

ORACLE®

Oracle Digital Assistant

The Complete Training

Skills and Digital Assistant insights



Image courtesy of pixabay.com

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Topic agenda

- 1 ➤ Overview
- 2 ➤ High level analysis
- 3 ➤ Complete & incomplete paths
- 4 ➤ Drill down to conversations
- 5 ➤ Find root cause of failures
- 6 ➤ Insights Data Management & Export API

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Overview

- What are the problems and how do I fix them?
 - Is my skill performing well?
 - In which cases can't the skill continue?
 - How do I find root cause of why my skill fails?
- Developer oriented analytics
 - Track conversation trends, intent resolution accuracy
 - Identify most/least popular execution paths
 - Conversation debugger with transcripts
- Moderated self learning
 - Augment intent resolution using insights data

Overview

- Disabled by default
- Available at instance level, digital assistant & skill level
- No instrumentation required
- Conversation completion status
 - Incomplete conversation : one that resulted into an error or abandoned by the user
 - A complete conversation : typically represented by execution of a state that has a return transition

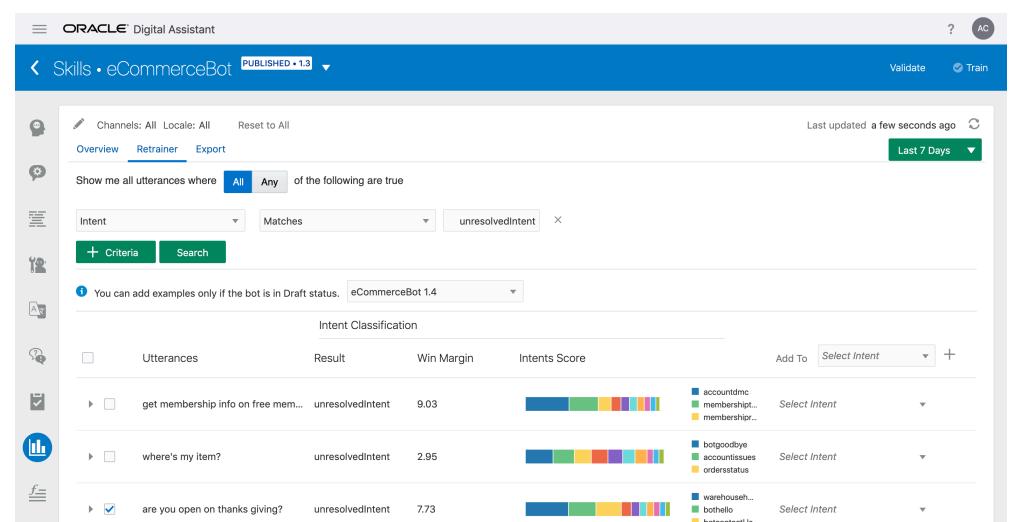
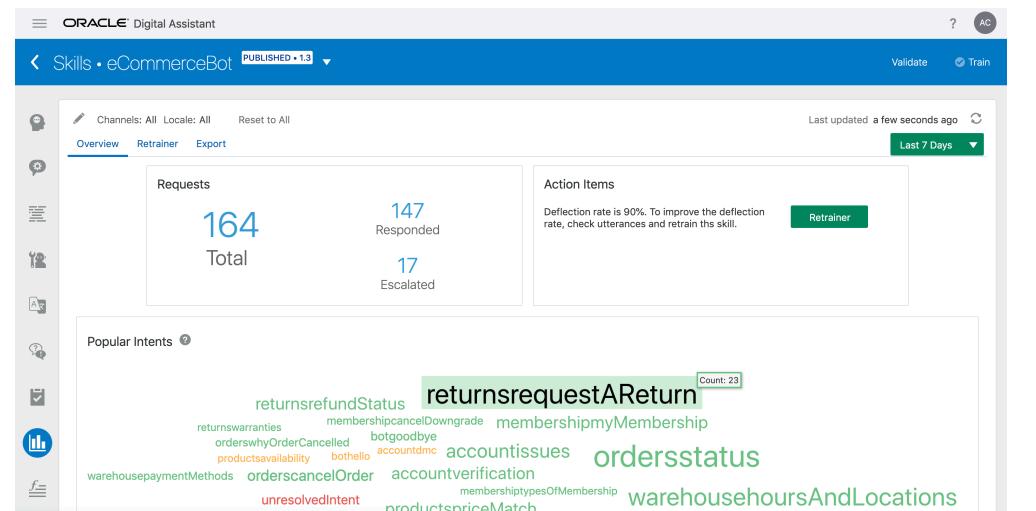
The screenshot shows the Oracle Digital Assistant interface for managing skills. The top navigation bar includes the Oracle logo and the title "Skills • FinancialBot". Below the navigation is a blue header bar with the text "DRAFT • 1.0". The main content area has a sidebar on the left with icons for General, Configuration, Digital Assistant, Events, and Q&A Routing Config. The "General" tab is selected. On the right, there are several configuration fields:

- Display Name: FinancialBot
- Name: FinancialBot
- Version: 1.0
- Category: Category your Skill bot falls under (with a note: PLEASE DO NOT TOUCH THIS _ USED FOR DEMOS & TIED TO BIGO)
- One-Sentence Description: PLEASE DO NOT TOUCH THIS _ USED FOR DEMOS & TIED TO BIGO
- Detailed Description: This description appears on the skill's Details page in the skills catalog
- Training Model: Trainer Ht
- Translation Service: None

At the bottom right of the configuration area, there is a red-bordered button labeled "Enable Insights" with a toggle switch.

Business user insights and retraining

- Smart insights for LOB decision-making
 - Execution trends
 - Deflection rates
 - Retraining capability via tag clouds



Development

- Home
- Development
- Skills
- Digital Assistants
- Channels
- Store

Analytics

- Settings
- Downloads...
- Documentation...

☰ ORACLE® Digital Assistant ? AC

Skills Analytics

100 Skills

Last updated a few seconds ago

All

327 Total Conversations

Total conversations at the Oracle Digital Assistant Level

Skill	Completed
Greeting_ETR	180
HCMBot_1843	99
CX_Inside_Sales	12

Completed Descending

291 Completed Conversations

Skill	Incomplete
HCMBot_1843	36
Greeting_ETR	0
CX_Inside_Sales	0

Incomplete Descending

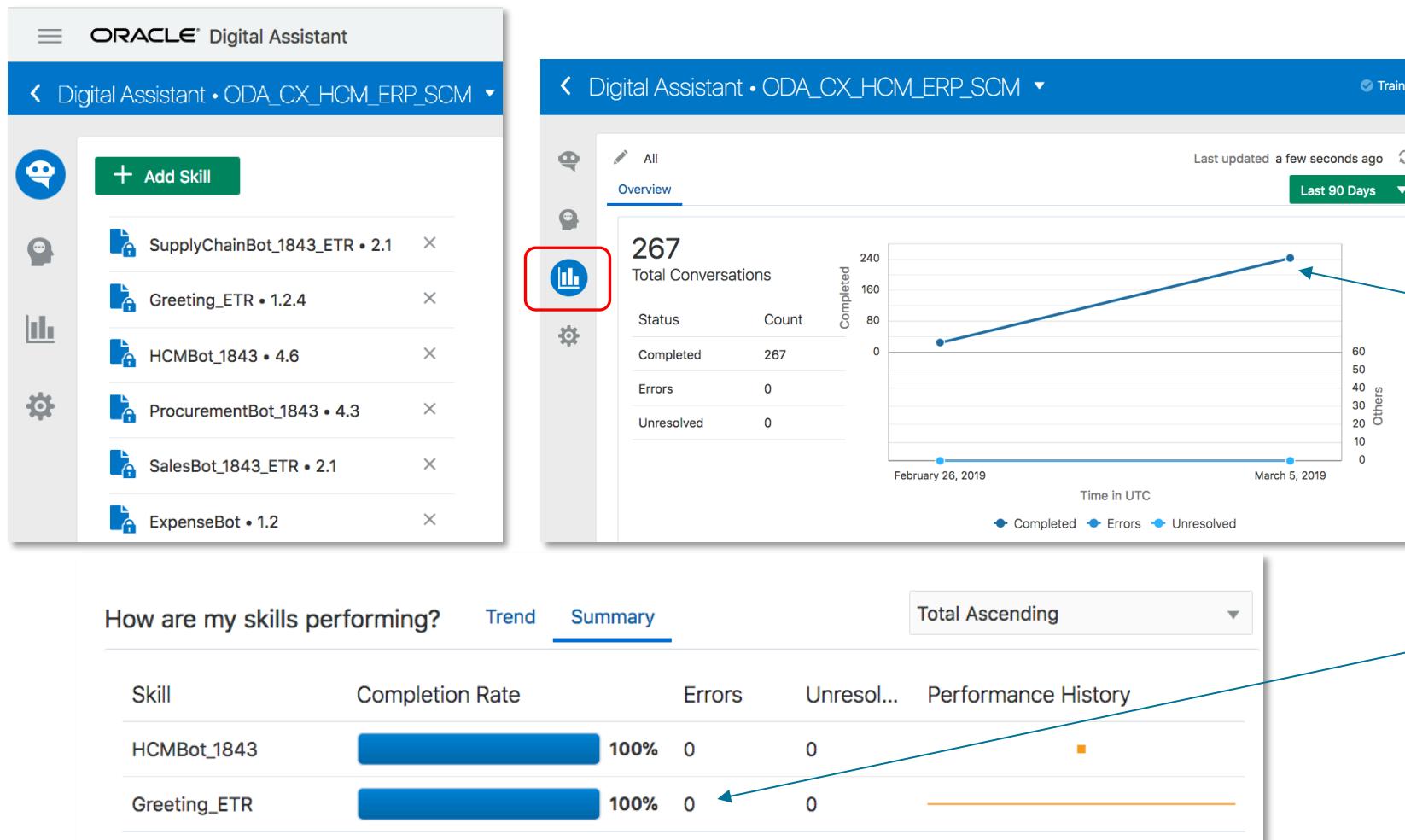
36 Incomplete Conversations

36 Errors in HCMBot_1843

100%

- Timeouts
- Infinite Loop
- System Handled Errors

Digital Assistant insights



Top level routing analytics (conversation metrics, completion/error rates for constituent skills), popular skills by invocation

