currently unchecked.
  - Summary:** A table showing query execution statistics:

Last Run	Not run
Total Records Returned	--
Data Scanned	--
Query Run Time	--
- Status Bar (Bottom):** A green checkmark icon followed by the text "Query Syntax is Good".



The diagram illustrates the flow of financial data. At the top, two circular icons with upward-trending arrows represent data sources. Arrows from these sources point to three tables: a green table on the left, a purple table in the center, and a red table on the right. Arrows from the green and purple tables point to a blue table at the bottom. Finally, arrows from the blue table and the red table point to the 'INCOME STATEMENT' on the right.

ACCT_id	CC_id	Amount
400000	1000	200
400001	1000	600
600000	2000	100
600000	3000	300
600001	2000	50
600001	3000	150
800000		50
600003	3000	10

ACCT_id	Name	Line Item
400000	Service Sales	Revenue
400001	Product Sales	Revenue
600000	Employee	Expense

CC_id	CC_Name
1000	Sales
2000	COGS
3000	G&A

CC_Name	Line Item	Amount
Sales	Revenue	800
COGS	Expense	150
G&A	Expense	450
G&A	DAT Exp	10
	Other Income	50

### INCOME STATEMENT

Sales	800
COGS	150
Gross Margin	650
G & A	450
<u>Total Opp Expense</u>	<u>450</u>
Other Income	50
<u>Earnings Before DAT</u>	<u>250</u>
DAT Exp	10
<u>Total profit/Loss</u>	<u>240</u>

**New Query**

Run Query Save Save As Reset Create View Layout Export Feedback Help

**Sources**

Add to Fields

- fx Calculation
- DIM Entity
- DIM FS Mapping
- TB Data
  - SCENARIO
  - FISCAL\_YEAR
  - FISCAL\_PERIOD
  - PERIOD\_ENDING**
  - ENTITY\_ID
  - DEPT\_ID
  - LOCATION\_ID

**Fields Filters Sort Relationships** Builder SQL

{1} AND {2}

Enter filter as string based on columns below, such as {{1} AND {2}} OR {3}

1	T... peric	>=	2019-01-01
2	T... peric	<=	2020-07-07
3	Drop column to filter query results by	Equal To	

Query Syntax is Good

**Field Properties**

Source TB Data

Column period\_ending

Calculated

Value 3/31/2020

Apply

> Results ?

NO RESULTS

1

To select information to include in the results, move its column from the **Sources** panel to the **Fields** tab.

The screenshot shows a query builder interface with the following components:

- Top Bar:** Includes a "New Query" tab and a toolbar with icons for Run Query, Save, Save As, Reset, Create View, Layout, Export, Feedback, and Help.
- Sources Panel:** A list of data sources and columns. The "VALUE" column from the "TB Data" source is highlighted in blue.
- Fields Panel:** A table with columns "HEADER", "SOURCE", and "SOURCE COLUMN". The "value" column from "TB Data" is being added to the list. Below the table is a dashed box containing the text "Drop column to include in query results".
- Field Properties Panel:** Shows the configuration for the selected "value" column. The "Source" is "TB Data", the "Column" is "value", the "Header" is "value", the "Type" is "Decimal", and the "Aggregation" is "Sum of". There is an "Apply" button at the bottom.
- Status Bar:** At the bottom, it shows "Query Syntax is Good" with a green checkmark and "NO RESULTS" with a refresh icon.

# Extraction Summary

## Create Query

- Select Sources
- Create Relationships (Make sure to JOIN on a Key column)
- Filter (Make dynamic with runtime Parameters)
- Select Columns to Display

# Data Consumption

- **Export to CSV**
  - Extract data to be used anywhere
- **Connected Sheets, tables, and Charts**
  - Connected Wdata Queries that can be refreshed and adjusted via query parameters from the Wdata Panel
- **Wdata Views**
  - Used for research and exploring of query results
    - Pivoting
    - Drill-through

Master Working File SS (2)

File Edit Data View Review

Normal Arial 10

Undo Redo Styles

Clear Painter Conditions

Date Entered In Ones Auto

Shown In Ones Decimals

Insert Delete Hide Lock SUM

Master Working File SS (2)

accounting\_period

	A	B	C	D
	accounting_period	period change	account_name	account_rollop3
2	12/31/2018	-1,810,563	Common Stock	Equity
3	12/31/2018	60,494,762	Depreciation	Expense
4	12/31/2018	-1,118,488,979	Retained Earnings	Equity
5	12/31/2018	-10,212,378	Accumulated Other Comprehensive Income	Equity
6	12/31/2018	-465,524,418	Delivery Service	Revenues
7	12/31/2018	15,000,412	Administrative	Expense
8	12/31/2018	109,854,274	Restructuring charges	Expense
9	12/31/2018	161,919,732	Operations	Expense
10	12/31/2018	-5,106,190	Foreign currency (gain) loss	Non-operating
11	12/31/2018	-493,205,430	Installs	Revenues
12	12/31/2018	335,739,098	Personnel Costs	Expense
13	12/31/2018	-30,020,262	Discounts	Expense
14	12/31/2018	1,260,142,220	Cost of Goods Sold	Expense
15	12/31/2018	752,684,864	Treasury Stock	Equity
16	12/31/2018	-564,251,416	Furniture/HomeGoods In-store	Revenues
17	12/31/2018	191,736,394	Furn, Fixtures, Equip	Long Term Assets
18	12/31/2018	49,152,920	Advertising & Promotion	Expense
19	12/31/2018	-20,546,818	Other Accrued Expenses	Liabilities
20	12/31/2018	-391,576,706	Accumulated Depreciation and Amortization	Current Assets
21	12/31/2018	135,882,790	Occupancy	Expense
22	12/31/2018	-33,017,312	Accrued Salaries and Related Expenses	Liabilities

