TRAINING YOUR AI BOT USING DITA

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AGENDA

- The changing technology landscape
- Move from apps to bots
- New interfaces
- Types of bots
- Search vs AI bot
- How do I set up my own bot
- How do I train my new bot
- Live examples – try training your own AI!
- Source code for trying it out

THE CHANGING TECHNOLOGY LANDSCAPE

20 percent of all user interactions with the smartphone will take place via virtual personal assistants by 2019

In 2016, 37 percent of respondents (average across U.S. and U.K.) used a VPA at least one or more times a day.

By 2025, 14.4 million US workers will wear smart glasses.

Need to move away from "broadcast style of publications" to "conversational"

TOUCH *VS.* NEW INTERFACES

By 2020

- 2 billion zero touch devices
- 7 billion personal devices
- 1.3 billion wearables
- 5.7 billion IoT endpoints

FROM APPS TO BOTS

- "AI, machine learning and VPAs will be the major strategic battlegrounds from 2017, and make many mobile apps fade and become subservient of VPAs."

Gartner

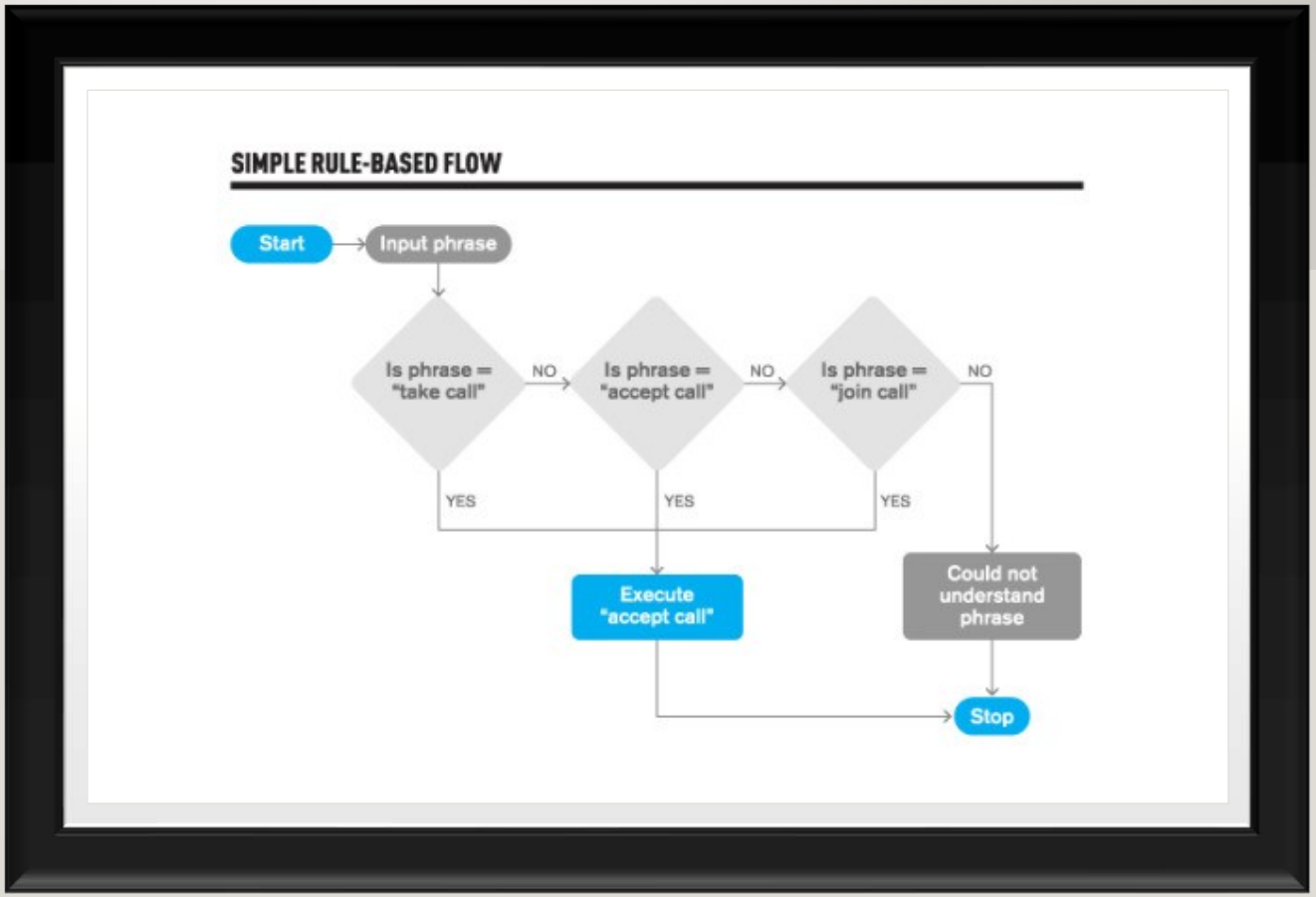
TYPES OF BOTS

RULE-BASED BOTS

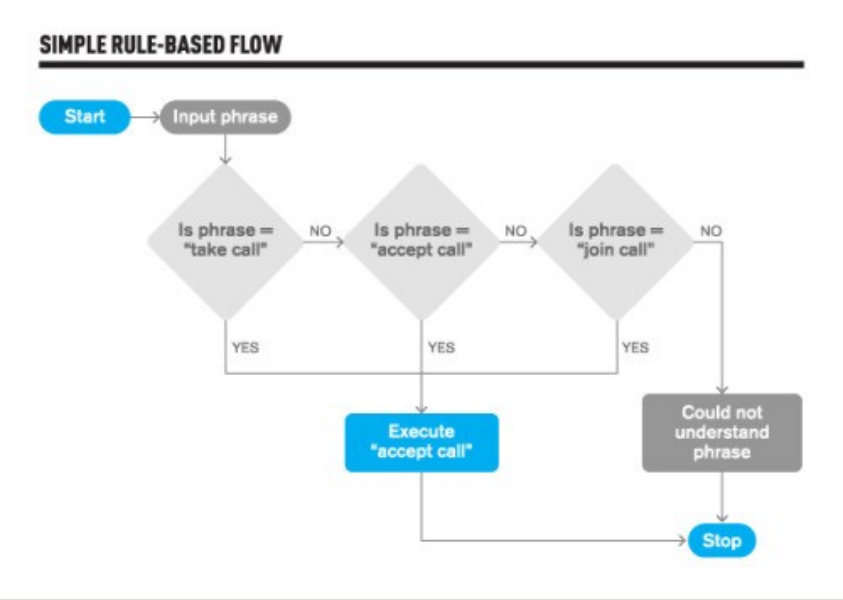
RETRIEVABLE MODELS

GENERATIVE MODELS

RULE BASED


SIMPLE RULE-BASED FLOW
Start
Input phrase
Is phrase = "take call"
NO
Is phrase = "accept call"
NO
Is phrase = "join call"
NO
YES
YES
YES
Execute "accept call"
Could not understand phrase
Stop

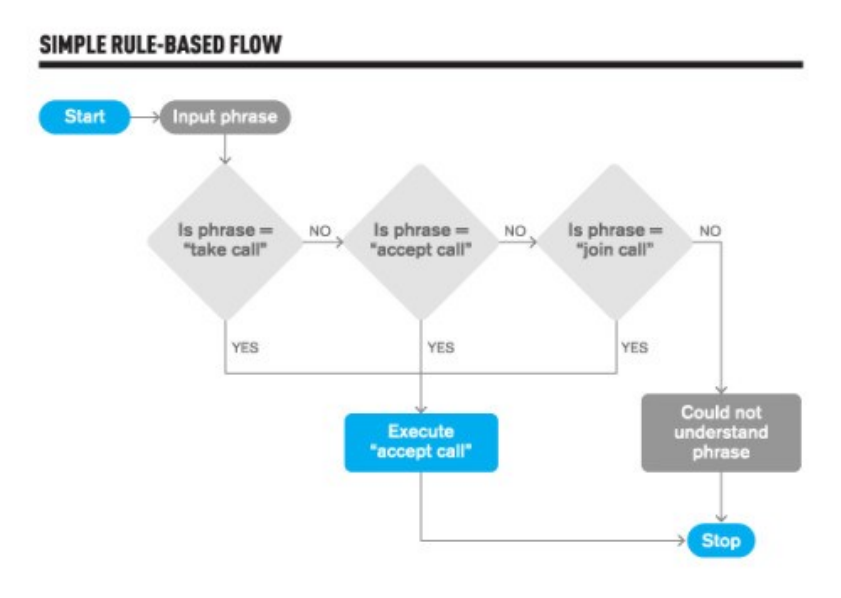
RULE BASED



Amy, Can you take call? I'm driving

Sure!