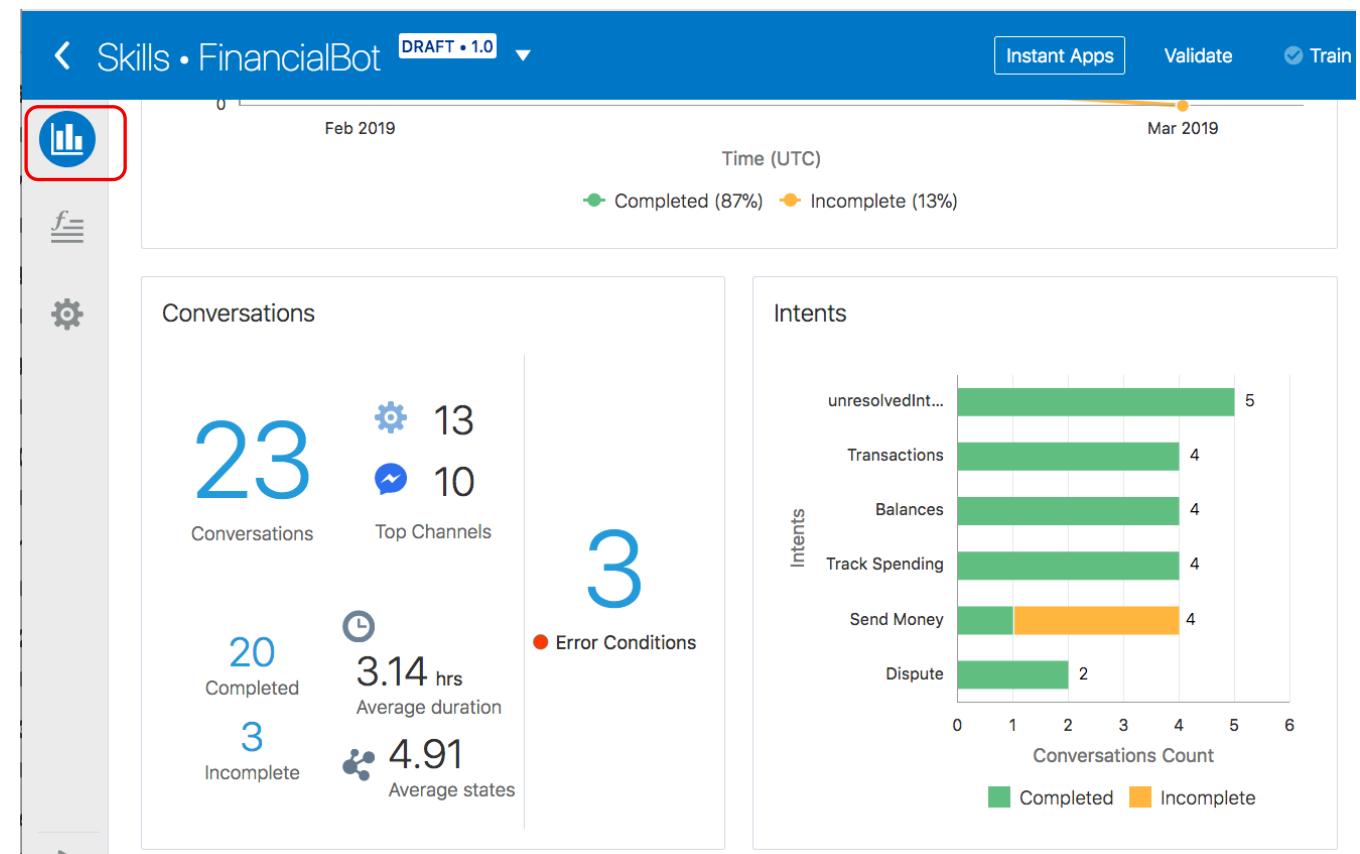
The graph shows total completed conversations across all the skills and also shows conversations that were marked as unresolved.

The indicated skills have a 100% completion rate showing very well designed skills.

[Reference Documentation](#)

Skill insights

- Skill insights give detailed analysis of a skill in its operational state.
- You can see
 - Number of total conversations
 - Number of completed and incomplete conversations
 - Error conditions
 - Completed and incomplete conversations across intents
- Reference Documentation

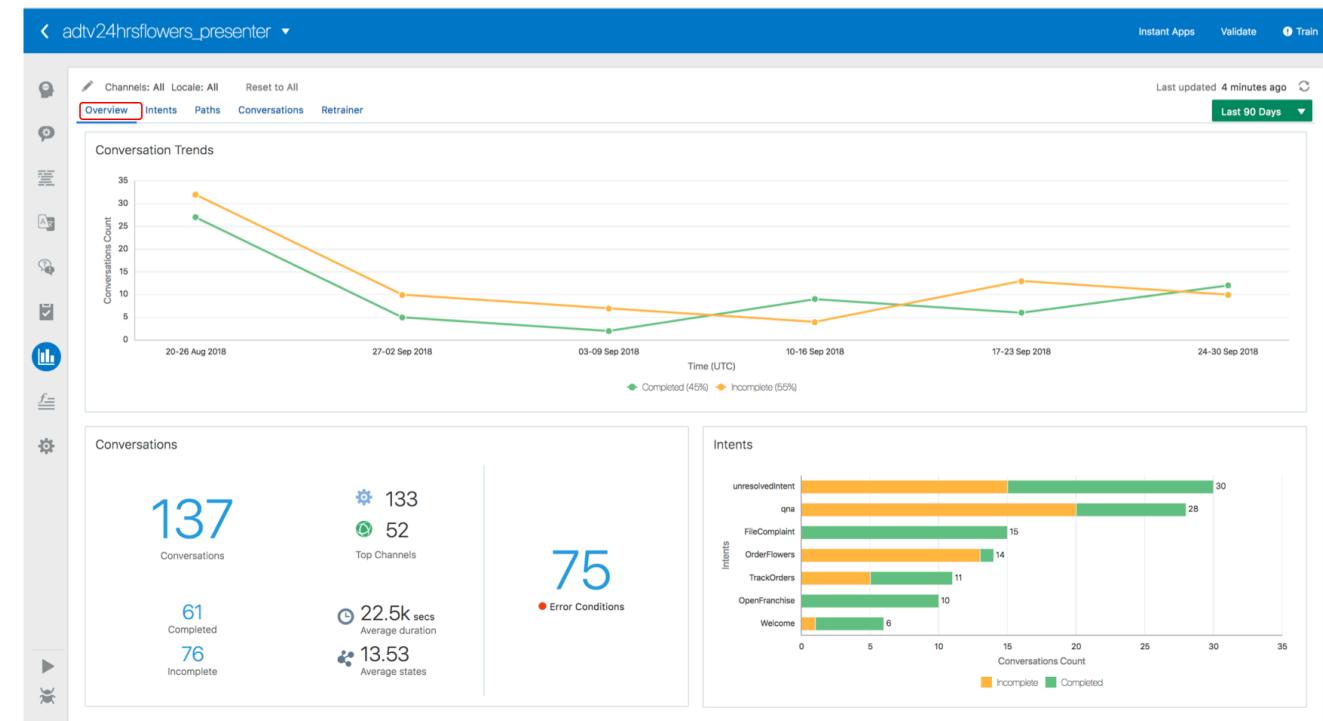


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Conversation trends, success indicators

- Overview of number of conversation
 - 61 completed
 - 76 incomplete
- Number of error conditions
 - Could indicate user or system failure
- Completion based on intents
 - High number of unresolved
 - File complaint 100% successful
 - Order flowers high incomplete





