# Explorer Training





#### Welcome

#### Meet the trainer:

Helen Lightner VP, Training & Certification <u>helen.lightner@stardog.com</u>





## Before we begin...

- Complete the Meet Stardog on-demand training.
- To have the best experience with this training, students will need a computer with internet access.
- For assistance contact: <u>training@stardog.com</u>

\*Please note that screen shots, user interfaces and functionality can become out of date without notice.



## **Course Overview**

#### Description:

This beginner-level training teaches users how to gain insights that can drive business success. Users will learn how to follow their intuition and investigate their data to uncover patterns, dependencies, or unexpected insight using Stardog Explorer. By the conclusion of this training, users will be able to search and query their data, filter results to easily to find what they need, and explore related topics visually.

#### Audience:

This training is for business users within an organization that need to access knowledge graphs.

#### Prerequisites:

Before this training, students should listen to the Meet Stardog training video or have a background with knowledge graphs.

## **Course Objectives**



# Agenda



#### Introduction

#### **Getting Connected**

#### Viewing the knowledge graph model

#### Exploring the knowledge graph

#### **Sharing insights**



# Introduction





## Students will be able to:



Identify Stardog Explorer within the platform



Determine who uses it within an organization

3

List examples of how it can be used within an organization



# **Stardog Explorer**

- Stardog Explorer is a web-based browser application to browse, search, and query a Stardog Enterprise Knowledge Graph.
- We suggest all users of Stardog be familiar with Explorer as it provides access to the knowledge graph with no prior Stardog or graph experience expected.





## With Explorer you will be able to:

#### **Explore your model and data**



#### **Text-based searches**



## With Explorer you will be able to:

#### Write meaningful queries





#### With Explorer you will be able to:

#### Share insights and collaborate with your peers





# **Getting Connected**





## Students will be able to:





## **Get Connected to Stardog**





## **Stardog Account Creation**

Creating an account is easy!

- Click on Sign up
- Enter info about you and your company
- Verify your email address

That's it! Now you are ready to explore!

authistardog.com/u/			
	STARDOG		
	Welcome		<b>₹</b>
	Sign Up to Stardog to continue to Stardog Clo	oud.	
		_	
	Email address		
	Password	0	
	Continue		
	Already have an account? Log in	_	
	OR		
	G Continue with Google		

#### **Resource Center**



- Launch guided tours
- Access Documentation
- Browse Knowledge Kits
- Connect to the Learning Portal

#### \*Accept Cookies to enable the Resource Center







# **Cloud Home Page**

- Launch Designer, Explorer and Studio
- Manage and connect to endpoints
- Invite other users
- Access Stardog Community



## **Knowledge Kits**

- How to access?
  - Learn Stardog link
  - Resource center

👔 STARDOG			Lea	n Stardog	0
Welcome to Stardog ( Have questions or feedback? Join the Stard	Cloud og Community ᡌ today.		Resource Center	<ul> <li>Q</li> </ul>	
Stardog Free		<b>k</b> B a	Knowledge Graph Fou Browse a demo Knowledge I In intuitive search and visua	ndations (it in Explorer, lization tool.	I
STARDOG <b>DESIGNER</b> A no-code, visual environment to model, map, and publish data for your Knowledge Graph.	An intuitive interface to visual and query your Knowledge of	ORER Illy browse Graph.	33% Greate your account Choose a demo kit		
Quick Actions Invite users	<b>Metrics</b> Edges	0	Open a demo kit in E The other tasks will app once you open a demo i	<b>xplorer</b> ear here n Explorer. Dismiss checklist	
Manage endpoints Manage Databricks connections	Nodes Queries	0 5	S Guided tours	>	
		4 ( C	<ul> <li>Community</li> <li>Documentation</li> <li>Chat with us</li> </ul>	>	

• Find knowledge kits by subject, filter and search



## **Open a Knowledge Kit**

• View an Overview



• Open in Explorer





# Exercise: View a knowledge kit

#### Instructions

- Create a Stardog Free Account or use your existing one.
- Connect to the British Royal Family Demo.
- Open in Explorer





# Exercise Results





## **Connect to the Training Knowledge Kit**

STARDOG			Learn Stardog
Welcome to Stardog Have questions or feedback? Join the Sta	Cloud rdog Community 더 tod	ay.	
Stardog Free	STARDOG	EXPLORER	
A no-code, visual environment to model, map, and publish data for your Knowledge Graph.	Search and Explore y Graph; find answers intuitive interface.	your Knowledge to questions in an	The IDE of Knowledge Graph: For KG Engineers building on, and operating, Stardog.
Quick Actions	Metrics		
Invite users	Edges	517	
Manage endpoints	Nodes	0	
Manage Databricks connections	Queries	42	

#### Data sets and data models

Build your Knowledge Graph faster using preloaded data sets and data models.

📋 Jira	🀦 Allotrope Foundation: Equipment	SKG Training: C360
A data model representing the core concepts of Jira complete with sample data to demonstrate use	A subset of the Allotrope ontology focusing on equipment	A simple customer c360 example dataset used for training purposes.