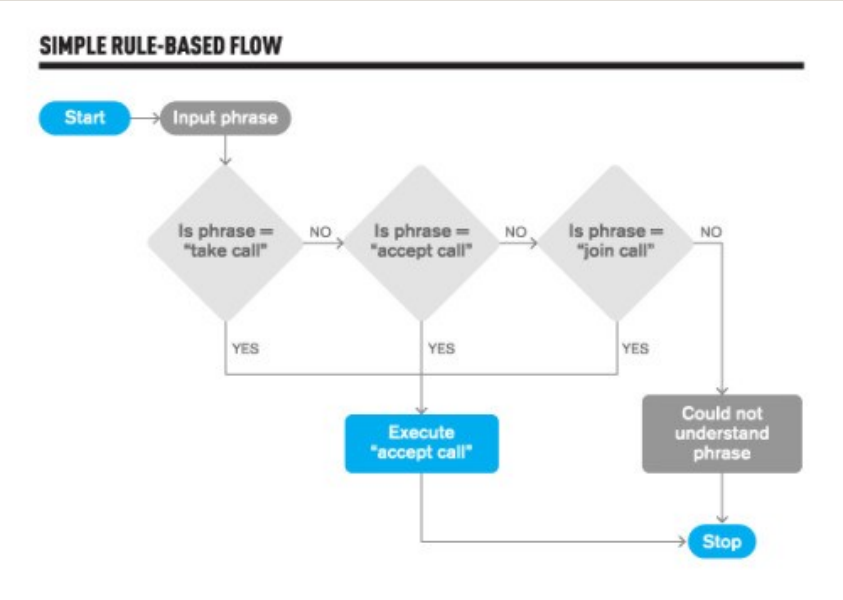
RULE BASED



Amy I'm busy. Can you accept call

Sure!

RULE BASED



Amy, connect me to the meeting

Could not understand phrase. Please repeat

SELF LEARN-ABLE BOTS

GENERATIVE MODELS

RETRIEVAL BASED MODELS

RETRIEVAL BASED MODELS

- IBM Watson
- Google Assistant
- Google Smart Reply

HOW DO I SET UP MY OWN BOT?

SEARCH VS AN AI BOT

AI INSTANCES

AI CONVERSATION INSTANCE

BUILDING AN AI SCHEMA WITH YOUR DITA FILES

SEARCH VS AI BOT

"William Wilkinson's 'An account of the Principalities of Wallachia and Moldavia" had "inspired this author's most famous Novel."

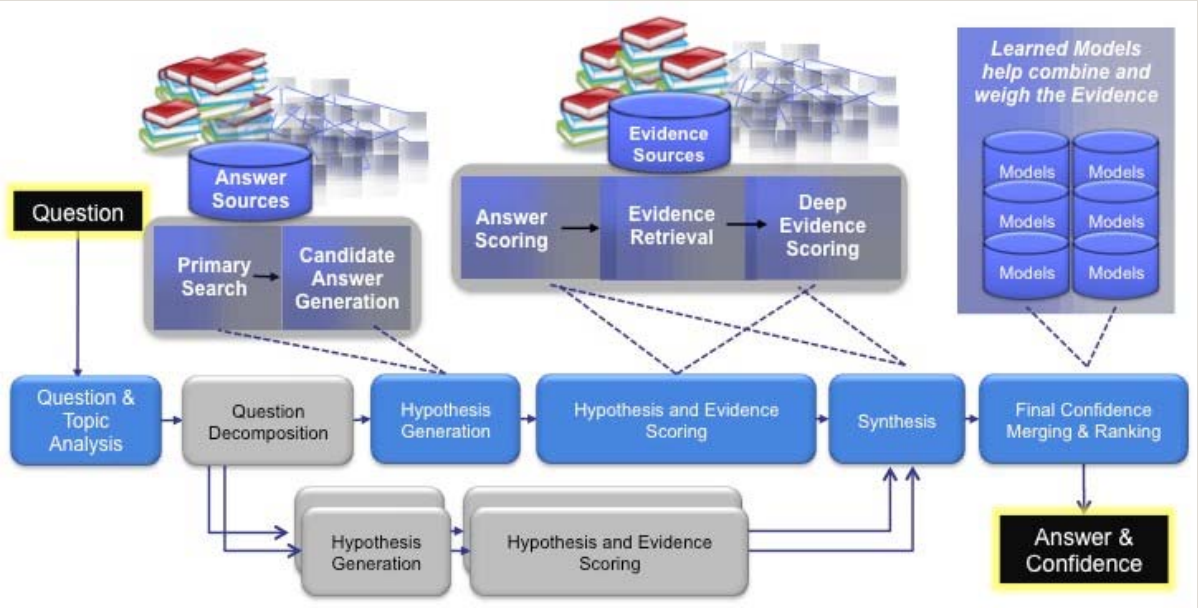
SEARCH

VS

AI BOT

- Multiple answers vs Answers with a **confidence level**
- Generates a hypothesis with the existing content and evaluates it
- The **confidence level** of the Bot increases with the corpus that you add to it
- Precision builds up over multiple trainings

AI INSTANCES



AI INSTANCES: CLOSED BOXES

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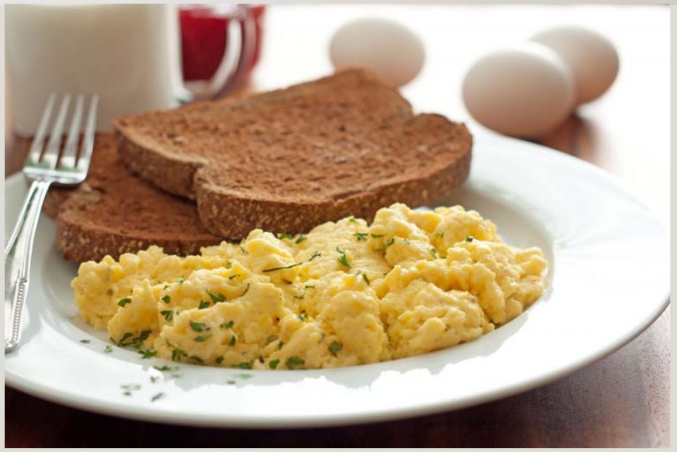
AI INSTANCES: CLOSED BOXES

Copyright Laura Martin Bovard Interiors & /www.huffingtonpost.com

AI INSTANCES: OPEN KITCHENS

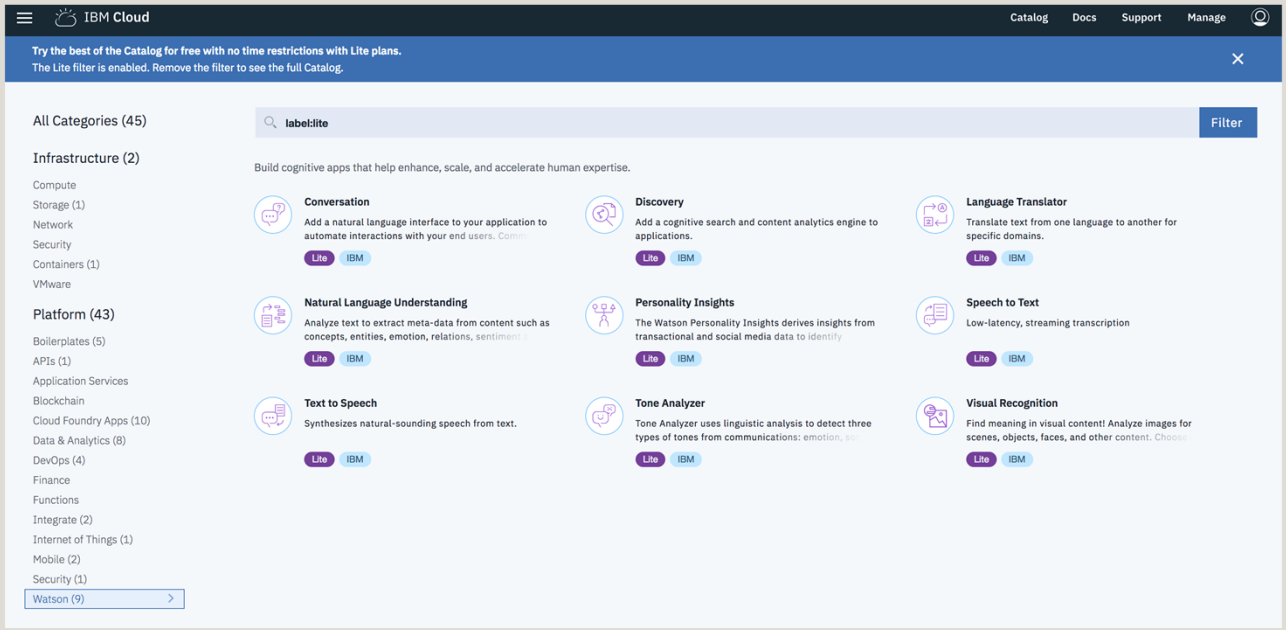
https://homes.nine.com.au/2015/10/22/21/56/create-the-ultimate-kitchen

AI INSTANCES: OPEN KITCHENS



https://homes.nine.com.au/2015/10/22/21/56/create-the-ultimate-kitchen and http://onedaycart.com/odcb/scrambled-egg-with-bread.html

AI INSTANCES



HOW DO I TRAIN MY NEW BOT?