Channels: All Locale: All

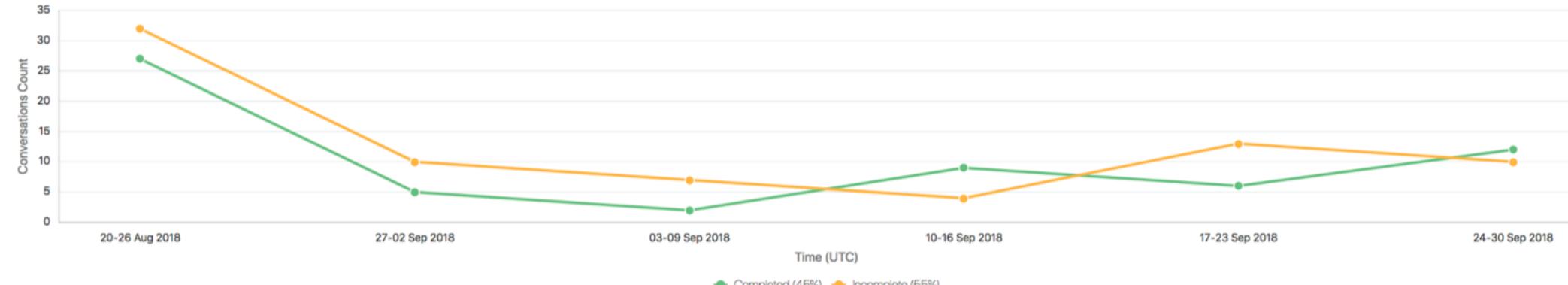
Reset to All

Overview Intents Paths Conversations Retrainer

Last updated 4 minutes ago

Last 90 Days ▾

Conversation Trends



Conversations

137

Conversations

133

Top Channels

61

Completed

76

Incomplete

22.5k secs

Average duration

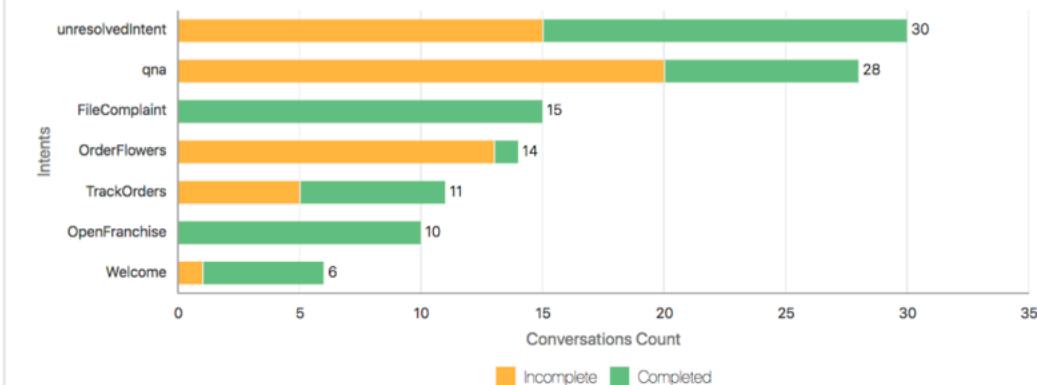
13.53

Average states

75

Error Conditions

Intents

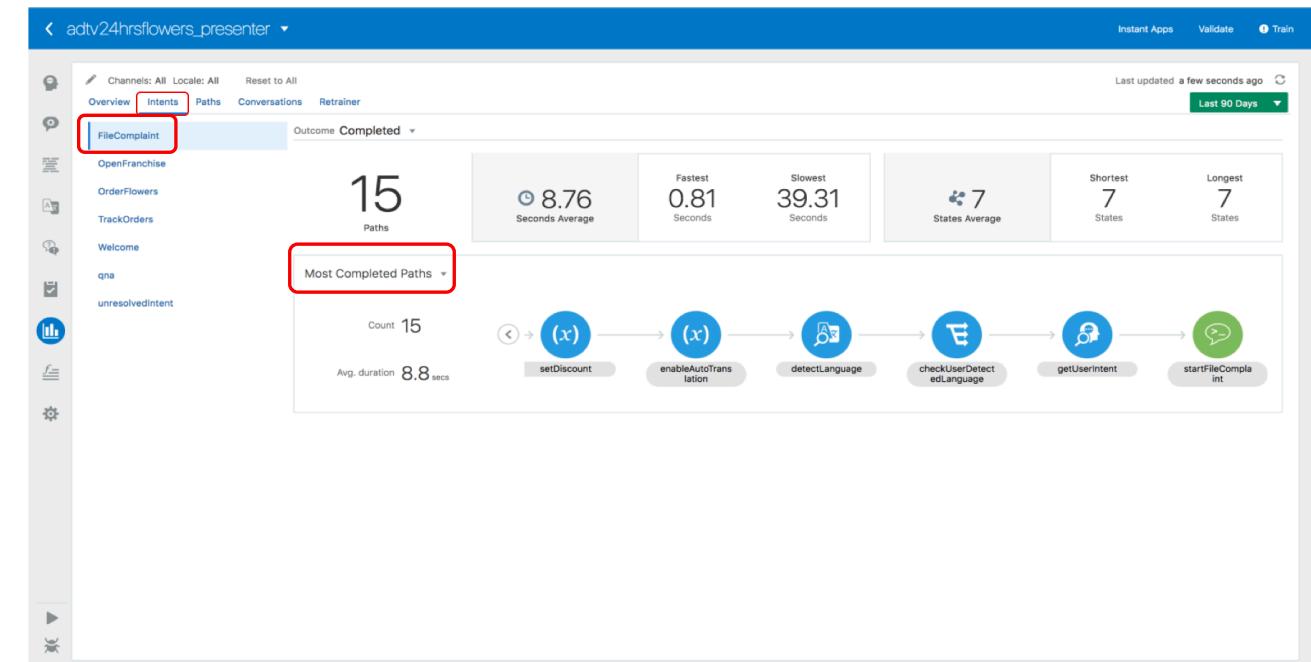


Topic agenda

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Completed paths – tune intents for shorter, faster paths

- For each intent, view the completed path
 - States conversation passed through
 - Completed path defined by a return transition
- You might be interested why some conversations for the same intent are longer than others
 - Either numbers of steps
 - Average time to complete





Channels: All Locale: All Reset to All

Overview

Intents

Paths

Conversations

Retrainer

Last updated a few seconds ago

Last 90 Days ▾



FileComplaint

Outcome Completed ▾



OpenFranchise



OrderFlowers



TrackOrders



Welcome



qna



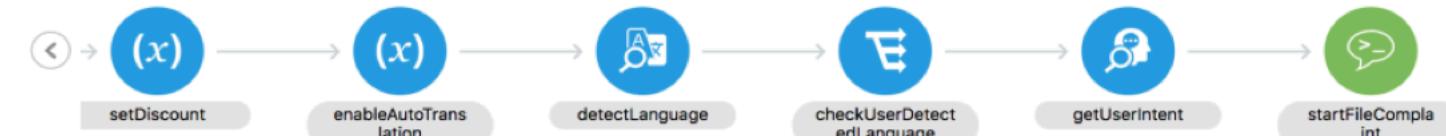
unresolvedintent

15
Paths8.76
Seconds AverageFastest
0.81
SecondsSlowest
39.31
Seconds7
States AverageShortest
7
StatesLongest
7
States

Most Completed Paths ▾

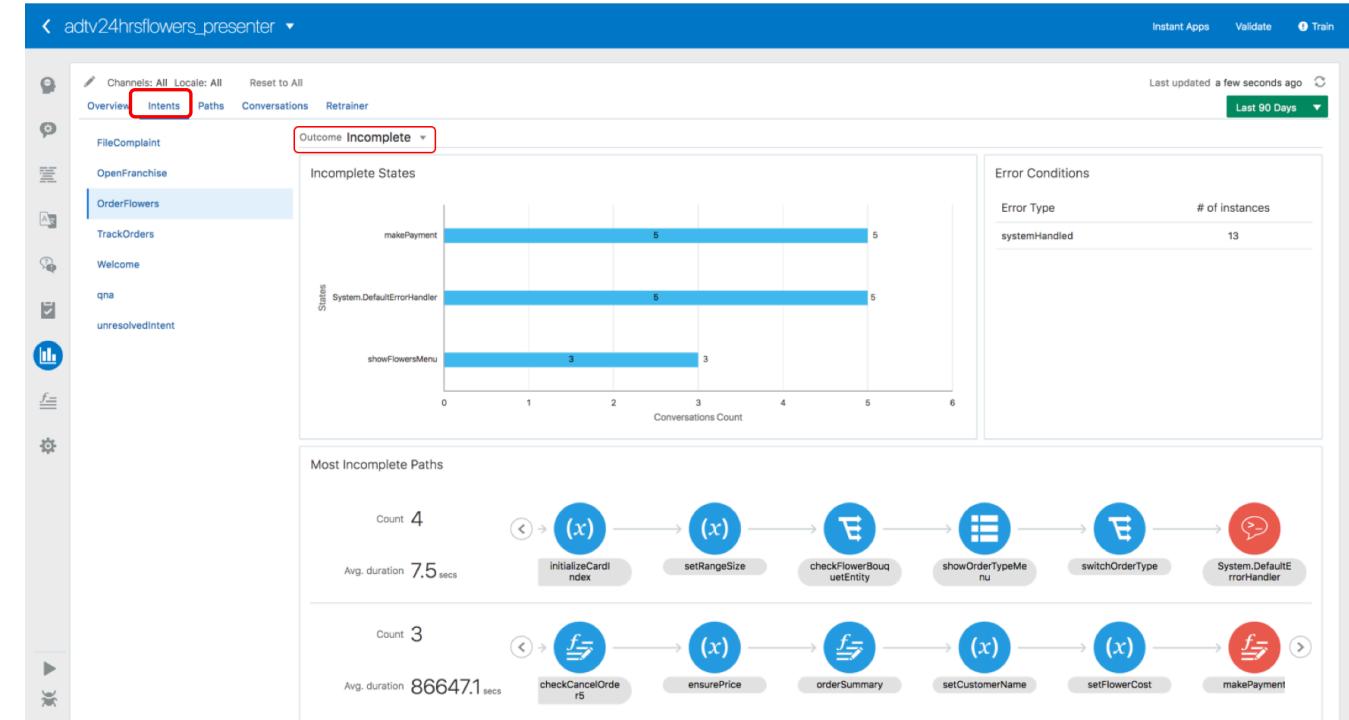
Count 15

Avg. duration 8.8 secs



Incomplete paths – why didn't the conversation complete?

- For each intent, view the incomplete path
 - Incomplete is a timeout or error
- Understand at what state the conversation fails
 - For OrderFlowers intent
 - makePayment
 - Timeout?
 - switchOrderType
 - User error??



Channels: All Locale: All Reset to All

Last updated a few seconds ago Last 90 Days ▾

Overview **Intents** Paths Conversations Retrainer

FileComplaint

OpenFranchise

OrderFlowers Outcome Incomplete

TrackOrders

Welcome

qna

unresolvedIntent

Error Conditions

Error Type	# of instances
systemHandled	13

Incomplete States

makePayment 5
System.DefaultErrorHandler 5
showFlowersMenu 3

Most Incomplete Paths

Count 4 Avg. duration 7.5 secs

(x) → (x) → E → E →

initializeCardIndex
setRangeSize
checkFlowerBouquetEntity
showOrderTypeMenu
switchOrderType
System.DefaultErrorHandler

Count 3 Avg. duration 86647.1 secs

f → (x) → f → (x) →

checkCancelOrder
ensurePrice
orderSummary
setCustomerName
setFlowerCost
makePayment