Wdata Connections

Add Connection

C-Var Report - A vs B  
A vs B Var report  
Last Update: June 25, 4:41 PM

C-Var Report - CY vs PY  
Current vs Prior Income Statem...  
Last Update: December 9, 3:12 PM

C-Acct Validation  
VALIDATION - Account Mappin...  
Last Update: November 20, 11:25 AM

TB Rollup - WDATA  
YTD TB Summary - Managemen...  
Last Update: November 12, 1:15 PM

Properties

15 16 17 18 19 20 21 22 23 24 25

# Connected

- Sheets
- Tables
- Charts

- Financial Highlights, Slide - 6
- Financial Highlights, Slide - 7
- Financial Highlights, Slide - 8
- Financial Statements, Slide - 1
- Financial Statements, Slide - 2
- Financial Statements, Slide - 3
- Financial Statements, Slide - 4
- Chart Cover
- SG&A Exp - Line
- SG&A Exp - Curved line
- SG&A Exp - YTD**
- Charts, Slide - 5
- Charts, Slide - 6
- Charts, Slide - 7
- Charts, Slide - 8
- Charts, Slide - 9
- Charts, Slide - 10



# Wdata Views

TB Detail Report

Refresh View Save Save As Reset Export Layout Charts Format Subtotals Fields Permissions Fullscreen Feedback Help

ENTITY_NAME USA		ACCOUNTING_PERIOD							
		01/31/2018	02/28/2018	03/31/2018	04/30/2018	05/31/2018	06/30/2018	07/31/2018	
1									
2	ACCOUNT_GROUP2	ACCOUNT_GROUP							
3	Expenses	Cost of Goods Sold	\$1,194,960,000	\$1,122,540,000	\$1,303,600,000	\$1,493,700,000	\$1,403,180,000	\$1,629,490,000	\$1,553,450,000
4		Depreciation	\$76,238,586	\$71,618,065	\$83,169,365	\$95,298,231	\$89,522,581	\$103,961,708	\$99,110,000
5		Restructuring charges	\$52,086,078	\$48,929,346	\$56,821,176	\$65,107,598	\$61,161,683	\$71,026,470	\$67,710,000
6		Selling, general and administrative	\$382,030,373	\$358,877,017	\$416,760,405	\$477,537,964	\$448,596,271	\$520,950,507	\$496,630,000
7		Income tax provision	\$91,247,092	\$85,716,965	\$99,542,282	\$114,058,865	\$107,146,207	\$124,427,853	\$118,620,000
8		Other income (exp)	-\$39,218,888	-\$36,841,986	-\$42,784,241	-\$49,023,610	-\$46,052,482	-\$53,480,301	-\$50,980,000
9		Revenues	-\$1,907,488,634	-\$2,011,883,261	-\$2,242,896,690	-\$2,484,360,789	-\$2,239,854,075	-\$2,601,120,862	-\$2,479,730,000
10									
11									
12									
13									
14									
15									
16									
17									
18									

## Pivot Builder

### All Fields

- ACCOUNTING\_PERIOD
- ENTITY\_NAME
- ACCOUNT\_GROUP2
- ACCOUNT\_GROUP
- ACCOUNT\_NAME
- ACCOUNT
- DEPT\_NAME
- CITY\_NAME
- VENDOR NAME
- DESCRIPTION
- TAGS
- PERIOD CHANGE

### View Filters

ENTITY\_NAME

### Rows

- ACCOUNT\_GROUP2
- ACCOUNT\_GROUP

- Pivoting
- Exploring
- Drill-through

# Consumption Summary

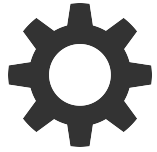
## Queries

- Export Results as .csv
- Connected
  - Spreadsheets
  - Embedded Tables
  - Charts
- Views

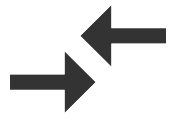


# Wdata | Integrations

# Integration Overview



API's - Secure interfaces for sharing and managing data, processes, and structures in Wdata.