- Intent
- Entity
- Dialog

HOW DO I TRAIN MY NEW BOT?

- Intent: A purpose or goal expressed by customer input to a Chabot.
- Entity: A term or object in a user's input that provides clarification or specific context for a particular intent. An entity defines a class of objects, with specific values representing possible objects in that class.
- Dialog: The dialog uses the intents and entities that are identified in the user's input, plus context from the application, to interact with the user and ultimately provide a useful response.

IDENTIFYING THE INTENTS AND ENTITIES

- Switch on the headlamps
- Turn on the radio
- How can install Liberty?
- How do I configure a Workload Manager?
- How do I resolve Error 56623?
- How do I troubleshoot installation issues?

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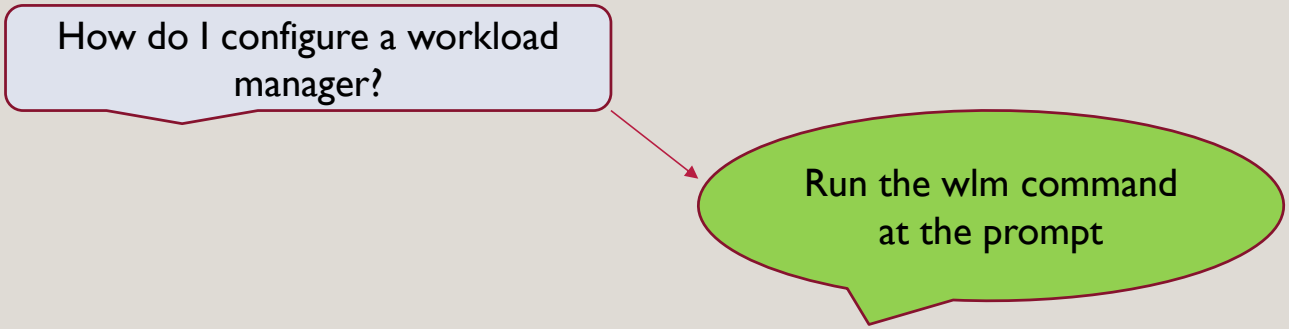
CREATING YOUR FIRST INTENTS AND ENTITIES

CREATING A DIALOG NODE

How do I configure a workload manager?

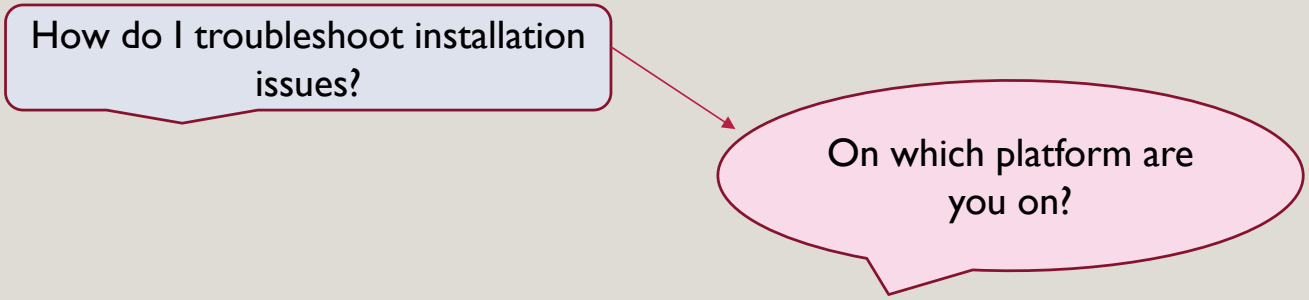
CREATING A DIALOG NODE



CREATING A DIALOG NODE

How do I troubleshoot installation issues?

CREATING A DIALOG NODE



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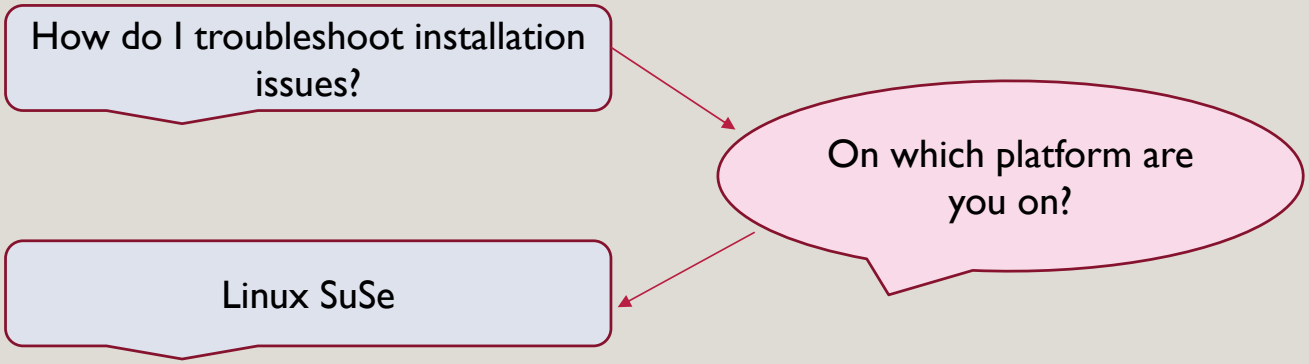

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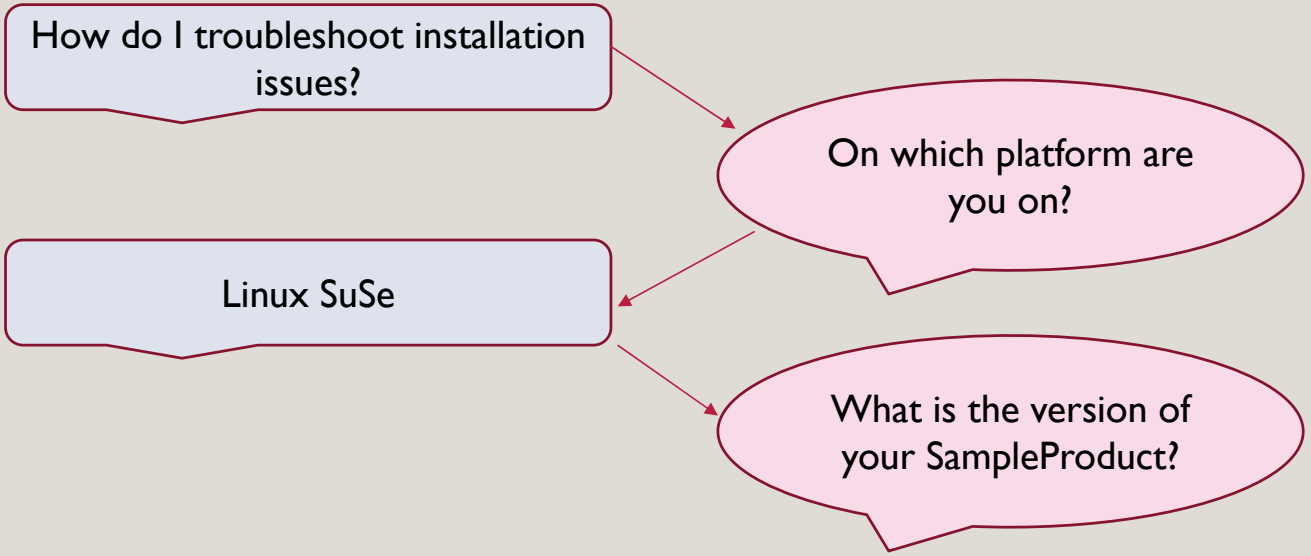