Root Cause - SwitchOrderType

adtv24hrsflowers_presenter ▾

Last updated a few seconds ago 

Instant Apps Validate Train

Channels: All Locale: All Reset to All

Last 90 Days

Overview Intents Paths Conversations Retrainer

Intent Outcome Sort By Errors

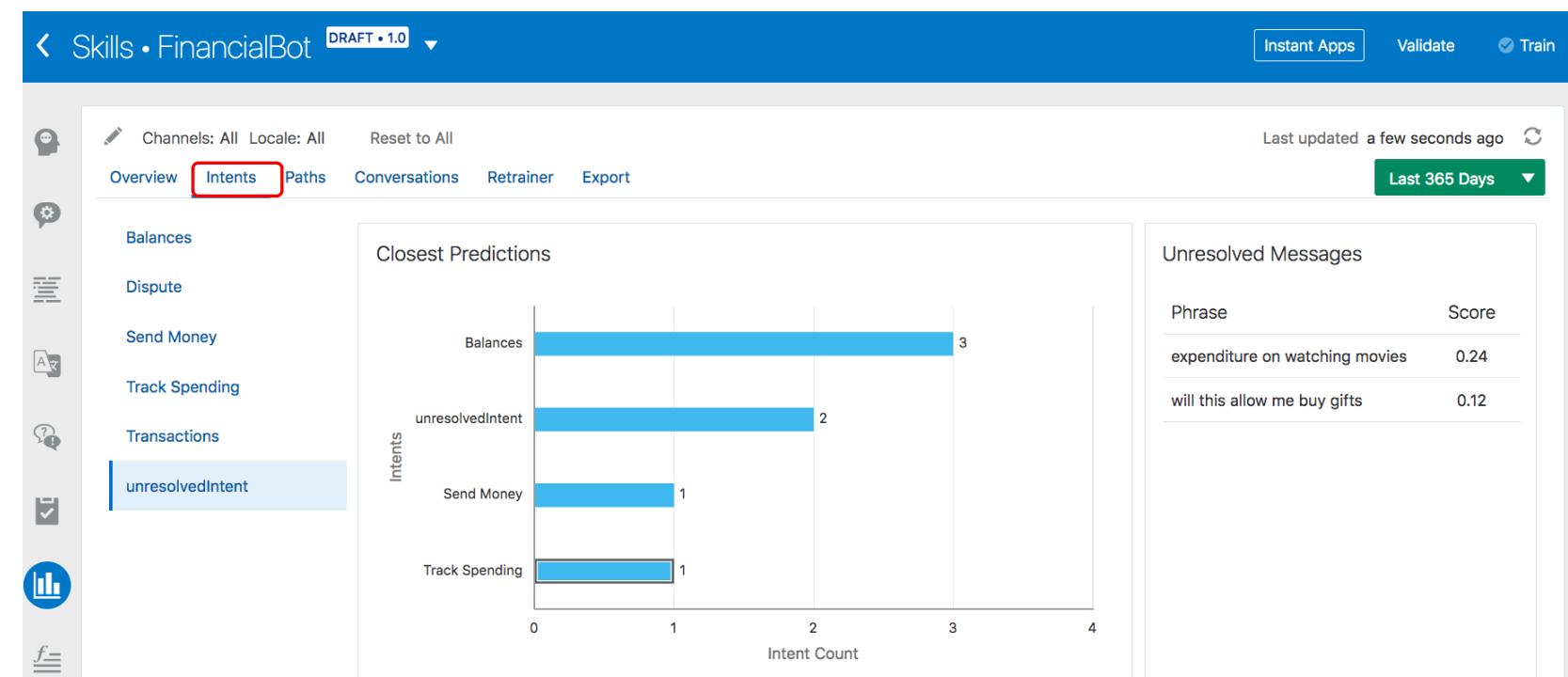
Intent Outcome Time User Bot

Intent	Outcome	Time	User	Bot
OrderFlowers	Incomplete	a month ago	 orderflowers  orderType: Flowers	 Do you want to send flowers or a bouquet?  Oops I'm encountering a spot of trouble. Please try again I... View Conversation
OrderFlowers	Incomplete	a month ago	 orderflowers  orderType: Bouquet	 Do you want to send flowers or a bouquet?  Oops I'm encountering a spot of trouble. Please try again I... View Conversation
OrderFlowers	Incomplete	a month ago	 orderflowers  orderType: Flowers	 Do you want to send flowers or a bouquet?  Oops I'm encountering a spot of trouble. Please try again I... View Conversation
OrderFlowers	Incomplete	a month ago	 Orderflowers  orderType: Bouquet	 Do you want to send flowers or a bouquet?  Oops I'm encountering a spot of trouble. Please try again I... View Conversation

Select a conversation

Unresolved intents

- What phrases were unresolved
 - Where the skill has not understood
- Shows the closest possible intent





Channels: All Locale: All

Reset to All

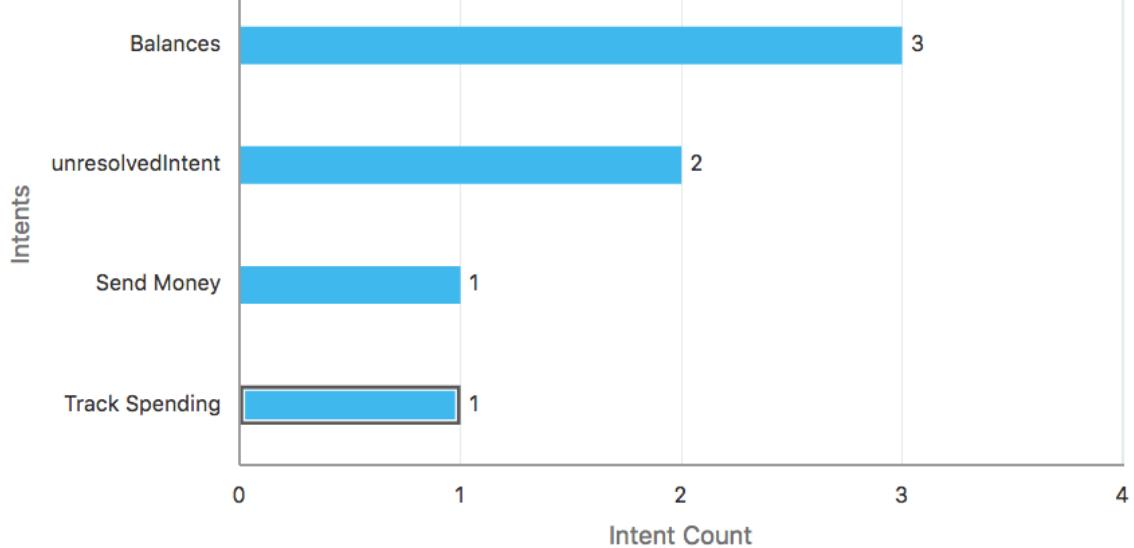
Last updated a few seconds ago

[Overview](#) [Intents](#) [Paths](#) [Conversations](#) [Retrainer](#) [Export](#)

Last 365 Days ▾

[Balances](#)

Closest Predictions

[Dispute](#)[Send Money](#)[Track Spending](#)[Transactions](#)[unresolvedIntent](#)

Unresolved Messages

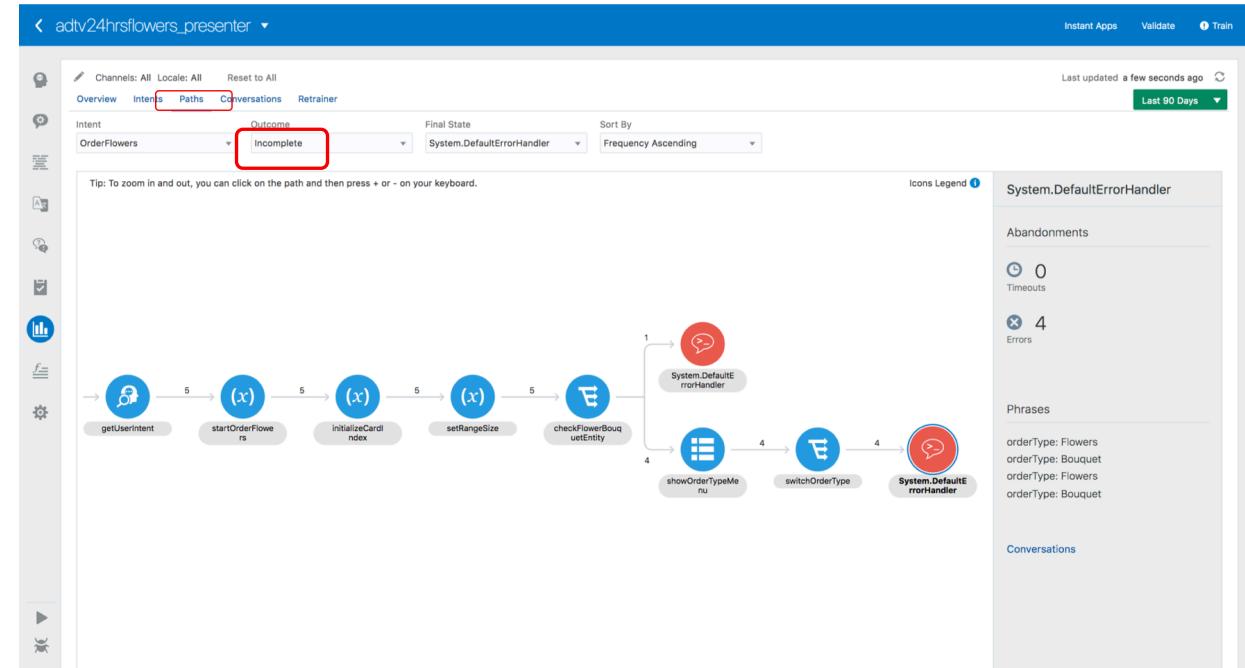
Phrase	Score
expenditure on watching movies	0.24
will this allow me buy gifts	0.12

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Review paths – Why users are not able to complete

- Insights into conversation path based on
 - Intent
 - Outcome
 - Final state
- View all or focus on specific intents
 - View conversation information
 - Average states
 - Average time
 - Conversations





Channels: All Locale: All Reset to All



Overview Intents Paths Conversations Retrainer

Last updated a few seconds ago

Last 90 Days ▾

Intent

OrderFlowers

Outcome

Incomplete

Final State

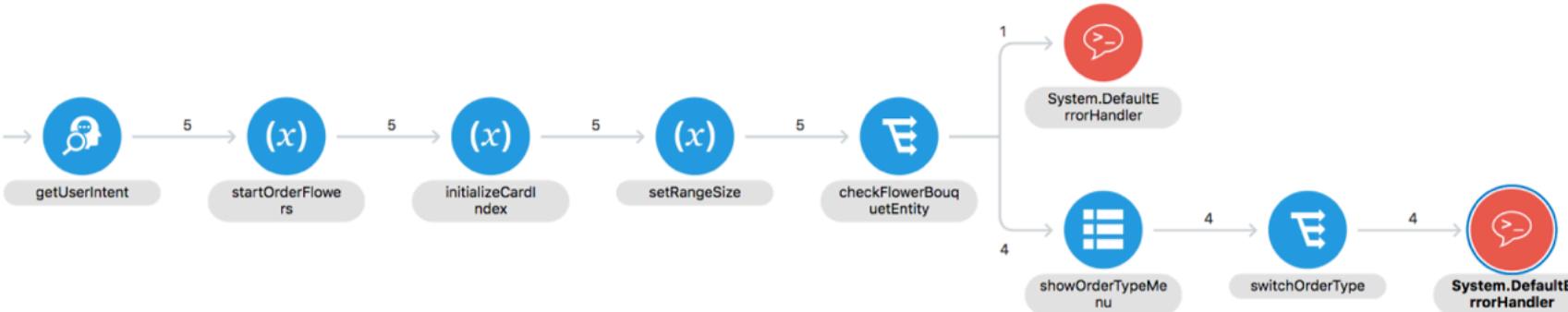
System.DefaultErrorHandler

Sort By

Frequency Ascending

Tip: To zoom in and out, you can click on the path and then press + or - on your keyboard.