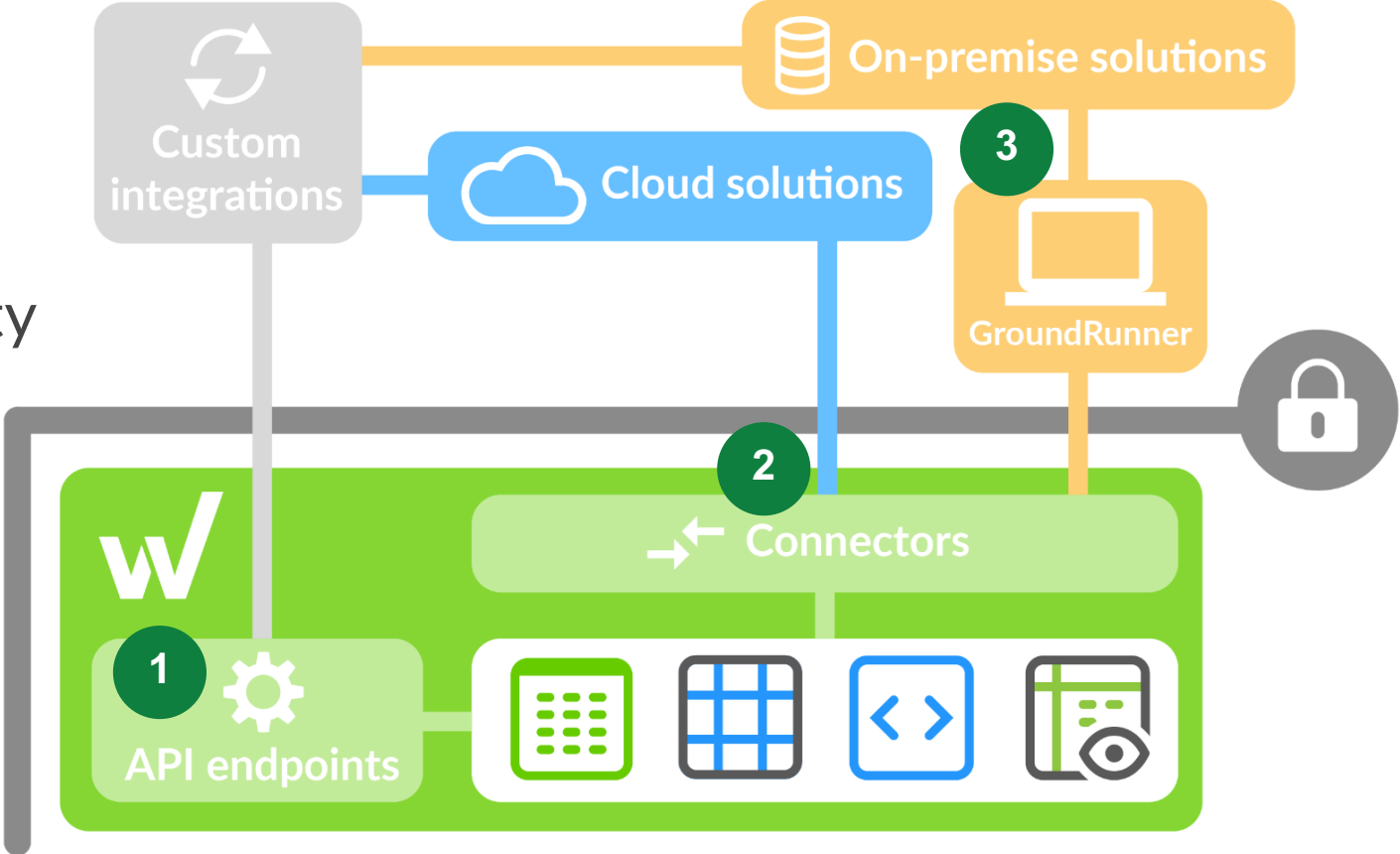
Connectors - Bi-directional orchestration and connectivity to systems/ technologies with pre-built connectors.



On-Premise Connectivity - Proxy command executor for on-premise connectivity; leveraging pre-built connectors and orchestration in a secure manner

# Integration Architecture

- 1 API's
- 2 Connectors
- 3 On-Premise Connectivity



# Connectors

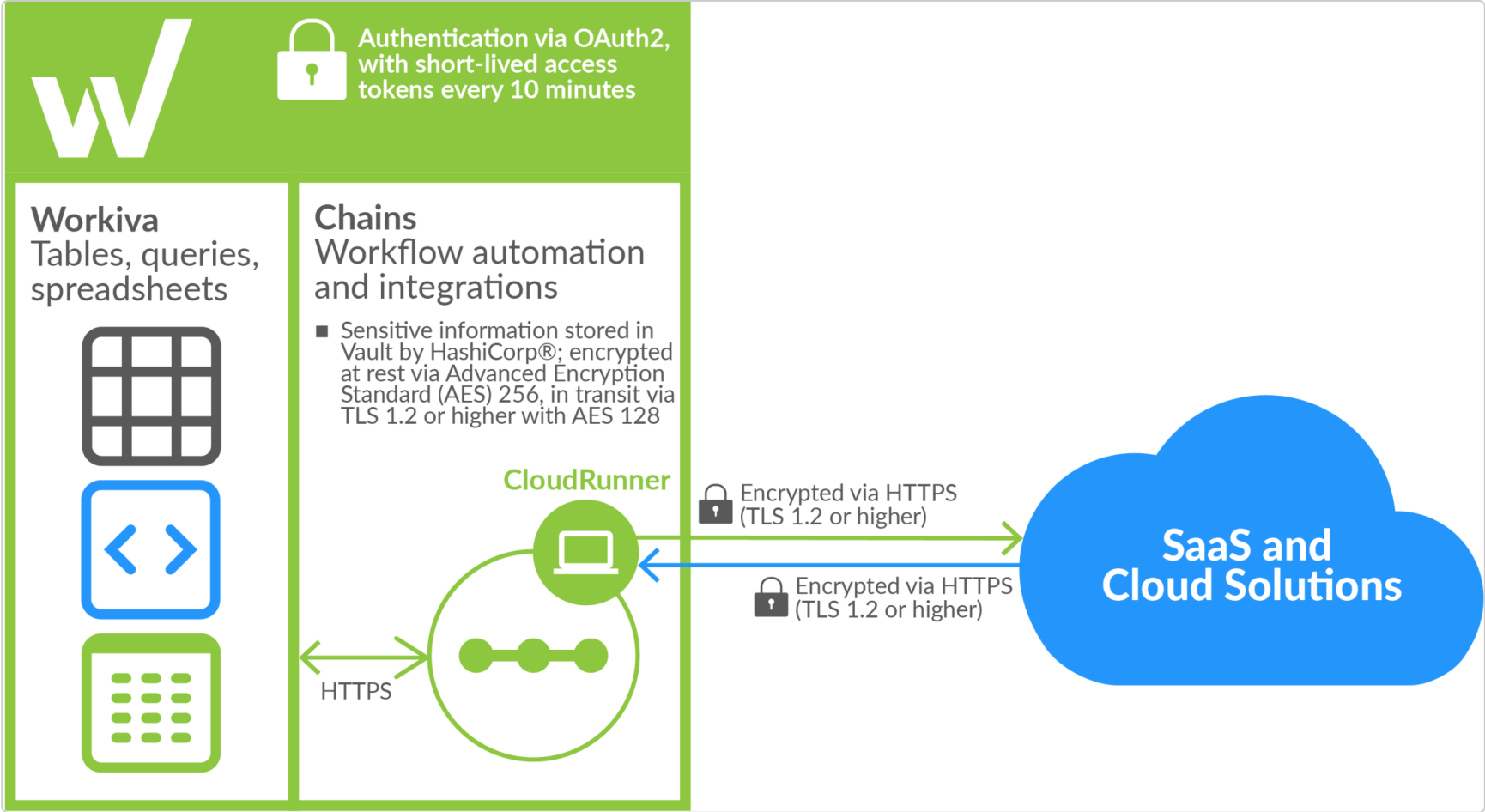
Platform	Premium			
Box	Adaptive Insights	Microsoft SQL Server	Oracle Financials Cloud	Sage Intacct
Dell Boomi	Amazon Redshift	MySQL	Oracle HCM Cloud	Salesforce
Email	Amazon S3	Namely	Oracle HFM Legacy	SAP BAPI RFC
Google Drive	Anaplan	Netsuite	Oracle Hyperion Financial Management	SAP Business Warehouse
HTTP	Blackline	Netsuite JDBC	Oracle OTBI	SAP HANA JDBC
Informatica Connector	Domo	Oracle Analytics Cloud	Oracle PBCS & EPBCS	Service Now
Microsoft OneDrive	FTPS	Oracle ARCS	Oracle PCMCS	SFTP Connector
Oracle EPM Utilities	Google BigQuery	Oracle DRM	Oracle RDBMS I ADW	Snowflake
Script Runner	Google Cloud Storage	Oracle E-Business Suite	Planful	Tableau
Snap Logic	IBM Db2	Oracle EDMCS	Postgres	Trintech Cadency
	IBM Planning Analytics TM1	Oracle Essbase	Power BI	UltiPro
	JDBC Operations	Oracle FCCS	Prevedere	VTS Connector
	Microsoft Dynamics CRM	Oracle FDMEE	QuickBooks	Workday