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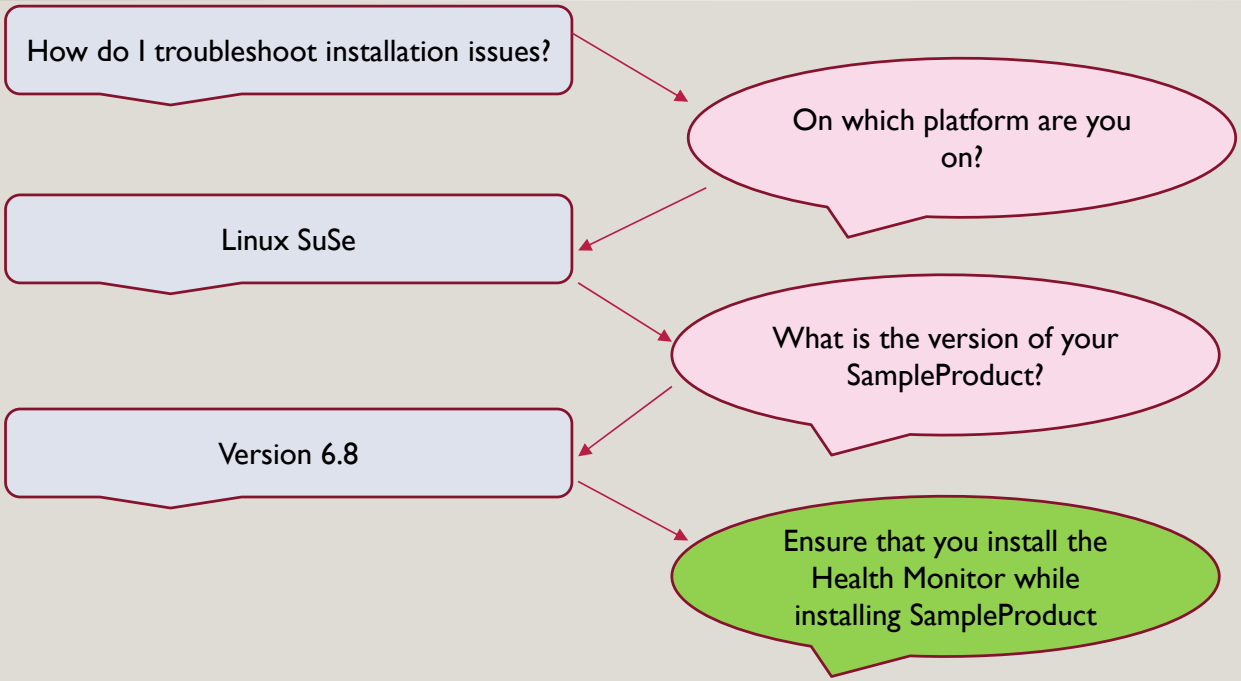


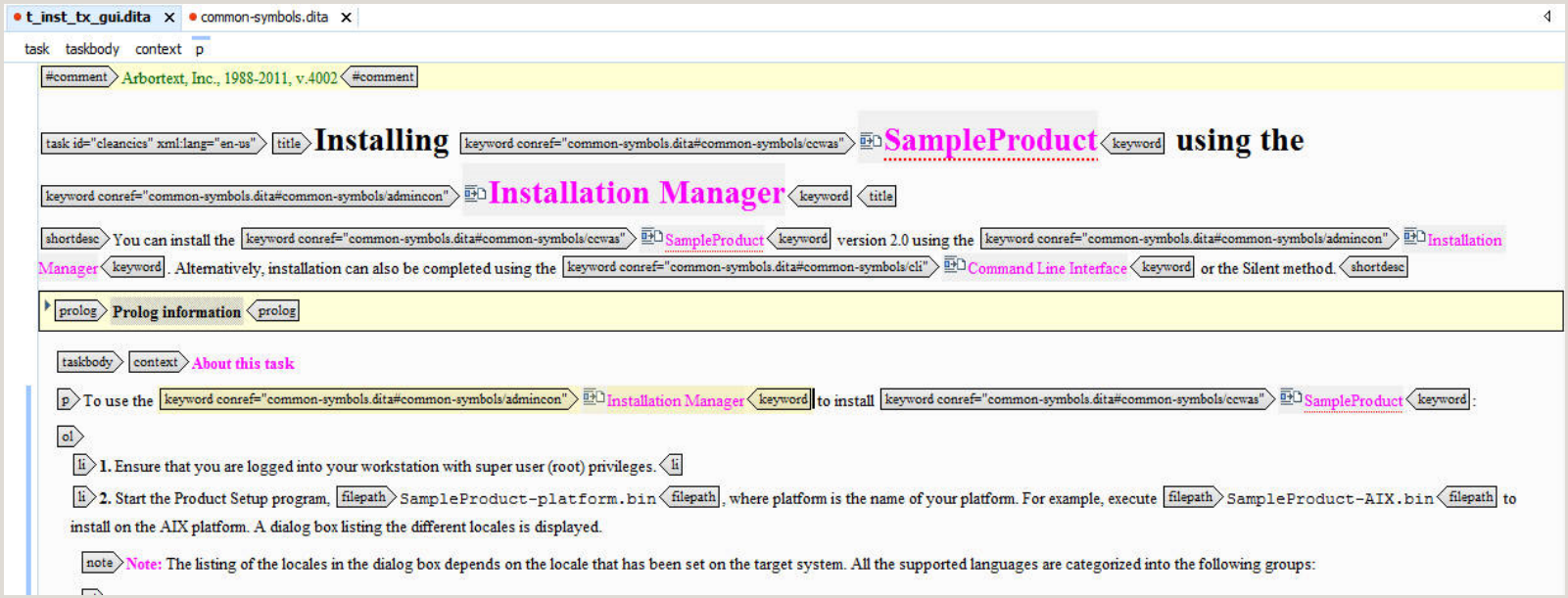
LEVERAGING DITA

- Based on XML
- Inherent semantics
- Rich in syntax, conditions and filters
- Developer friendly source
- Can use scripts to migrate
- Interesting learning

DITA documentation source

Conversation bot

BUILDING UP THE AI ENGINE FROM DITA FILES



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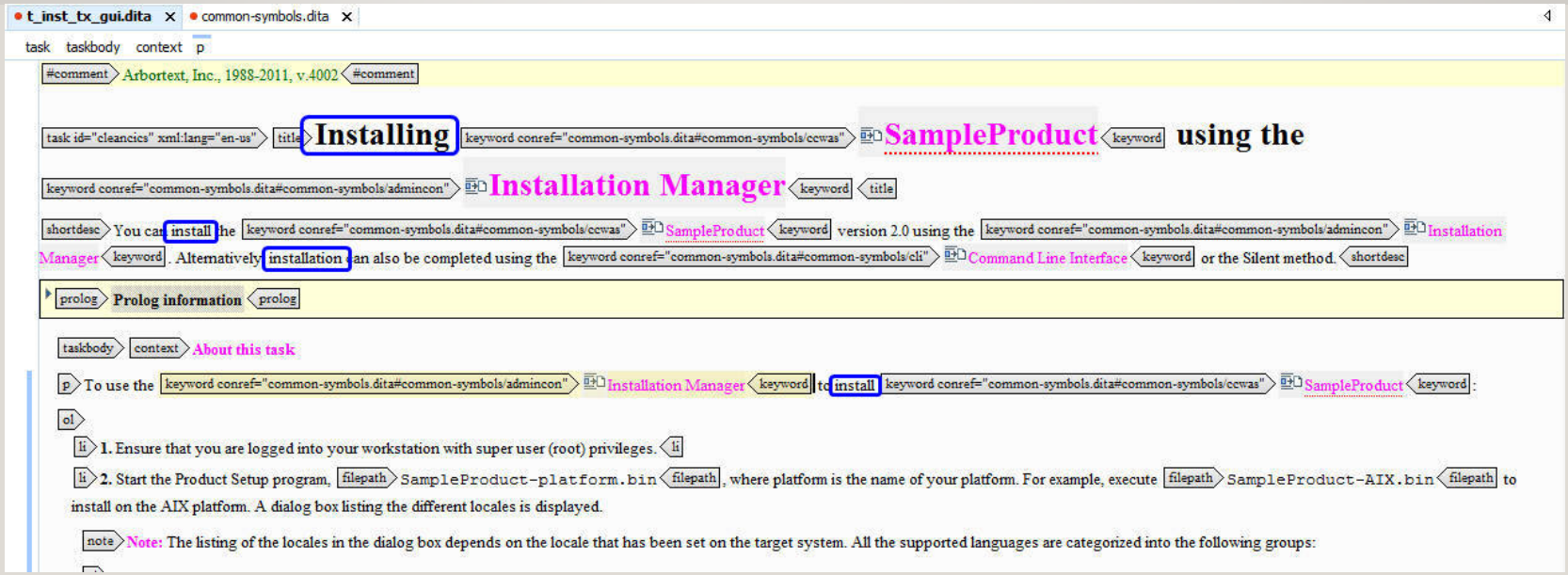