Icons Legend ⓘ



System.DefaultErrorHandler

Abandonments

0

Timeouts

4

Errors

Phrases

orderType: Flowers

orderType: Bouquet

orderType: Flowers

orderType: Bouquet

Conversations

Root Cause - SwitchOrderType

adtv24hrsflowers_presenter ▾

Instant Apps Validate Train

Last updated a few seconds ago

Last 90 Days

Channels: All Locale: All Reset to All

Overview Intents Paths Conversations Retrainer

Intent Outcome Sort By Errors

Intent Flowers Outcome Incomplete Sort By Latest Errors

Selected state path setImageHost, setDiscount, enableAutoTranslation, detectLanguage, checkUserDetectedLanguage, getUserIntent, startOrderFlowers, initializeCardIndex, setRangeSize, checkFlowerBouquetEntity, showOrderTypeMenu, switchOrderType, System.DefaultErrorHandler Remove

Intent	Outcome	Time	User	Bot
OrderFlowers	Incomplete	a month ago	orderflowers orderType: Flowers	Do you want to send flowers or a bouquet? Oops I'm encountering a spot of trouble. Please try again I... View Conversation
OrderFlowers	Incomplete	a month ago	orderflowers orderType: Bouquet	Do you want to send flowers or a bouquet? Oops I'm encountering a spot of trouble. Please try again I... View Conversation
OrderFlowers	Incomplete	a month ago	orderflowers orderType: Flowers	Do you want to send flowers or a bouquet? Oops I'm encountering a spot of trouble. Please try again I... View Conversation
OrderFlowers	Incomplete	a month ago	Orderflowers orderType: Bouquet	Do you want to send flowers or a bouquet? Oops I'm encountering a spot of trouble. Please try again I... View Conversation

Select a conversation

Page 1 (0 of 0 items) 1 < >

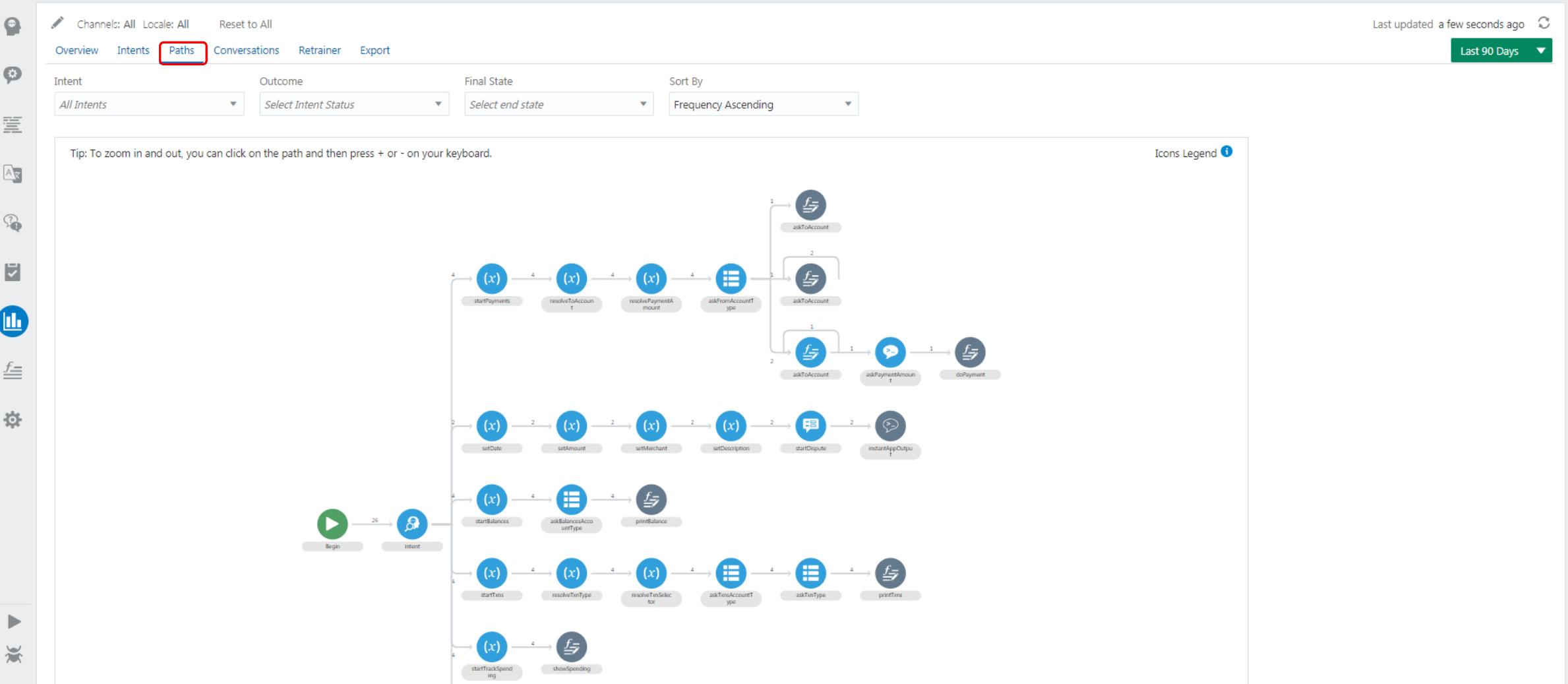
Skills • FinancialBot

DRAFT • 1.0

Instant Apps

Validate

 Train



Conversations summary view

- Skill designer or business can query a conversation
 - Intent
 - Outcome
 - Date
 - Error condition
- Enables the business user or developer to locate conversation reported by an end user
 - Can view the conversation states
 - Can view the full conversation

The screenshot shows the 'Skills' section of the Oracle Conversations interface for a skill named 'FinancialBot'. The 'Conversations' tab is selected, highlighted with a red box. The table below lists four completed conversations for the 'Balances' intent. Each row includes the intent, outcome (Completed), time (2 days ago or 23 days ago), user information, and the skill's response message. A 'View Conversation' link is provided for each row. Below the table, a 'Details for selected conversation' section shows a sequence of four states: 'intent', 'startBalances', 'askBalancesAccounType', and 'printBalance', connected by arrows.

Intent	Outcome	Time	User	Skill
Balances	Completed	2 days ago	prey tell me my bank balance accountType: checking	For which account do you want your balance? The balance in your checking account (**-**-**) is \$**.** View Conversation
Balances	Completed	23 days ago	What's my balance accountType: checking	For which account do you want your balance? The balance in your checking account (**-**-**) is \$**.** View Conversation
Balances	Completed	23 days ago	What's my balance? accountType: credit card	For which account do you want your balance? The balance in your credit card account (**-**-**) is \$**.** Your remaining credit is \$**.** View Conversation
Balances	Completed	23 days ago	what's my balance? accountType: credit card	For which account do you want your balance? The balance in your credit card account (**-**-**) is \$**.** Your remaining credit is \$**.** View Conversation

[Overview](#) [Intents](#) [Paths](#) [Conversations](#) [Retrainer](#) [Export](#)

Last 30 Days ▾

Intent

Balances

Outcome

Select Intent Status

Sort By

Latest

Errors

Intent	Outcome	Time	User	Skill	
Balances	Completed	2 days ago	prey tell me my bank balance accountType: checking	For which account do you want your balance? The balance in your checking account (**-**-**) is \$**.**	View Conversation
Balances	Completed	23 days ago	What's my balance accountType: checking	For which account do you want your balance? The balance in your checking account (**-**-**) is \$**.**	View Conversation
Balances	Completed	23 days ago	What's my balance? accountType: credit card	For which account do you want your balance? The balance in your credit card account (**-**-**-**) is \$-**.** Your remaining credit is \$**.**	View Conversation
Balances	Completed	23 days ago	what's my balance? accountType: credit card	For which account do you want your balance? The balance in your credit card account (**-**-**-**) is \$-**.** Your remaining credit is \$**.**	View Conversation

Page 1 of 1 (1-4 of 4 items) | K < 1 > K

Details for selected conversation



Drilldown – individual messages

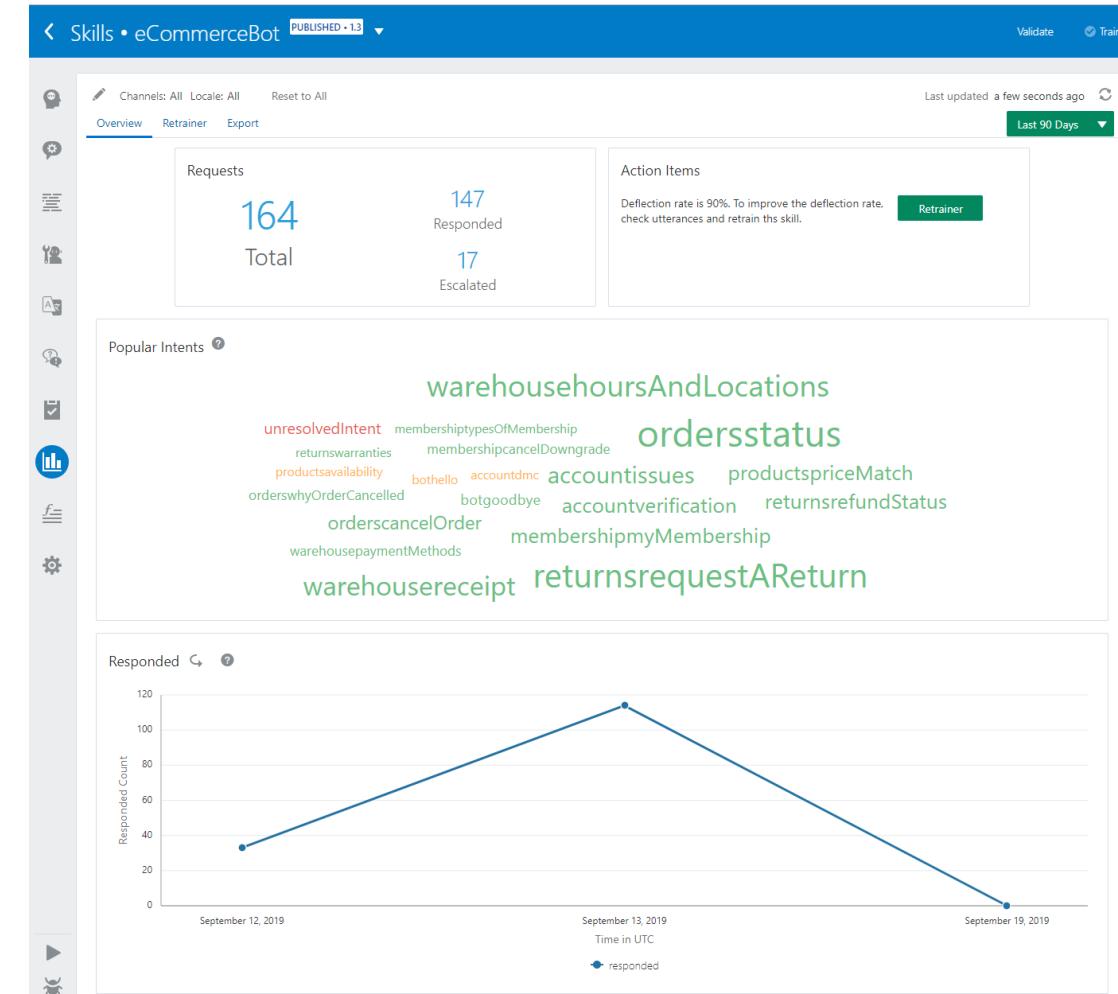
Screenshot of the Oracle Conversational AI platform interface showing the 'Conversations' tab for the 'FinancialBot' skill.