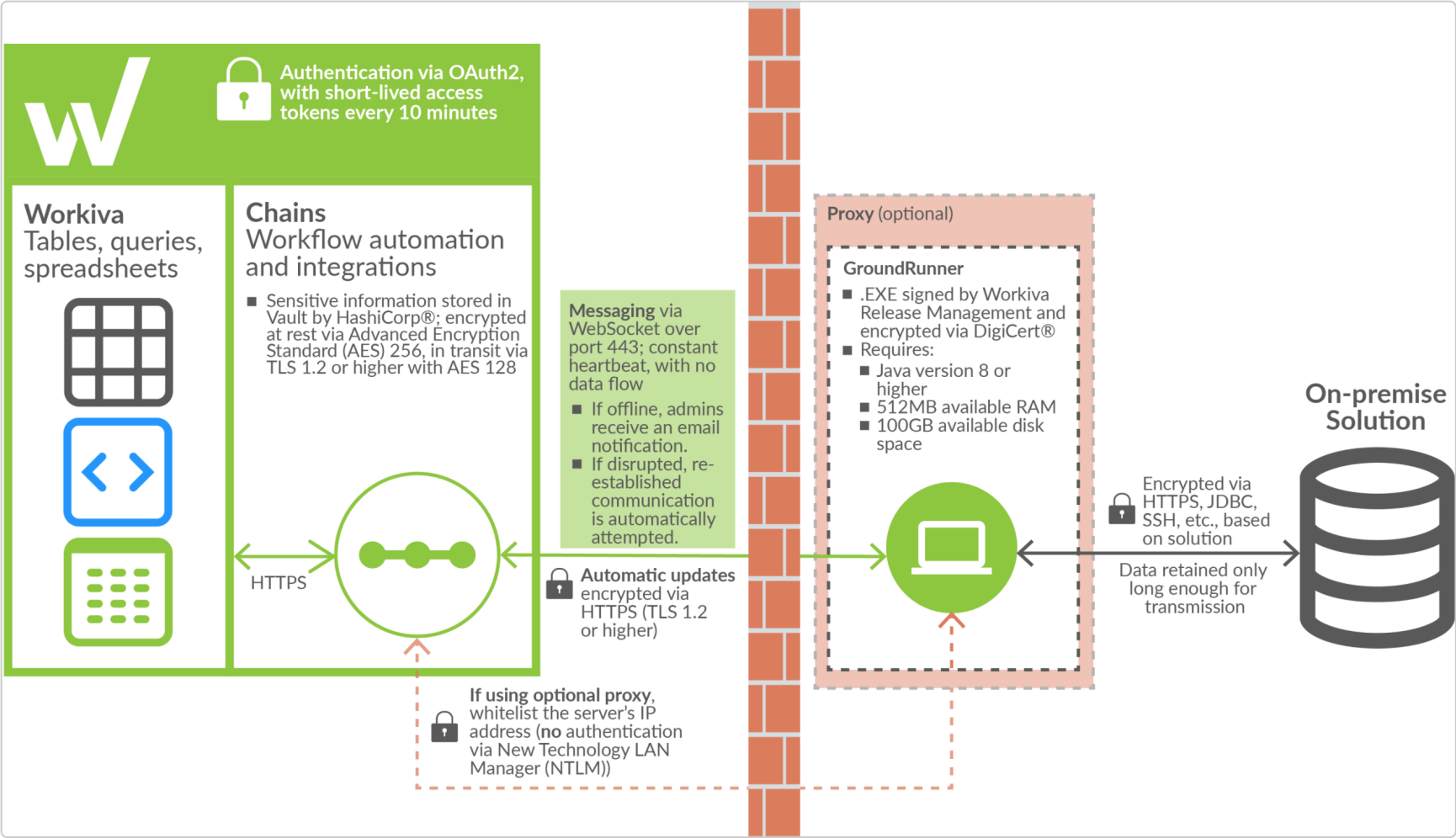
# Orchestration

- Cloud Runner
  - Processes chain executions via Workiva's cloud platform
  - Workiva manages capacity and scaling
- Ground Runner
  - Process chain executions via an executable installed within the clients environment
  - Customer managed server or virtual machine must meet memory and storage requirements to manage capacity and scaling

