

ORACLE®

Oracle Digital Assistant

The Complete Training

Q&A



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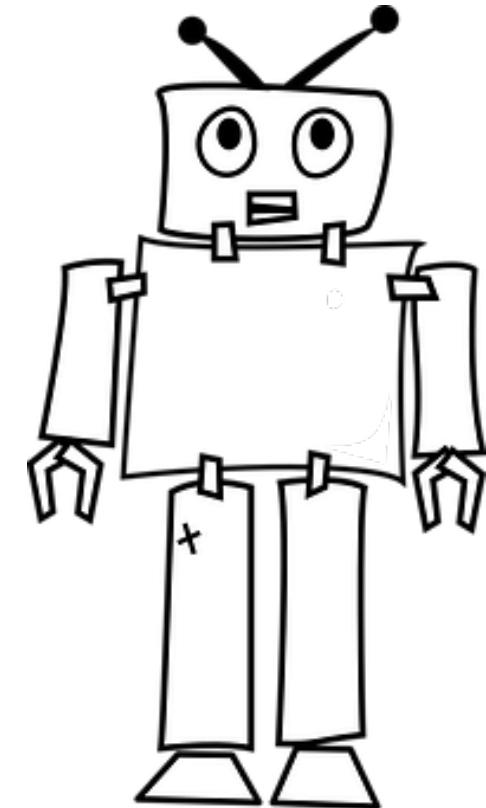
Topic agenda

- 1 ➤ Introducing QnA
- 2 ➤ Answer intents
- 3 ➤ QnA and Digital Assistant
- 4 ➤ Reusable QnA skill

Topic agenda

- 1 ➤ Introducing QnA
- 2 ➤ Answer intents
- 3 ➤ QnA and Digital Assistant
- 4 ➤ Reusable QnA skill

Sometimes a question is what it is;
a question



Q & A builder

- Intent resolution – sentence level resolution
 - Trying to establish meaning from a sentence
 - Meaning and structure are important
 - Maps to a single transaction/usecase
- QnA – word level resolution
 - Uses an intelligent search across questions and answers
 - Can be tuned to define Q&A terms and stop words
- “Lost my bank details, need to reset password”
- “Can I return these shoes”