The interface includes:

- Header: Skills • FinancialBot, DRAFT • 1.0, Instant Apps, Validate, Train.
- Filter: Intent (Balances), Outcome (Select Intent Status), Sort By (Latest), Errors (off).
- Time Filter: Last 30 Days.
- Table Headers: Intent, Outcome, Time, User, Skill.
- Table Data:
 - Intent: Balances, Outcome: Completed, Time: 2 days ago, User: prey tell me my bank balance, accountType: checking. Skill: For which account do you want your balance? The balance in your checking account (**-**) is \$**.** View Conversation (highlighted with a red box).
 - Intent: Balances, Outcome: Completed, Time: 23 days ago, User: What's my balance, accountType: checking. Skill: For which account do you want your balance? The balance in your checking account (**-**) is \$**.** View Conversation.
 - Intent: Balances, Outcome: Completed, Time: 23 days ago, User: What's my balance, accountType: credit card. Skill: For which account do you want your balance? The balance in your credit card account (**-**-**) is \$**.** Your remaining credit is \$**.** View Conversation.
 - Intent: Balances, Outcome: Completed, Time: 23 days ago, User: what's my balance?, accountType: credit card. Skill: For which account do you want your balance? The balance in your credit card account (**-**-**) is \$**.** Your remaining credit is \$**.** View Conversation.
- Details for selected conversation:
 - Flowchart: intent → startBalances → askBalancesAccountType → printBalance.
 - Message Log:
 - User: prey tell me my bank balance
 - Bot: For which account do you want your balance?
 - User: accountType: checking
 - Bot: The balance in your checking account (**-**) is \$**.**

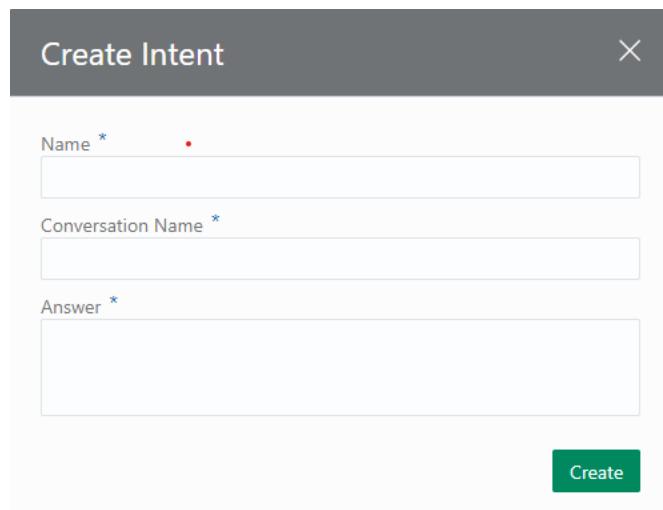
Business user insights and retraining

- Overview
 - Green are resolved
 - Yellow resolved with < 10% win margin (low confidence)
 - Red phrases are unresolved
- Retraining will typically start with the red phrases

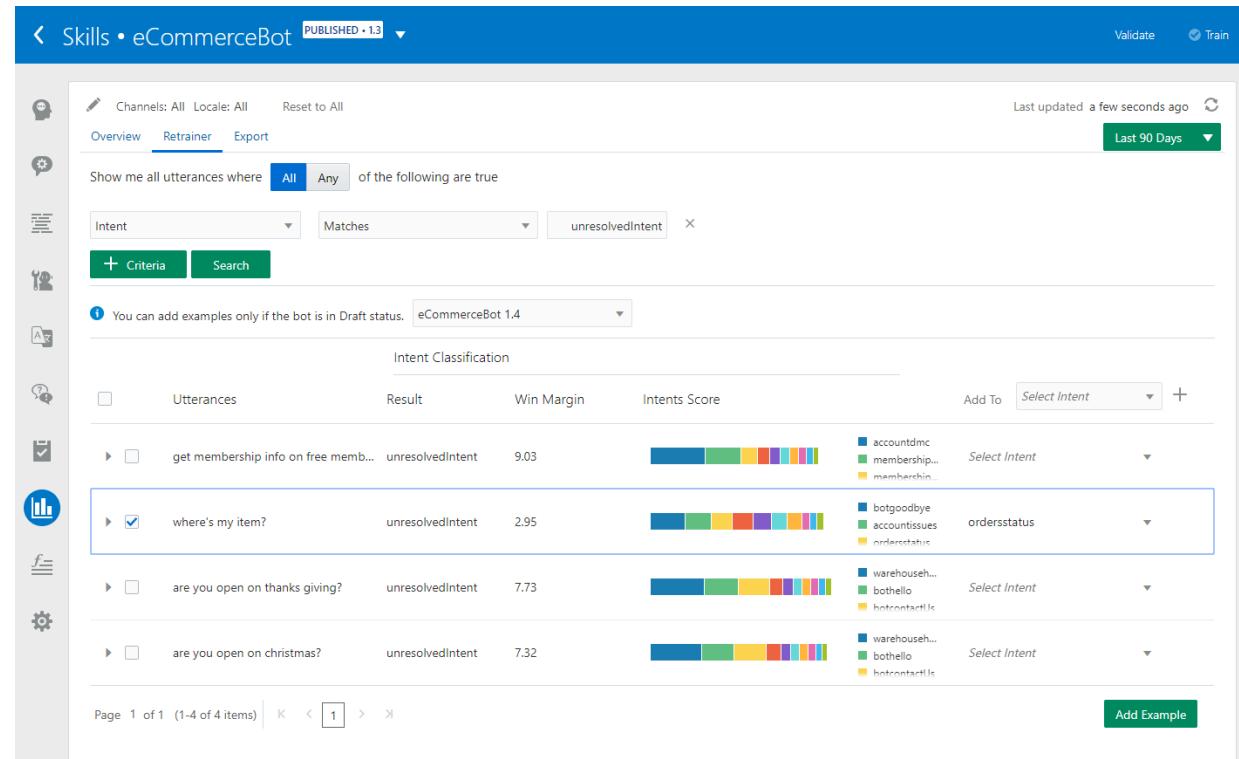


Business user insights and retraining

- Retrainer
 - Can either add to an existing intent or create a new intent.
- To create a new intent, click on the + icon to bring up the Create Intent screen



The dialog box is titled "Create Intent". It contains three input fields: "Name" (with a red asterisk), "Conversation Name" (with a red asterisk), and "Answer". Below these fields is a large text area for the answer. At the bottom right is a green "Create" button.



The screenshot shows the "Skills" interface for the "eCommerceBot" skill, which is published at version 1.3. The "Retrainer" tab is selected. The interface displays a list of utterances and their classification results. One specific utterance, "where's my item?", is highlighted with a blue border. The interface includes filters for "Intent" and "Matches", and a search bar. On the right, there are color-coded intent classification bars and dropdown menus for selecting intents. A green "Add Example" button is located at the bottom right.

ORACLE® Digital Assistant

Skills • FinancialBot DRAFT • 1.0

Instant Apps Validate Train

Channel: All Locale: All Reset to All Last updated 2 minutes ago

Overview Intents Paths Conversations Retrainer Export Last 30 Days

Show me all utterances where All Any of the following are true

Intent Matches unresolvedIntent X

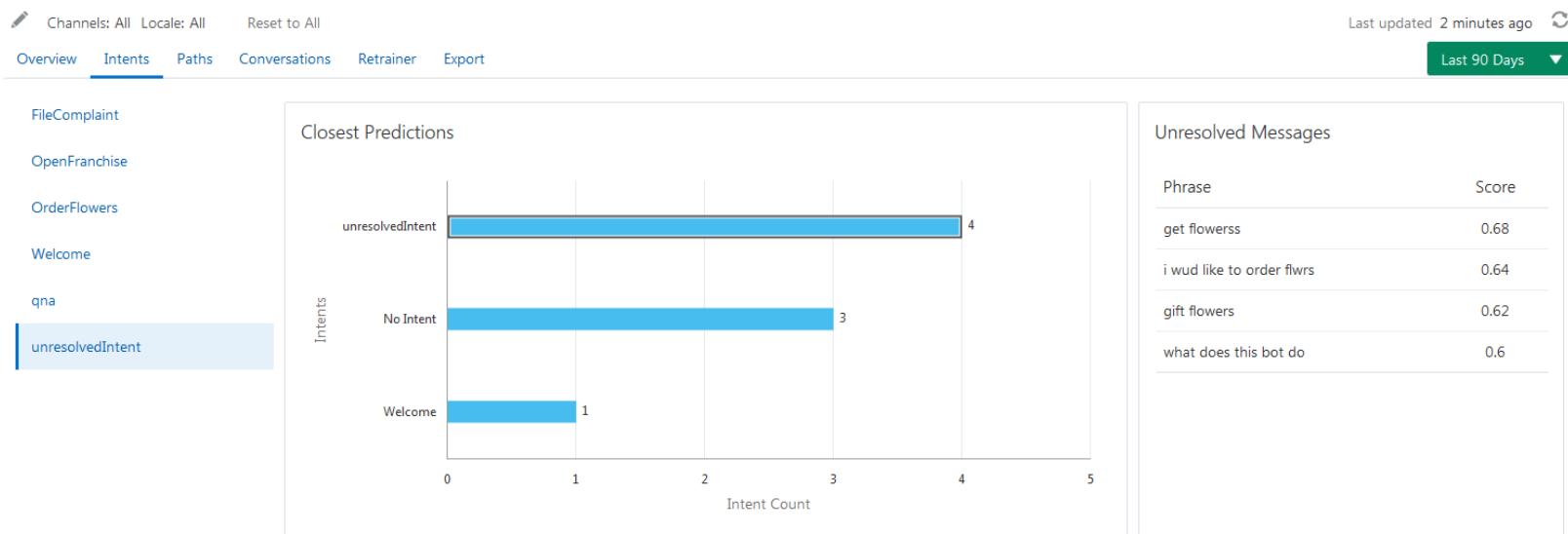
+ Criteria Search

Intent Classification

Utterances	Result	Win Margin	Intents Score	Add To
expenditure on watching movies	unresolvedIntent	9.48	<div style="width: 9.48%;">Track Spending</div>	Select Intent
Is this an HCM bot?	unresolvedIntent	3.91	<div style="width: 3.91%;">Balances</div>	Select Intent
will this allow me buy gifts	unresolvedIntent	5.3	<div style="width: 5.3%;">Send Money</div>	Select Intent