# Cloud Runner Architecture



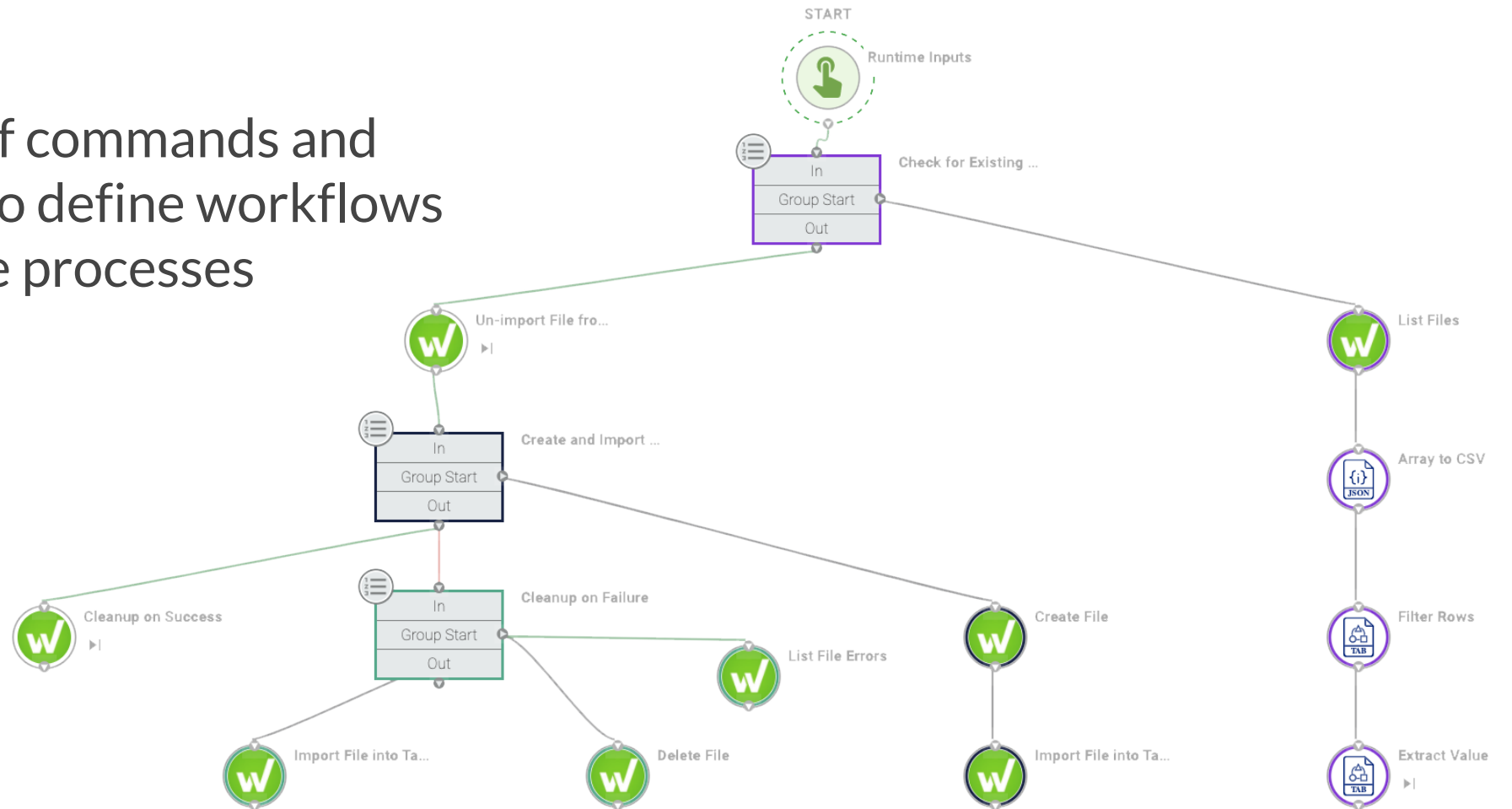
# Ground Runner Architecture



# Chain Basics

## Chains

- A sequence of commands and events used to define workflows and automate processes






# Chain Basics

## Connections

- Used to store credentials for third-party applications

Create Connection CANCEL SAVE

**BizApp Connection**  
Select the BizApp connection and runner this connection should run with

 Workiva x v Runners CloudRunner v

**Basic Info**  
Provide a name and description for your workspace

Name  Description

**Properties**  
Input fields relevant to your connection

ID   
The randomly generated ID in your OAuth2 Grant that is used to identify the integration user

Secret   
The randomly generated Secret in your OAuth2 Grant that is used to authenticate the integration user

Cerebral Host Override   
OPTIONAL: Use this field to override the URL host and base path for the Cerebral API when running in test environments

Spreadsheets Host Override   
OPTIONAL: Use this field to override the URL host and base path for the Spreadsheets API when running in test environments

IAM Host Override   
OPTIONAL: Use this field to override the URL host and base path for the IAM API when running in test environments

Admin Host Override   
OPTIONAL: Use this field to override the URL host and base path for the Admin API when running in test environments

Graph DB Host Override   
OPTIONAL: Use this field to override the URL host and base path for the Graph DB API when running in test environments


# Chain Basics

## Execution

- Chains can be invoked directly by a user, scheduled, or triggered from another chain or external source

Create Connection CANCEL SAVE

**BizApp Connection**  
Select the BizApp connection and runner this connection should run with

 Workiva x v Runners  
CloudRunner v

**Basic Info**  
Provide a name and description for your workspace

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OPTIONAL: Use this field to override the URL host and base path for the IAM API when running in test environments