# Exercise

#### Instructions

- Find the training knowledge kit named: KG Training: C360
- Create a new database called Trainingc360\_[Your Initials]
- Install
- Open in Explorer





- New users can get connected to Stardog by creating a Free, Essentials or Enterprise Account
- Users will have access to demo and tutorial knowledge kits
- The Resource Center provides a quick place to access help, documentation and learning resources



# Viewing the Knowledge Graph Model





## Students will be able to:



#### Define key terminology



Navigate through the Explorer user interface

3

Drill down to find deeper meaning within the knowledge graph



## **Key Terms**

**Class**: a type of thing. A class can be made up of a set of individuals which are called instances.

**Relationships**: describes an edge between 2 objects (classes or individuals).

**Instances**: The set of individuals. There are 31 category instances.

**Graph**: displays classes & instances of classes connected by their relationships. This is also described as nodes connected by edges.



## **Key Terms**

Attributes: describe properties of classes.

Attributes of Order:

- date purchased
- price
- quantity
- time purchased

STARDOG EXPLORER         Image: Start start start         Image: Start start start start         Image: Start sta	<ul> <li>Order</li> <li>pos93b06e51-bc44-4</li> <li>ccc5be</li> <li>Order</li> </ul>	c5c-b690-c17214 🔀
	$\bullet  ightarrow$ date purchased	2015-05-20
	●→ price	18927.75
	$\bullet  ightarrow$ purchase card	visa 6505
	$\bullet  ightarrow$ purchased	Coffee Maker
	$\bullet  ightarrow$ purchased by	Dyna Tolley
Order	ightarrow quantity	25
Events Card	ullet  ightarrow rewards account used	110490741
	●→ time purchased	5:55 PM

# **Exploring Controls**

**Canvas** - the workspace that displays the Knowledge Graph model

#### **Canvas Controls**

- Contextual Menus
- Class Legend
- Resource
   Center



#### Toolbar

- Home
- Account
- Database
- List/Graph View
- Undo/Redo
- Redraw
- Class Filter
- Search Bar
- Query Builder
- Download
- Share
- Settings
- Options





- Graphs display classes & instances of classes connected by their relationships.
- Attributes describe properties of classes.
- Stardog Explorer has many built in controls to enable a user to view, explore and search the graph model in the canvas.

Question: What is a class?

- A. The edges between nodes
- B. The area that displays the data model
- C. A type of thing

Answer:

C. A type of thing





Question: Where do you turn on reasoning?

- A. Settings
- B. Options
- C. Query Builder

Answer:

A. Settings





Question: How do you display instances of a class?

- A. Right click on the class legend
- B. Right click on a class then select Expand by
- C. Right click on the canvas

Answer:

B. Right click on the class then select Expand by





# Exploring the Knowledge Graph





# Students will be able to:



#### Perform keyword searches



Build and save queries using the Query Builder



Modify settings and turn on Reasoning



#### **Keyword Search**

- Text-based searches use the index created by Stardog's built-in full text search system when enabled. If not, searches are limited to your data's labels and descriptions.
- Searches can be performed from the Explorer home page or in the search box in Explorer.
- Class searches if you already know that class type of your search, use the class drop down to select the class type.

#### **Targeted Queries Using the Query Builder**

• Query Builder enables users to visually define queries based on the model of their data.



#### **Targeted Queries Using the Query Builder**

Build a query to find all products purchased after or on January 1<sup>st</sup>, 2022 from customers purchased sports items before January 1<sup>st</sup>, 2022.



## Reasoning

- Explorer offers a setting to turn on Reasoning.
- Reasoning are inferences which give you the ability to build business logic rules to evaluate new relationships, attributes, and classifications into your model and is one of the key features of a knowledge graph.

Hit Stardog Explorer Settings	×	E Y 5 C X All - Search your knowledge graph Q C Q C Query Builder 🔮 🖸
Changing your settings will execute	your existing search again.	2022 Orderer 14
Graph	Select Graph 🔹	purchased by (2) Big Spender 49 Large Order (2)
Model	c360_extended_rules	Norman Kretschmer
Reasoning		Kori Forshaw purchased by
Case-insensitive search	0	Jannel Gawt-
	Cancel Save	
		A limit was applied for performance. Remove limit ×



# Exercise

#### Instructions

- Open Settings and change the model to c360\_extended\_rules
- Build the following query using the query builder. Big Spenders that purchase large orders before Jan 1, 2022. Save and run the query
- Go back to Settings and turn on Reasoning.
- What is different?





# Exercise Results



Θ

 $\Theta$ 







- Text-based searches use the index created by Stardog's built-in full text search system if enabled. If not, searches are limited to data labels and descriptions.
- Targeted queries can be created and reused with the Query Builder.
- Inference rules can be turned on in Explorer by turning on reasoning in the settings menu.