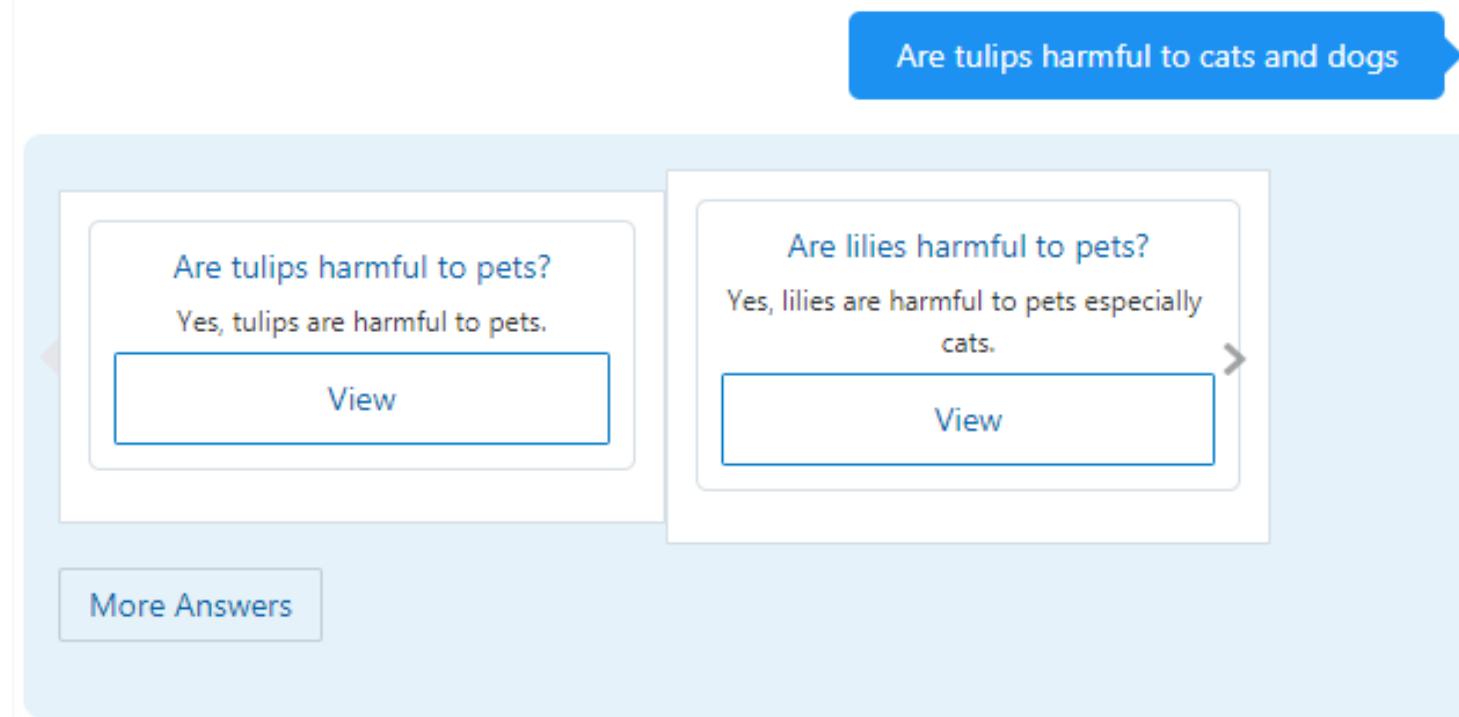
Q & A builder

- Q & A loaded from a CSV
 - Category, question, answer

| | A | B | C |
|----|-----------------------|--|---|
| 1 | category_path | questions | content |
| 2 | After you order | How do I track my order? | You can return to the 24hrsflowers chatbot at anytime a |
| 3 | Care instructions | Are sunflowers harmful to pets? | No, sunflowers are not harmful to pets |
| 4 | Care instructions | What is the estimated lifespan of roses | Normally 7 - 12 days |
| 5 | Care instructions | Are peonies harmful to pets? | No, peonies are not harmful to pets. |
| 6 | Care instructions | What is the estimated lifespan of frees | Normally 7 days |
| 7 | Care instructions | Are Alstromeria harmful to pets? | Yes, Alstromeria are harmful to pets. |
| 8 | Care instructions | Are lilies harmful to pets? | Yes, lilies are harmful to pets especially cats. |
| 9 | Care instructions | What is the estimated lifespan of lilies | Normally 7 - 11 days |
| 10 | Product and packaging | How are the bouquets packaged? | 24hrsflowers flowers are sent in branded cardboard bo |
| 11 | Care instructions | What is the estimated lifespan of Alstr | Normally 7 - 12 days |
| 12 | Care instructions | What is the estimated lifespan of sunfl | Normally 7 days |

Q & A builder

- Q & A loaded from a CSV
 - Category, question, answer
 - Allows matching questions to be browsed



Q & A at runtime

- Intent resolved
- Q & A resolved
- Could be intent or Q & A

Testing Skill Reset

What is my balance?

For which account do you want your balance?

savings

checking

credit card

What is my balance? 🔗

Q & A at runtime

- Intent resolved
- Q & A resolved
- Could be intent or Q & A

The screenshot shows a mobile application interface. At the top, the title "Testing Skill" is displayed next to a "Reset" button. Below the title, there is a blue button labeled "Can my points expire?". The main content area contains a card with the same question "Can my points expire?" and a response: "Any points you earn will not expire." Below this card is a "View" button. At the bottom of the screen, there are two buttons: "More Answers" and "Categories". At the very bottom, there is another instance of the question "Can my points expire?" followed by a small edit icon.

Q & A at runtime

- Intent resolved
- Q & A resolved
- Could be intent or Q &A

Testing Skill

Reset

when are realtime balances available

Hey, I wasn't sure, do you want to...