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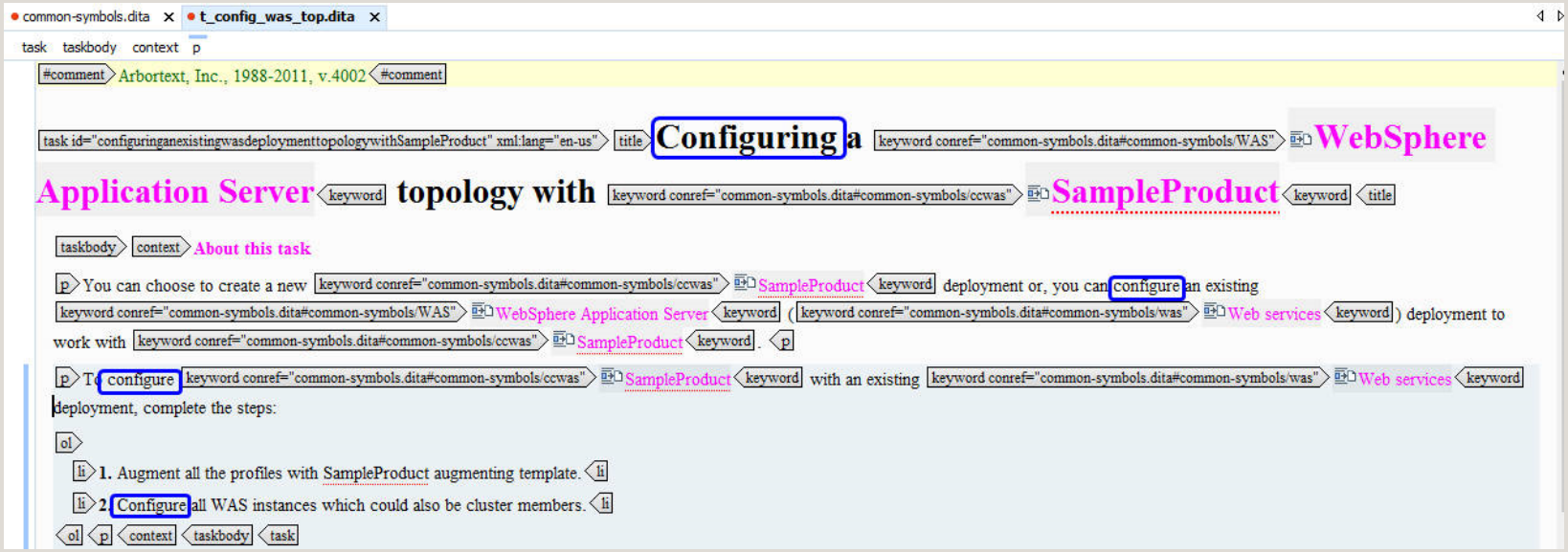

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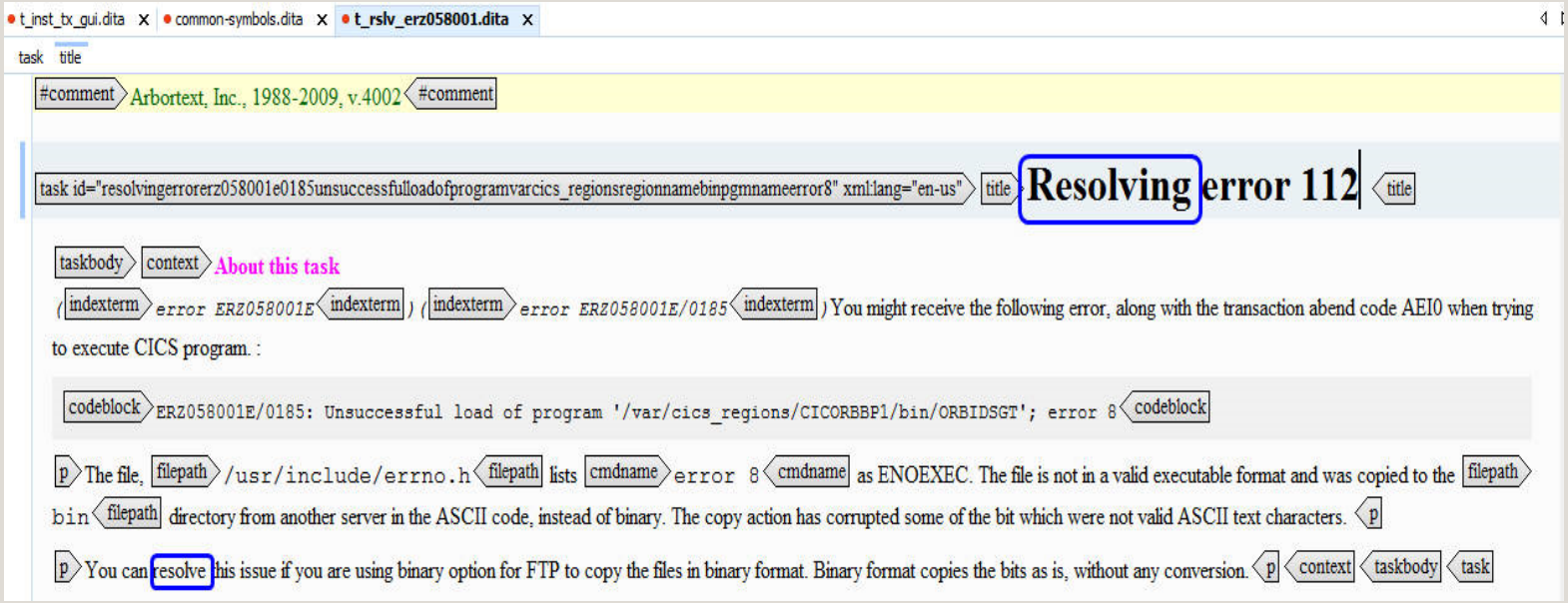

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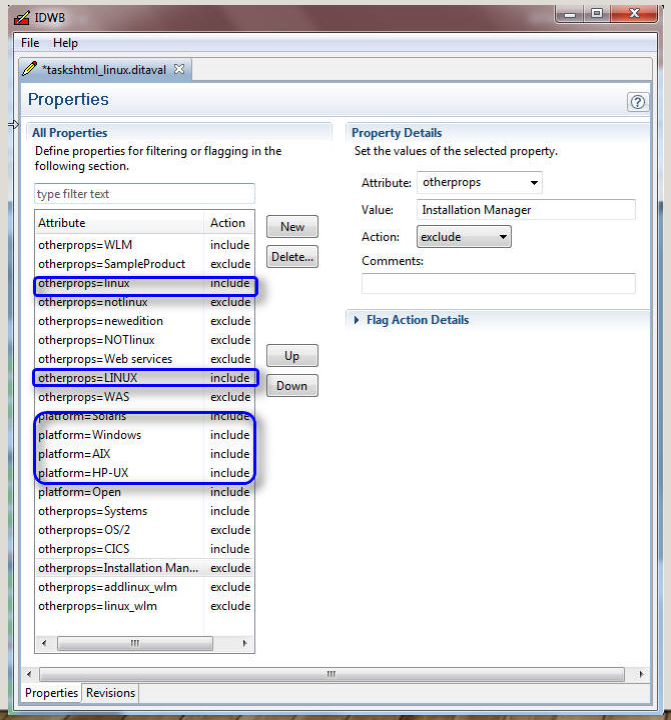

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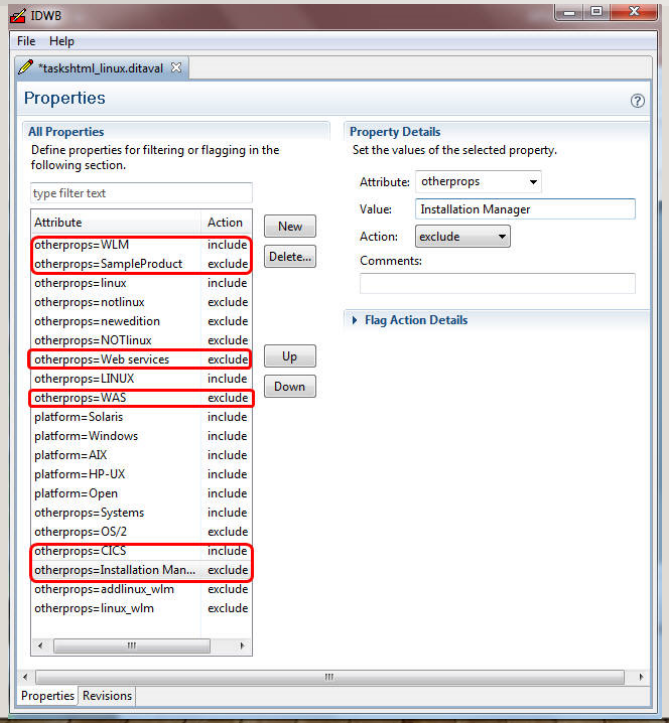