# Share Insights





## Students will be able to:



Download and share insights discovered in Stardog Explorer



## **Downloading Insights**

The download feature enables users to download instance or relationship data. Both will download to a .csv file.



instance_type	iri	label	2022_Orderer_email	2022_Order
tag:stardog:api:ecomm:Customer	urn:stardog:demos:c360:customer:3	Lavinie Stannislawski		
http://www.w3.org/2002/07/owl#Thing	urn:stardog:demos:c360:customer:3	Lavinie Stannislawski		
tag:stardog:api:ecomm:Big_Spender	urn:stardog:demos:c360:customer:3	Lavinie Stannislawski		
tag:stardog:api:ecomm:Customer	urn:stardog:demos:c360:customer:7	Juliane Gerhartz		
tag:stardog:api:ecomm:Big_Spender	urn:stardog:demos:c360:customer:7	Juliane Gerhartz		
http://www.w3.org/2002/07/owl#Thing	urn:stardog:demos:c360:customer:7	Juliane Gerhartz		
tag:stardog:api:ecomm:Customer	urn:stardog:demos:c360:customer:9	Terrel Seller		
http://www.w3.org/2002/07/owl#Thing	urn:stardog:demos:c360:customer:9	Terrel Seller		
tag:stardog:api:ecomm:Big_Spender	urn:stardog:demos:c360:customer:9	Terrel Seller		
tag:stardog:api:ecomm:2022_Orderer	urn:stardog:demos:c360:customer:9	Terrel Seller	tseller8@odnoklassniki.ru	Terrel
tag:stardog:api:ecomm:Customer	urn:stardog:demos:c360:customer:15	Cristie Toombes		
http://www.w3.org/2002/07/owl#Thing	urn:stardog:demos:c360:customer:15	Cristie Toombes		
tag:stardog:api:ecomm:Big_Spender	urn:stardog:demos:c360:customer:15	Cristie Toombes		
tag:stardog:api:ecomm:Customer	urn:stardog:demos:c360:customer:34	Sophie Teese		
http://www.w3.org/2002/07/owl#Thing	urn:stardog:demos:c360:customer:34	Sophie Teese		
tag:stardog:api:ecomm:Big_Spender	urn:stardog:demos:c360:customer:34	Sophie Teese		
tag:stardog:api:ecomm:2022_Orderer	urn:stardog:demos:c360:customer:34	Sophie Teese	steesex@simplemachines.org	Sophie

	relationship_data_20230525134523			523	
C.	relationship_iri	relationship_label	source_iri	source_label	target_iri
2	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:267	Ofelia Thorndycraft	urn:stardog:demos:c3
3	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:431	Chet Acutt	urn:stardog:demos:c3
1	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:282	Drusy Goudman	urn:stardog:demos:c3
5	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:343	Pincas Gravenell	urn:stardog:demos:c3
3	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:246	Berty Streatfeild	urn:stardog:demos:c3
7	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:52	Gayelord Tomlin	urn:stardog:demos:c3
3	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:75	Moore Jado	urn:stardog:demos:c3
Э	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:200	Netty Champerlen	urn:stardog:demos:c3
0	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:168	Sayers Benn	urn:stardog:demos:c3
1	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:73	Killian Battelle	urn:stardog:demos:c3
2	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:169	Jojo Dudin	urn:stardog:demos:c3
3	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:496	Patrice Jakeway	urn:stardog:demos:c3
4	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:82	Ulysses Turley	urn:stardog:demos:c3
5	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:371	Terra Lewsam	urn:stardog:demos:c3
6	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:294	Earvin Noore	urn:stardog:demos:c3
7	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:399	Valeda Drugan	urn:stardog:demos:c3
8	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:289	Leslie Livezey	urn:stardog:demos:c3
9	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:265	Wilden Seeviour	urn:stardog:demos:c3
0	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:3	Lavinie Stannislawski	urn:stardog:demos:c3
1	tag:stardog:api:ecomm:hasRewards	has rewards account	urn:stardog:demos:c360:customer:371	Terra Lewsam	urn:stardog:demos:c3

# **Sharing Insights**

The share feature allows a user to share the same view of the graph with another user through a link. Note that the user with the shared link will see the graph from their permission set, not the original sharer's.



# **Sharing Insights**

# To share a connection, go to **cloud.stardog.com** and invite a user.

🏠 STARDOG 📼		Learn Stardog 🛛 🕕
Welcome to S Have questions or foodback	Stardog Cloud are Knowledge Graph endpoint	×
Stardog Free Stardog Free Users	is Knowledge Graph endpoint with others. This bunts that need to be created. nail	will also set up
STARDOG I + Add A no-code, visua environment to and publish data Knowledge Grap All Dat	d User Level re abases T	G <b>STUDIO</b> DE to program Ige Graph.
Quick Action	Close	Share Endpoint
Invite users	Euges 129,564	
Manage endpoints	Nodes 14,998	
Manage Databricks connections	Queries 3,034	



- Sharing insights by downloading instance or relationship data to a .csv file.
- Share the Explorer view by copying a link and passing it on to another user that is connected to the same endpoint.



# Review











# **Questions?**







#### **Thank You!**

Tell us what you think: https://www.surveymonkey.com/r/PostCourseVideo

To contact Stardog about training please email: <u>training@stardog.com</u>