Page 2 of 2 (6-8 of 8 items) Add Example

Some popular short forms or common typographical errors



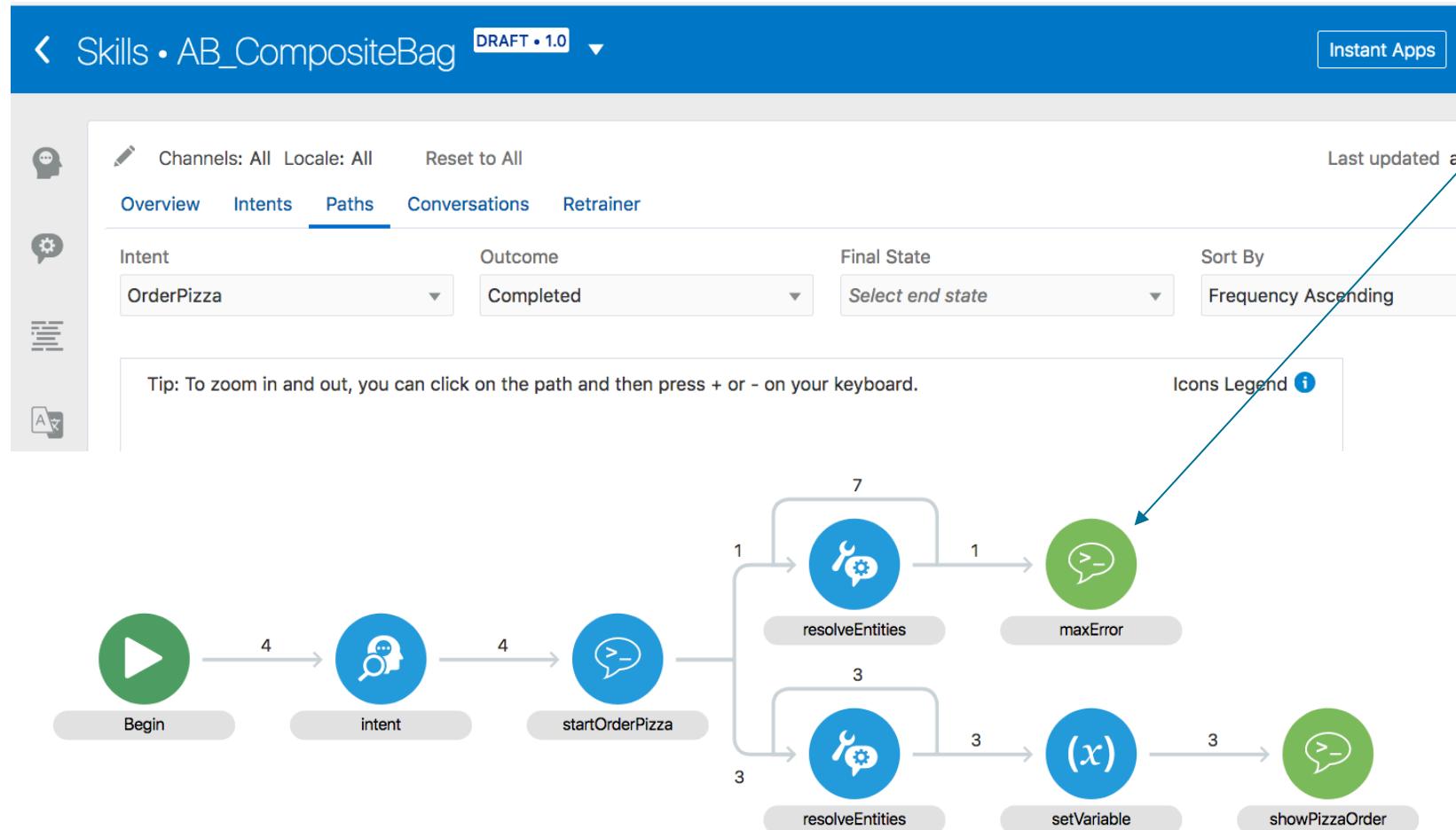
There are a couple of messages that catch your eye because they can help your skill fulfil its primary goal even if the customer input contains typos, slang, or unconventional

- shorthand: "get flowerss" (68%)
- "i wud like to order flwrs." (64%)

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Drill down – find out error condition and cause



Conversations marked as complete but have not logically concluded with a positive scenario.

There seems to be a MaxError state that indicates the skill failed to continue.

The resolveEntities have probably asked user a bunch of questions and since it is probably not well designed user could not continue.

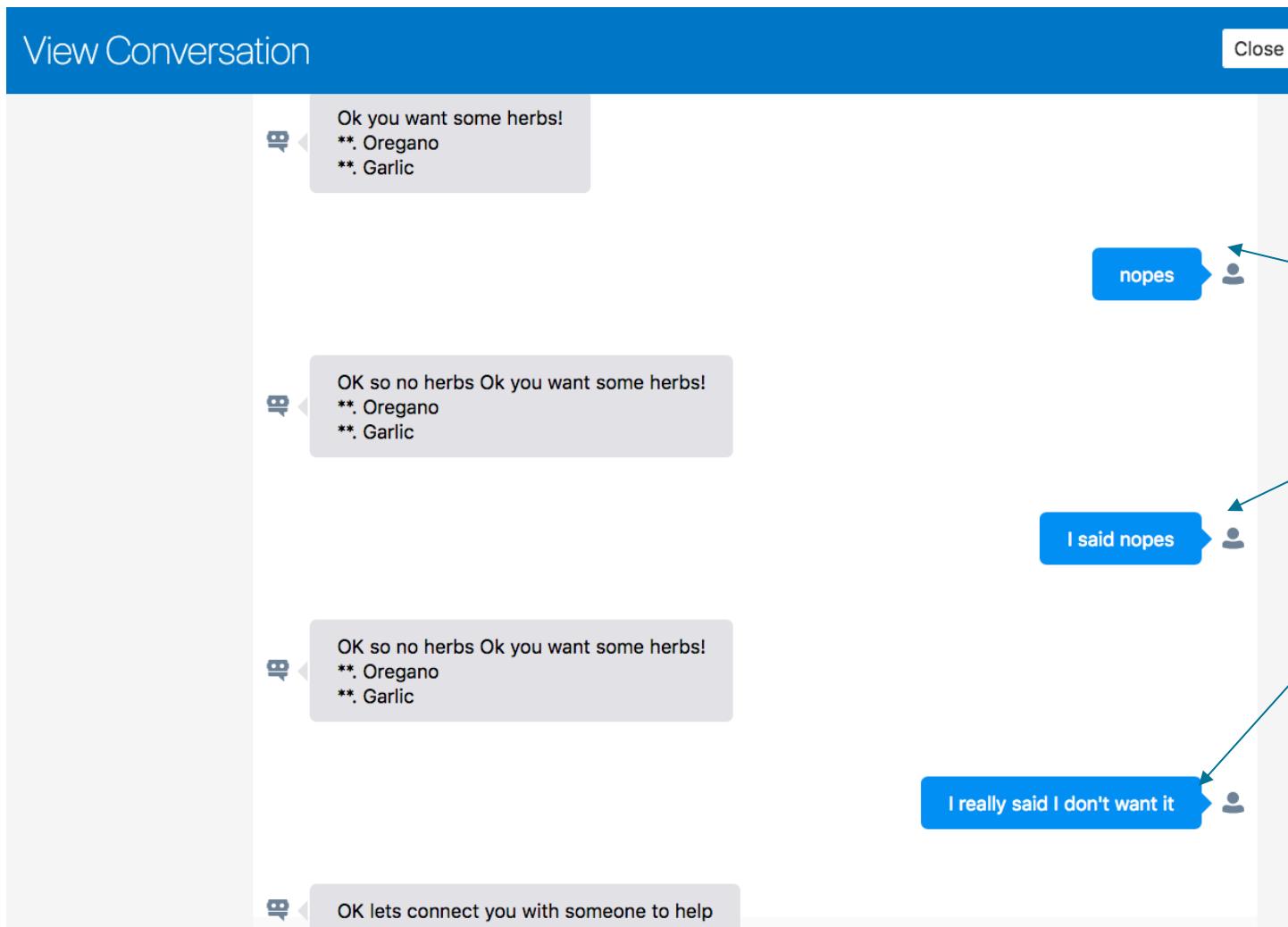
Review conversation that causes the failure

The screenshot shows the Oracle Conversations interface for a skill named 'AB_CompositeBag'. The top navigation bar includes 'Skills • AB_CompositeBag', 'DRAFT • 1.0', 'Instant Apps', 'Validate', and 'Train' buttons. A sidebar on the left contains icons for Channels, Intents, Paths, Conversations (selected), and Retrainer. The main area displays a table of conversations. The table has columns for Intent, Outcome, Time, User, and Skill. A filter sidebar on the left allows setting Intent to 'OrderPizza' and Outcome to 'Completed'. The table shows one completed conversation for the 'OrderPizza' intent at '5 minutes ago'. The user messages show the user saying 'nopes' twice, which triggered the skill's response about herbs. The skill's responses include asking for a delivery date and suggesting herbs, despite the user indicating they don't want them. A 'View Conversation' link is available for the last message from the skill.

Intent	Outcome	Time	User	Skill
OrderPizza	Completed	5 minutes ago	god knows today nopes I said nopes I really said I don't want it	Please enter DeliveryDate Ok you want some herbs! **.... OK so no herbs Ok you want... OK so no herbs Ok you want... OK lets connect you with so...

Note that the user indicated that they do not need any herbs as toppings but the skill kept insisting and then ultimately failed.