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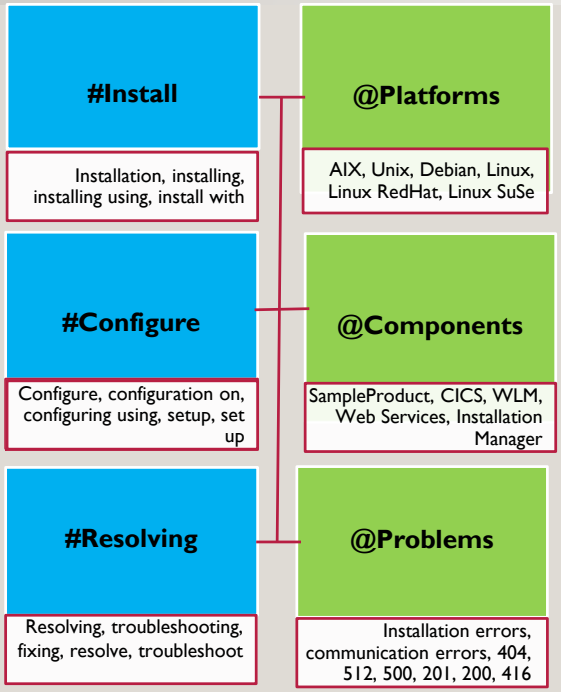
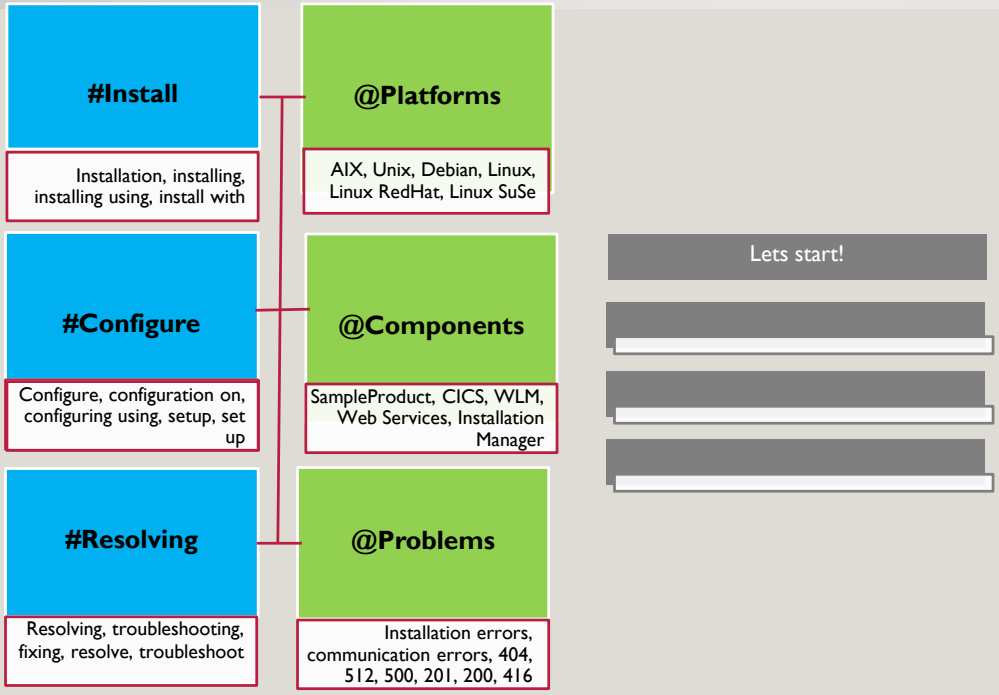


HOW DOES IT WORK?



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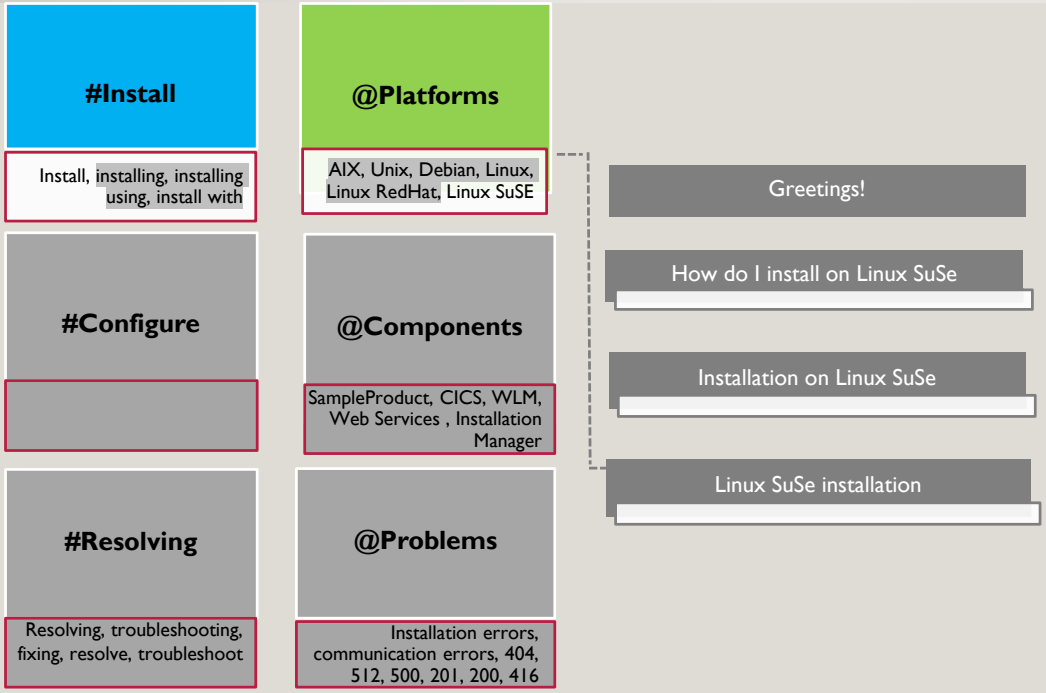

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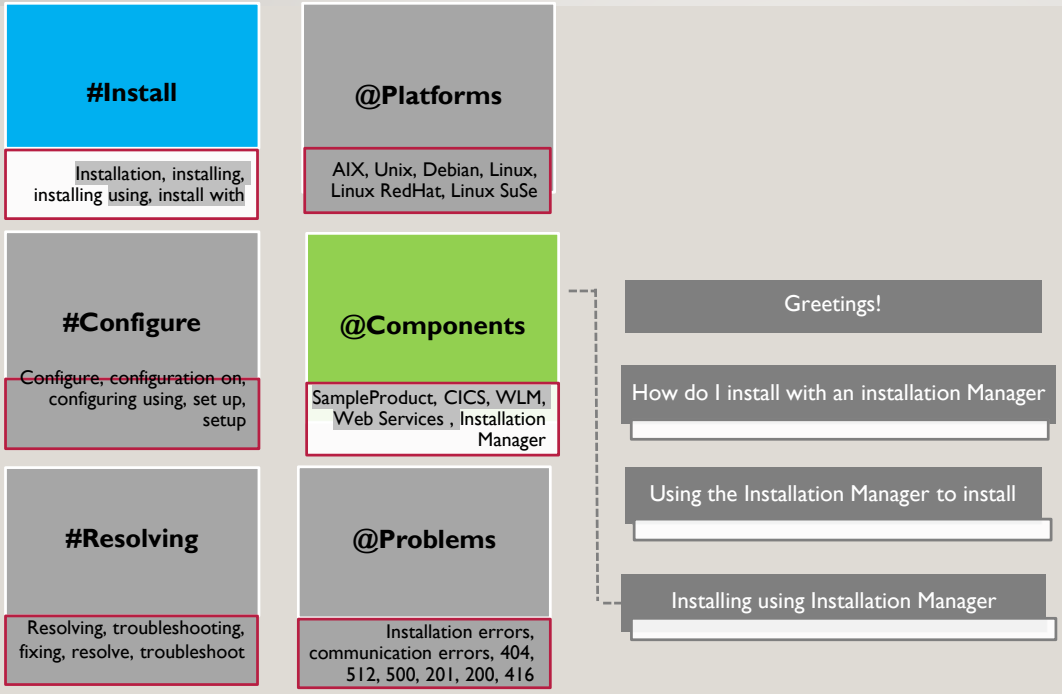