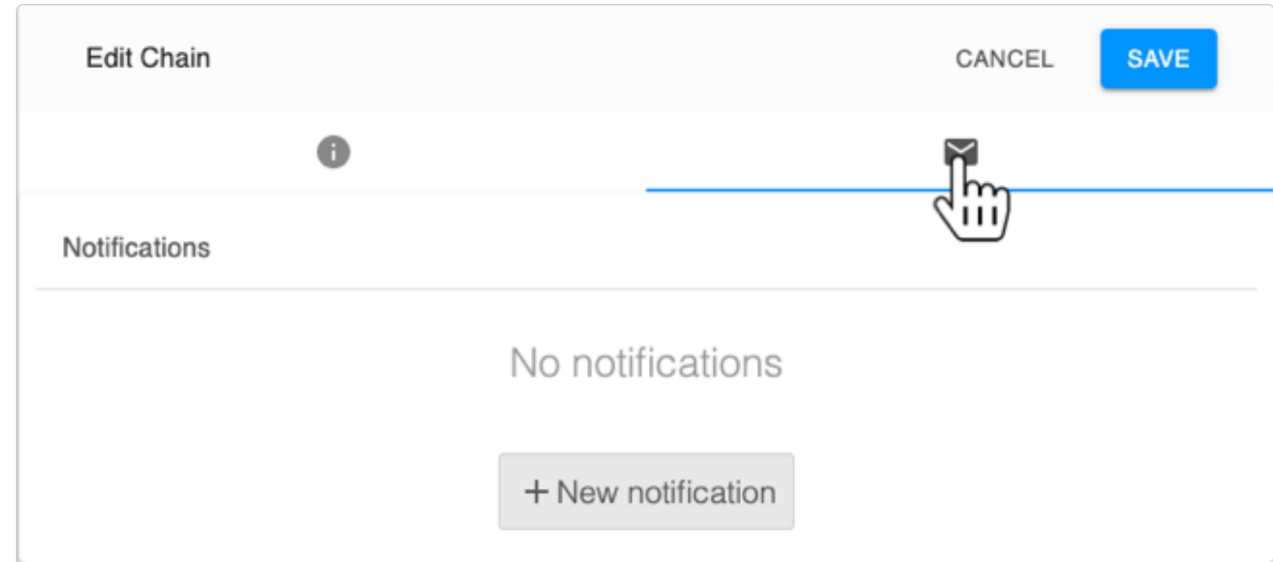
Admin Host Override   
OPTIONAL: Use this field to override the URL host and base path for the Admin API when running in test environments

Graph DB Host Override   
OPTIONAL: Use this field to override the URL host and base path for the Graph DB API when running in test environments

# Chain Basics

## Monitoring & Notifications

- Chains can be monitored from a dashboard and notifications can be sent by command or chain



# Chain Basics

## Troubleshooting

- The results of each command can be seen via the logs display which is best used for troubleshooting

The screenshot displays a workflow execution interface for a test named "Test #1 -- Copy". The workflow consists of three steps: "Run Query", "Create File", and "List File Content". The "Run Query" step is currently selected and expanded to show its logs.

**Run Details:**  
Run by Scheduler (checked)  
Duration 14.726 seconds  
Started at 11/13/2020 7:06 am EST  
Ended at 11/13/2020 7:06 am EST

**Run Query Details:**  
Run At: November 13th 2020 7:06 am EST  
Total Duration: 8.266 seconds  
Runner: CloudRunner

**Log Output:**

```
Query was run successfully, polling until complete.
Checking status...
Current Status: COMPLETE
Query result metadata:
{
  "bytesScanned": 938095,
  "columns": [
    {
      "name": "account_number",
      "type": "string"
    },
    {
      "name": "period change",
      "type": "float"
    }
  ],
  "created": "2020-11-13T12:06:03.000Z",
  "duration": 2195,
  "id": "b36d10f8aecf45e0a8403461c112be08",
  "queryId": "9874b38a42074add9b72ccff361d5e4f",
  "queryParameters": [],
  "queryText": "SELECT DISTINCT\n \\\"GL DATA\\\".\n \\\"account_number\\\"\n \\\"account_number\\\".\n \\\"sum\\\"(\n \\\"GL
  \"status\": \"COMPLETE\",
  \"updated\": \"2020-11-13T12:06:03.000Z\",
  \"userId\": \"V0ZVc2VyHicEYjYzHkzH0g\"
}
```