Review conversation that causes the failure

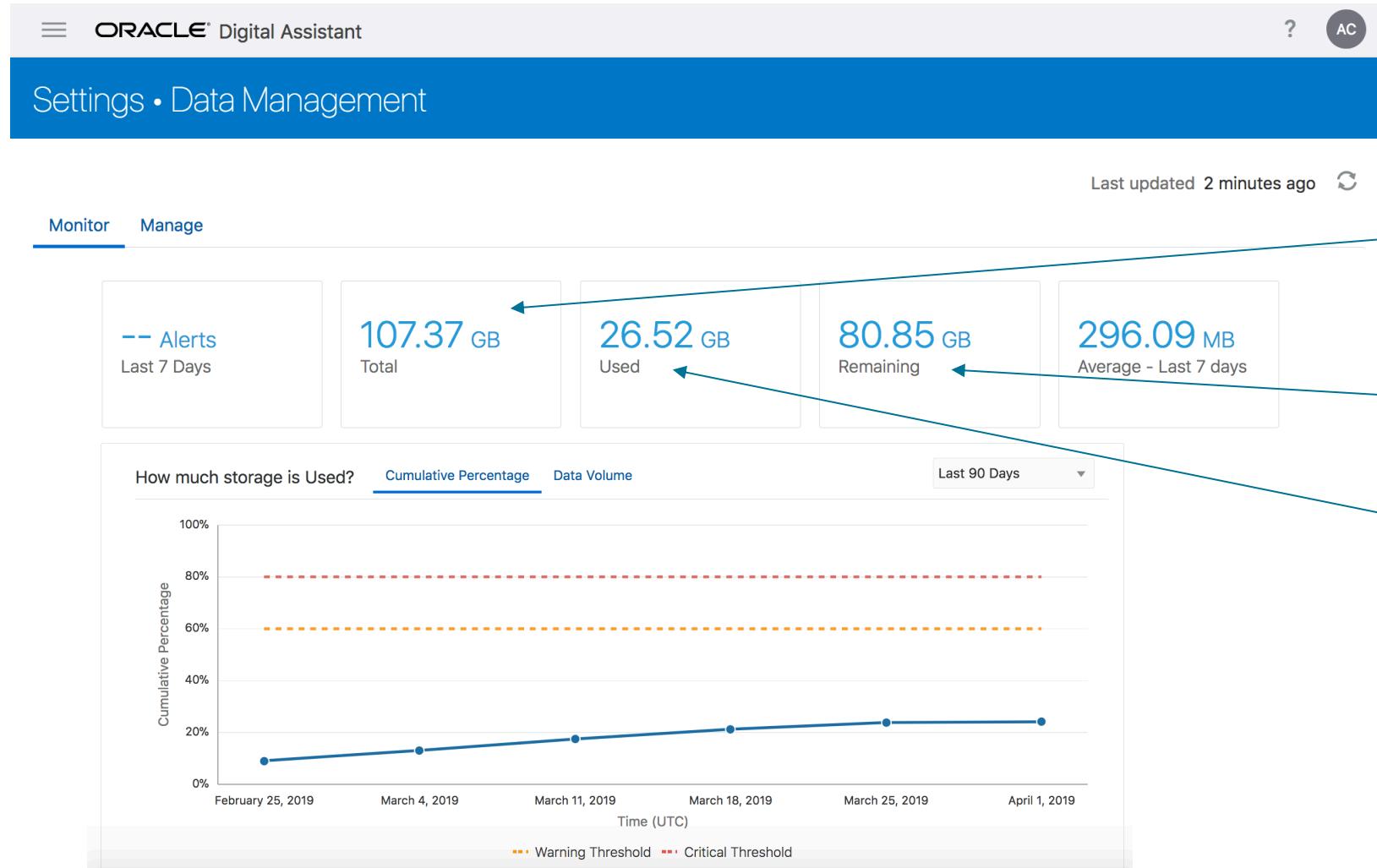


You can drilldown to the finest details and see how the skill responded to the user.

In this case if the user entered nopes, not interested, etc. the skill should skip this step and gracefully proceed to the next step.

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Monitor storage used as you enable insights and skills logging.

The total storage available.

Remaining

Used Storage

Export & Purge Data

Settings • Data Management

Monitor Manage

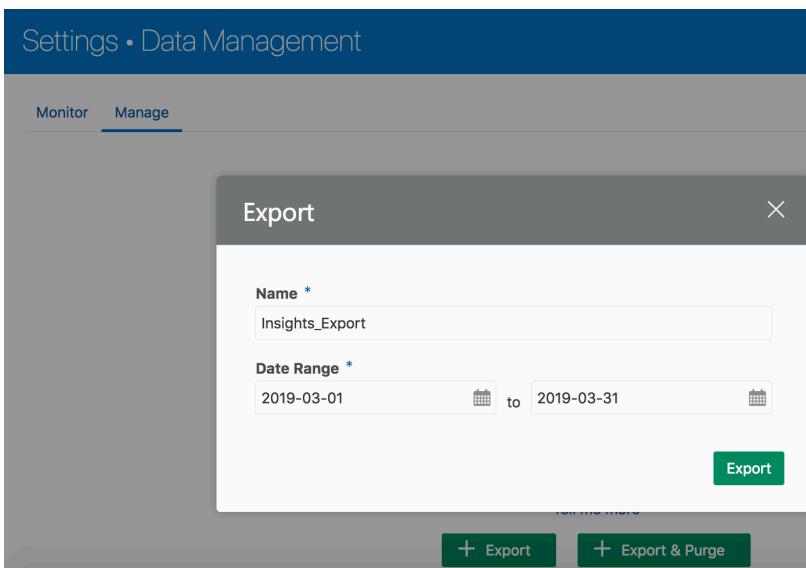
Export

Name *
Insights_Export

Date Range *
2019-03-01 to 2019-03-31

Export

+ Export + Export & Purge



You can export the insights data by giving a date range.

Settings • Data Management

Last updated a few seconds ago

Monitor Manage

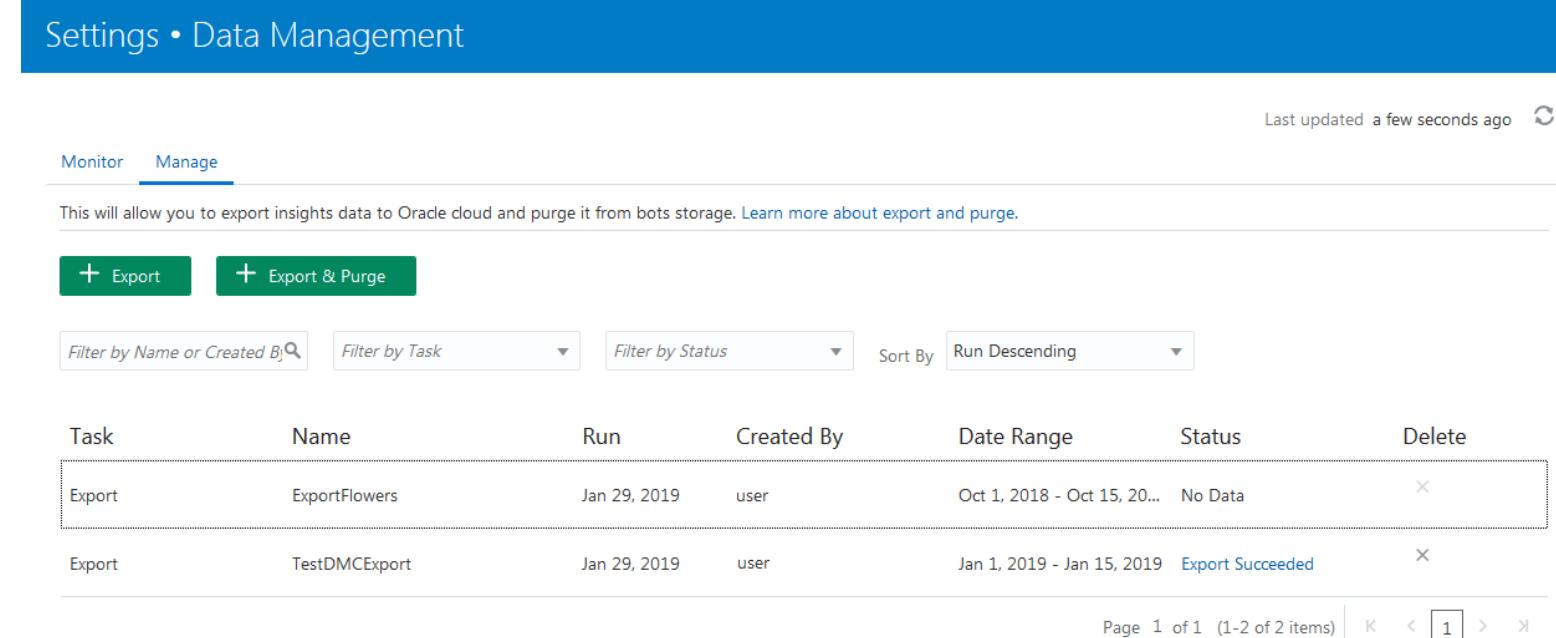
This will allow you to export insights data to Oracle cloud and purge it from bots storage. [Learn more about export and purge.](#)

+ Export + Export & Purge

Filter by Name or Created By Filter by Task Filter by Status Sort By Run Descending

Task	Name	Run	Created By	Date Range	Status	Delete
Export	ExportFlowers	Jan 29, 2019	user	Oct 1, 2018 - Oct 15, 20...	No Data	X
Export	TestDMCExport	Jan 29, 2019	user	Jan 1, 2019 - Jan 15, 2019	Export Succeeded	X

Page 1 of 1 (1-2 of 2 items) | K < 1 > K



REST API for BOT Insights Export

- <https://docs.oracle.com/en/cloud/paaS/digital-assistant/rest-api/rest-endpoints.html>

The screenshot shows the Oracle Digital Assistant REST API documentation. On the left is a sidebar with icons for Home, Cloud, Platform as a Service (PaaS), and Digital Assistant. Below these are sections for Introduction, Get Started (Quick Start, Send Requests, Authenticate, Test, Use cURL, Status Codes, Use Cases), and a search bar. The main content area is titled "All REST Endpoints" and includes a "Sort by" dropdown set to "Task", buttons for "Path" and "Method", and a checked checkbox for "Group by API". A sub-section titled "Insights" describes the API for managing export tasks. It includes a "Delete Export Task" button with "Method: DELETE" and the path "Path: /management-api/v1/bots/{botId}/insightExports/{exportId}".

The REST API for BOT Insights enables developers to export data using a REST API

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