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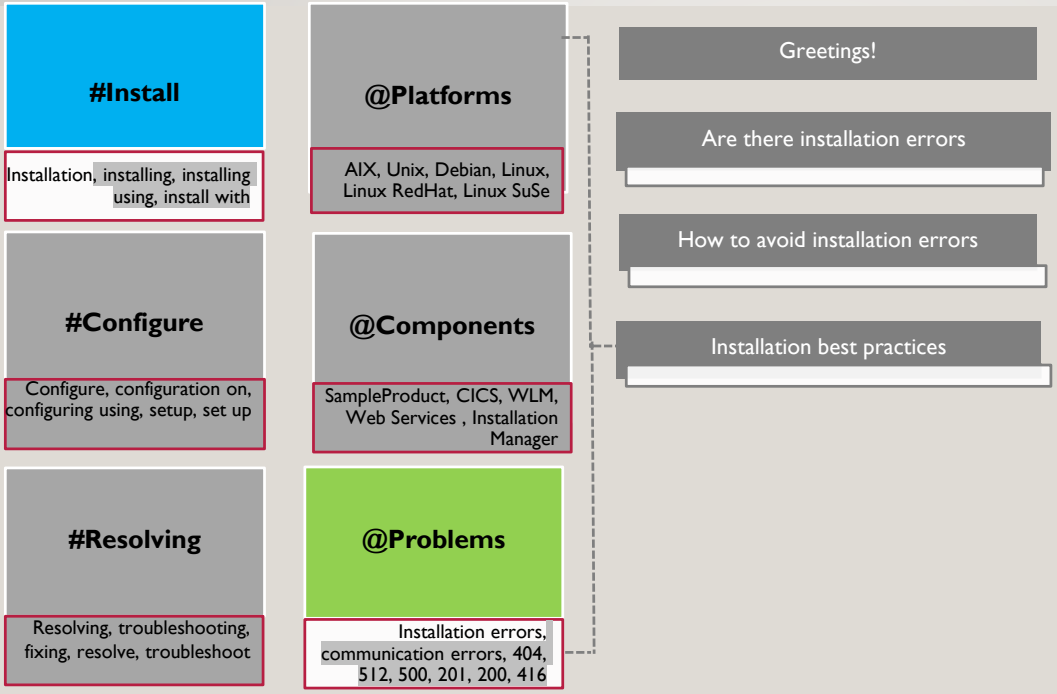

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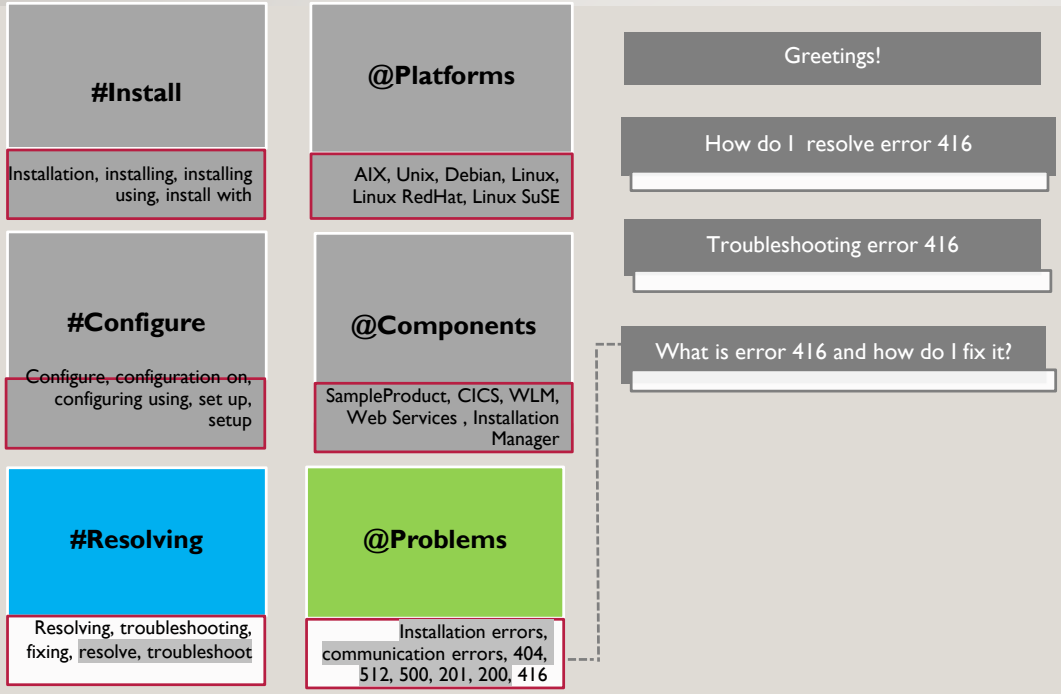

BREAKING UP A QUESTION…

Q. I have just purchased the SampleProduct and have completed the installation. I'm trying to configure it with WAS now. How do I go about it?

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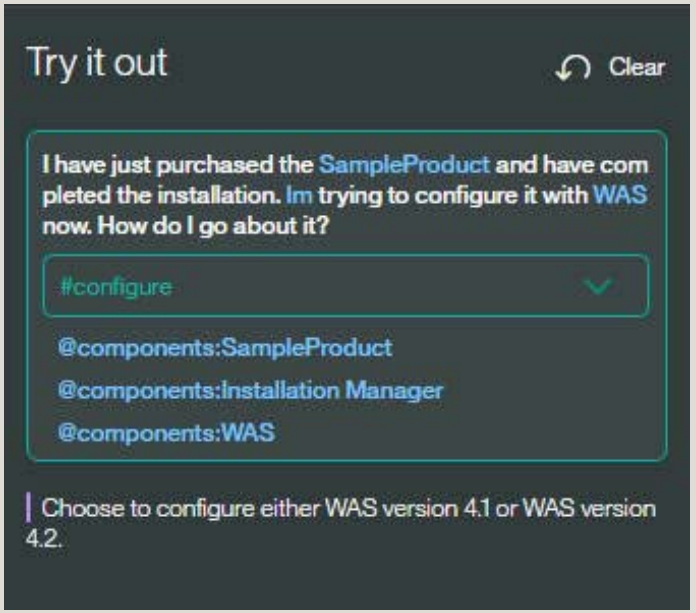
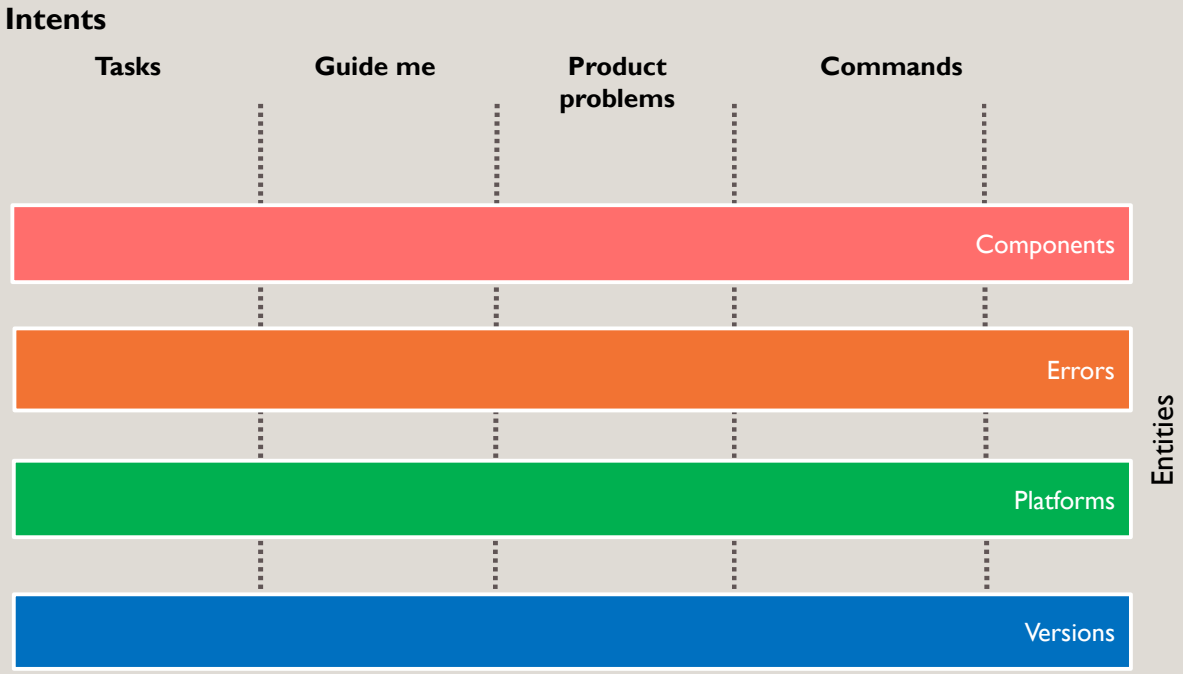