Result: Success

# Chain Basics

## Variables

- Defined values that can be used across commands, chains, and environments

Updating [redacted] CANCEL SAVE DELETE

**Basic Info**  
Provide a name and description for your workspace

Name

Description

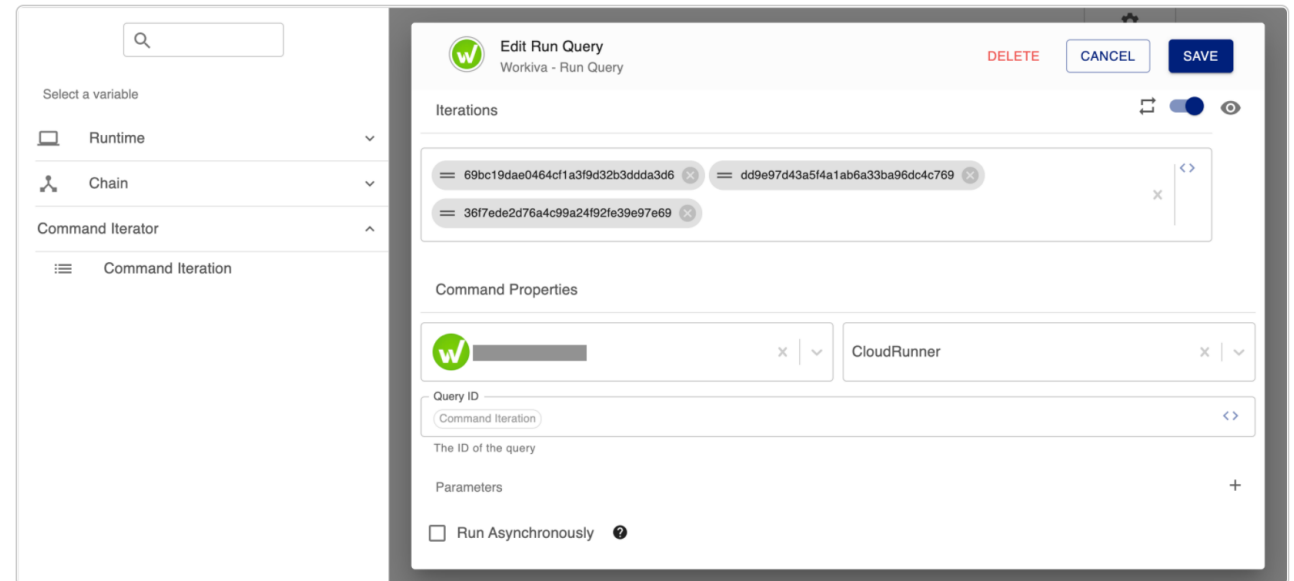
**Variables** ADD VARIABLE  
Create Workspace Variables to be used in your chains. Environments can override the default value

Name	Default Value	Encrypt	Actions
<input type="text" value="Name"/>	<input type="text" value="None"/>	<input type="checkbox"/>	<span>DELETE</span> <span>⋮</span>

# Chain Basics

## Iterations

- Enable the ability to loop through a command or series of commands based on a dynamic list

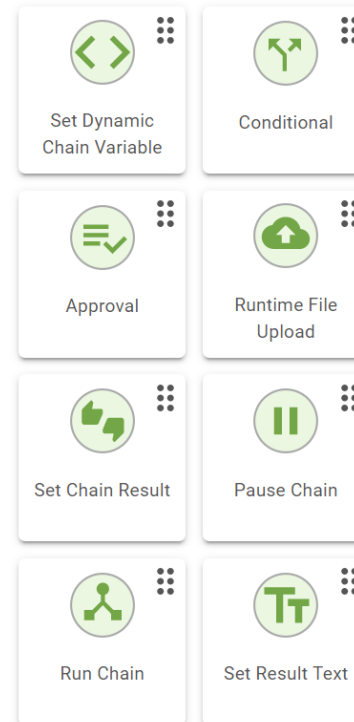


# Chain Basics

## Events

- Enable the ability to perform tasks within a chain such pause, run another chain, or set conditional logic

### Chain Events

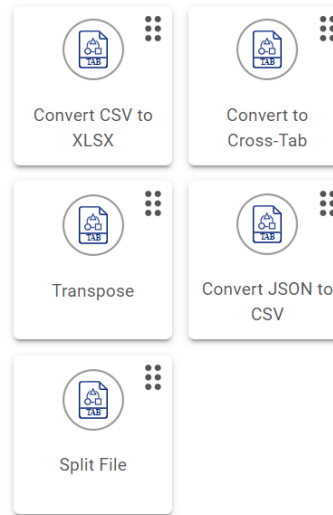


# Chain Basics

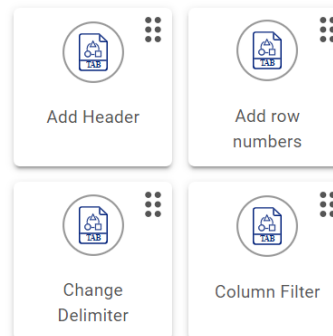
## Transformation Tools

- Commands within chains that provide the ability to transform and manipulate data

### Utilities

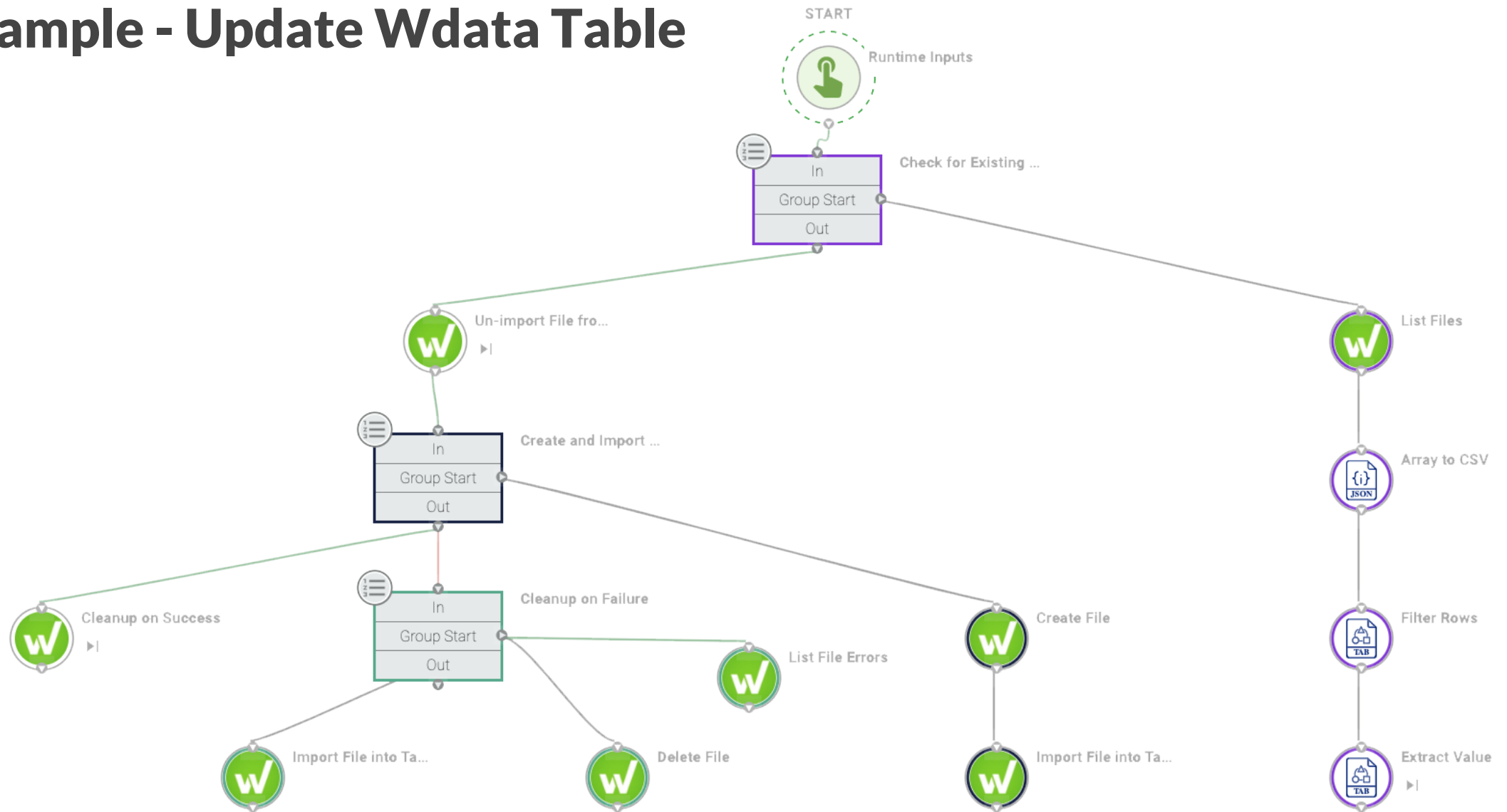


### Transform



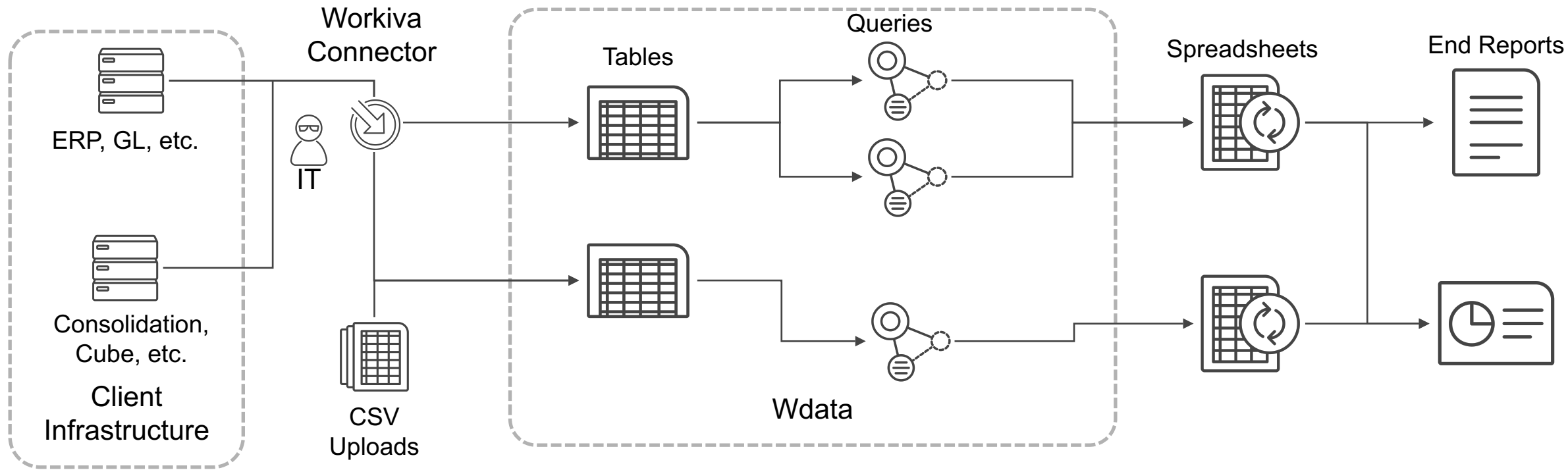


# Chain Example - Update Wdata Table



# Wdata | Scoping Projects

# Scoping Considerations



**Sources**

Which systems should be treated as "systems of record"

Which data sets should be connected?

Which data sets make more sense as a CSV upload?

**Compliance**

Are we compliant with policies?

How often, by whom, and with what access?

How long will it take to get clearance for the connections?

**Data Loads**

In what format(s) will Wdata receive data?

At what level of granularity?

What data is **necessary** to accomplish reporting desired outcomes?

What hierarchies might be required?

**Data Services**

What gap exists between system-formatted data and reporting-formatted data?

How would hierarchies be applied?

How many consumers would benefit from these views?

**Spreadsheets**

Do spreadsheets in Wdesk or Excel Workbooks exist today?

What gets replaced by Wdata, what will be tweaked to feed off of Wdata?

Any non-Wdata-related Spreadsheet work to be done?

**Reports**

Which are in-scope as consumers of the Wdata implementation?

Anything new to build or anything existing to re-work?

## Additional Resources

**Support Site:** <https://support.workiva.com/hc/en-us/categories/360002307351-Working-in-Wdata>

**Developers Site:** <https://developers.workiva.com/>

**The Community:** <https://support.workiva.com/hc/en-us/community/topics>

**Partner Portal:** [partners.workiva.com](https://partners.workiva.com)