DEMO

https://tcworld.mybluemix.net/

AI-DRIVEN CONTENT STRATEGY



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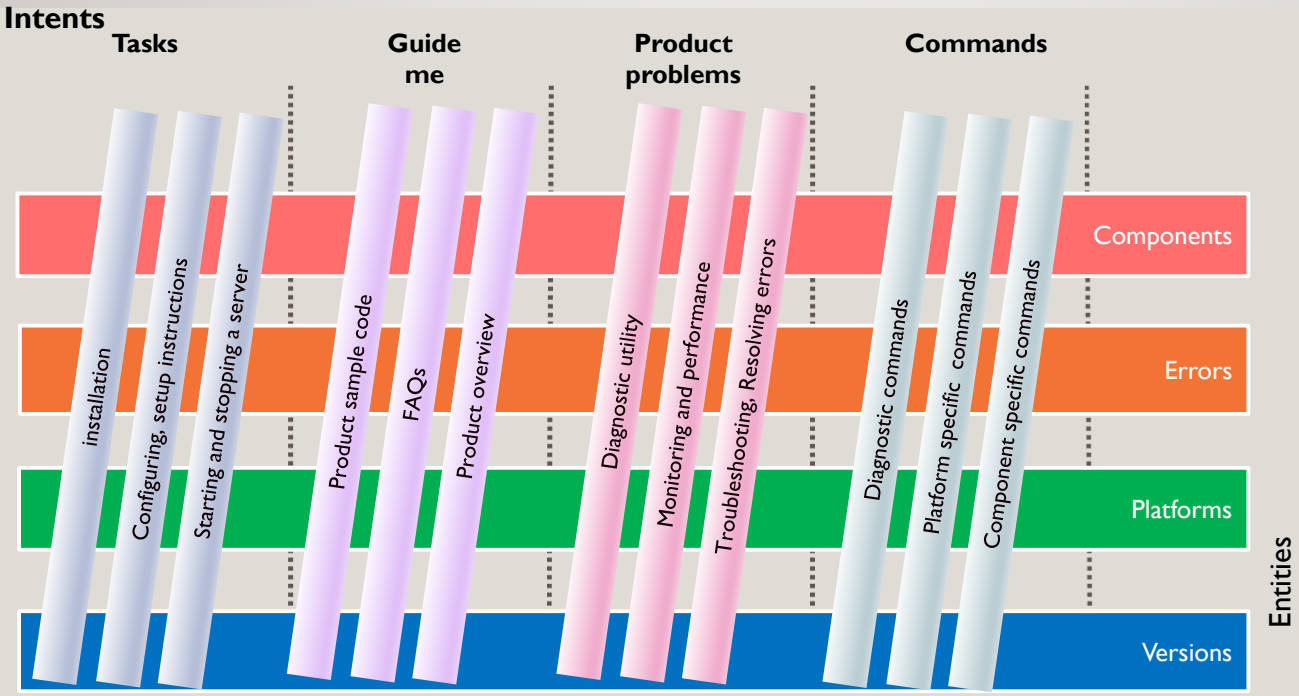


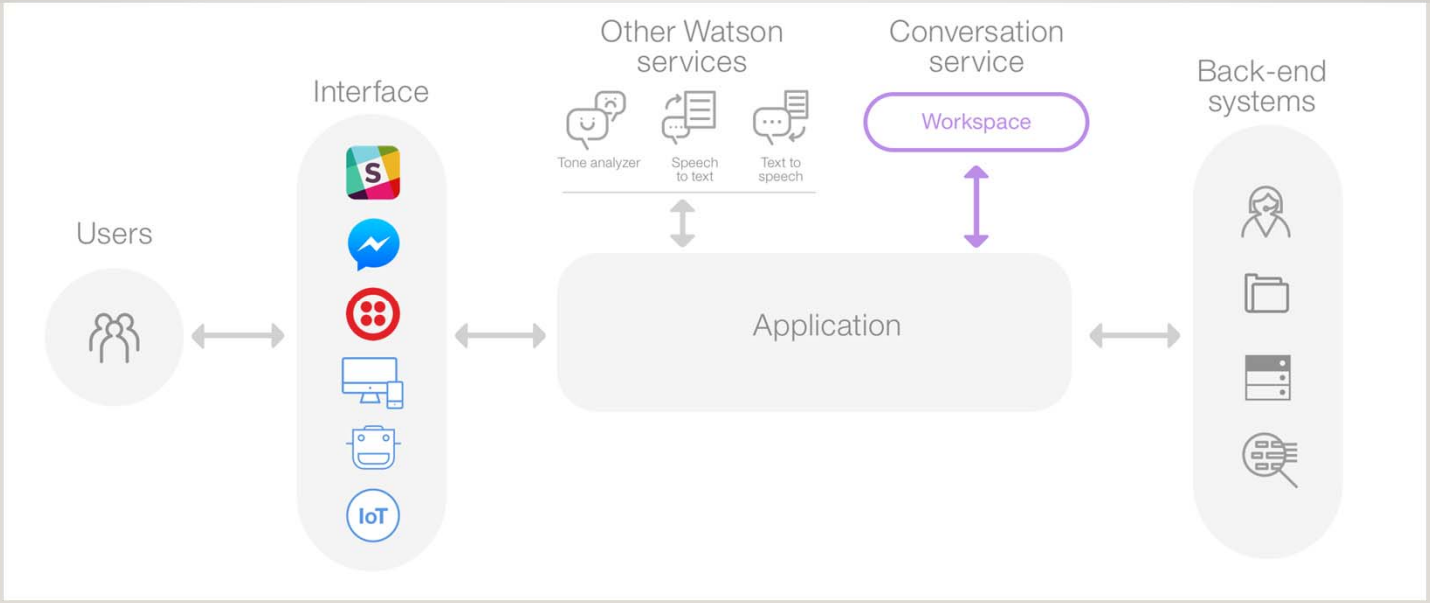
TAKEAWAYS

Source files for creating a bot

https://github.com/vpalliya/DITA-SemanticExplorations

QUESTIONS & ANSWERS

BACKUP SLIDES



INTERESTING READS

Gartner Says Nearly Half of CIOs Are Planning to Deploy Artificial Intelligence

https://www.gartner.com/newsroom/id/3856163

INTERESTING READS

1. Aim Low at First
"Don't fall into the trap of primarily seeking hard outcomes, such as direct financial gains, with AI projects," said Mr. Andrews. "In general, it's best to start AI projects with a small scope and aim for 'soft' outcomes, such as process improvements, customer satisfaction or financial benchmarking."

Expect AI projects to produce, at best, lessons that will help with subsequent, larger experiments, pilots and implementations. In some organizations, a financial target will be a requirement to start the project. "In this situation, set the target as low as possible," said Mr. Andrews. "Think of targets in the thousands or tens of thousands of dollars, understand what you're trying to accomplish on a small scale, and only then pursue more-dramatic benefits."

INTERESTING READS

2. Focus on Augmenting People, Not Replacing Them

Big technological advances are often historically associated with a reduction in staff head count. While reducing labor costs is attractive to business executives, it is likely to create resistance from those whose jobs appear to be at risk. In pursuing this way of thinking, organizations can miss out on real opportunities to use the technology effectively. "We advise our clients that the most transformational benefits of AI in the near term will arise from using it to enable employees to pursue higher-value activities," added Mr. Andrews.

INTERESTING READS

3. Plan for Knowledge Transfer

Conversations with Gartner clients reveal that most organizations aren't well-prepared for implementing AI. Specifically, they lack internal skills in data science and plan to rely to a high degree on external providers to fill the gap. Fifty-three percent of organizations in the CIO survey rated their own ability to mine and exploit data as "limited" — the lowest level.

Gartner predicts that through 2022, 85 percent of AI projects will deliver erroneous outcomes due to bias in data, algorithms or the teams responsible for managing them.

"Data is the fuel for AI, so organizations need to prepare now to store and manage even larger amounts of data for AI initiatives," said Jim Hare, research vice president at Gartner. "Relying mostly on external suppliers for these skills is not an ideal long-term solution. Therefore, ensure that early AI projects help transfer knowledge from external experts to your employees, and build up your organization's in-house capabilities before moving on to large-scale projects."

INTERESTING READS

4. Choose Transparent AI Solutions

AI projects will often involve software or systems from external service providers. It's important that some insight into how decisions are reached is built into any service agreement. "Whether an AI system produces the right answer is not the only concern," said Mr. Andrews. "Executives need to understand *why* it is effective, and offer insights into its reasoning when it's not."