Balances

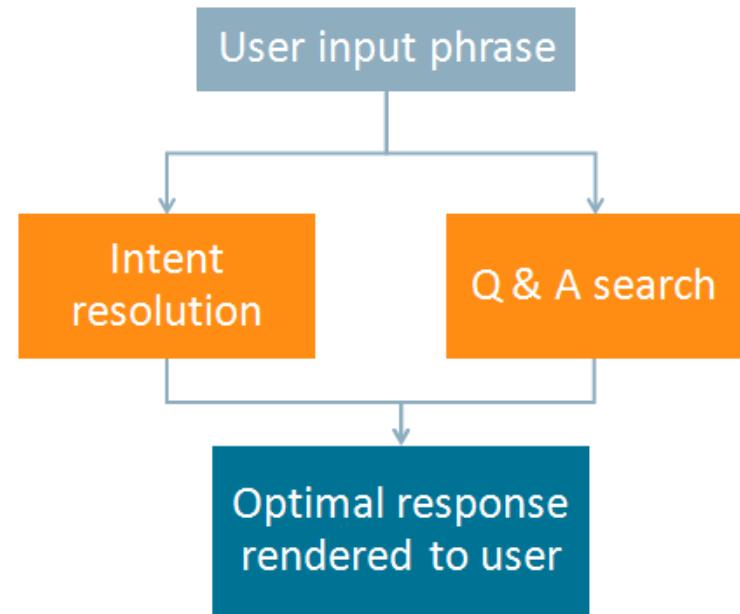
Check our FAQ on this topic

when are realtime balances available



Q & A routing is based on

- The results of intent and QnA matching
 - Intent resolution
 - Minimum match of QnA
- Use of imperative verbs assumes intent
 - “do”, “give” “cancel”
 - Platform understands the concept of imperative verbs
 - You can explicitly define your own
- More later...



Q & A routing is based on

- qnaMinimumMatch in System.Intent
- Defines % of tokens that must match
 - E.g. 50%, 25% means we first of all look for 50% of matches, if not, we look for 25% - thus trying to ensure we only drop to 25% if we can't resolve to a higher quality
- Token is not necessarily a word
 - Stop words are ignored
 - Tokens are generated for word pairs
 - "Balance in my checking account" and "Checking balance in my account", then search for "checking account" will return "Balance in my checking account"

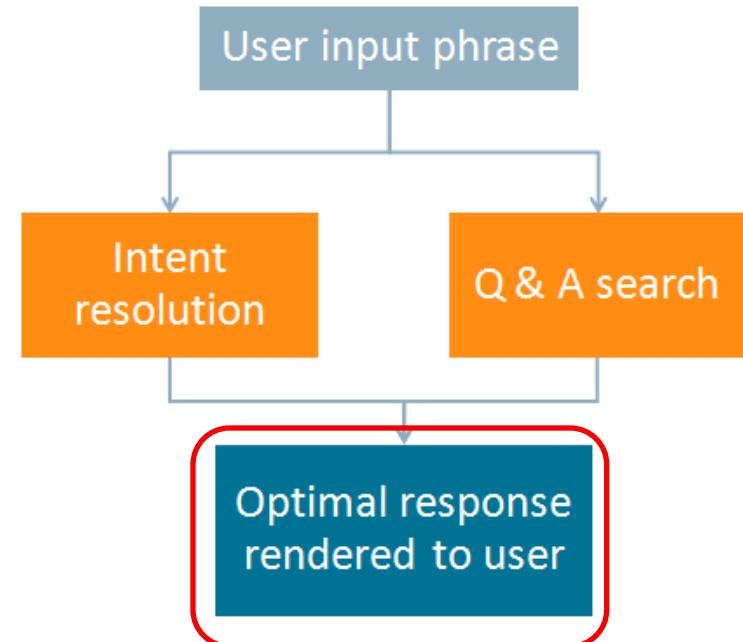
Q & A builder - how it works

- “Smart” logic to search/index
 - Automatically stems words when indexing
 - “festival”, “festive”, “festivity” all represented as the same stem
 - Ignores stop words (“a”, “of”, “are” etc)
 - Fuzzy matching (tolerant of one or two char differences)
 - Define synonyms and abbreviations

The screenshot illustrates the Q&A builder interface. On the left, there's a configuration panel with tabs for 'Data Sources' and 'Language Config'. Under 'Language Config', there's a 'Config Entry' section with a 'More' dropdown. Below this are two entries: 'Ignored words' (containing a large list of common English words) and 'Synonym' (containing 'wife, spouse'). Red arrows point from the 'wife, spouse' entry to the 'Bot' tab in the test interface and to the highlighted word 'wife' in the user query. The right side shows a 'Test' interface with tabs for 'Bot', 'Intent', and 'Q&A'. In the 'Bot' tab, a user query 'how do I add my wife for insurance' is shown, with 'wife' highlighted. The bot's response is: 'I have already taken a PA policy and renewing the same. Can I add my spouse in the current policy?'. Below the response is a 'View' button. At the bottom of the interface are 'More Answers' and 'Categories' buttons.

Q & A builder - how it works

```
intent:  
  component: "System.Intent"  
  properties:  
    variable: "iResult"  
    optionsQnaLabel: "Check our FAQ on this topic"  
    optionsPrompt: "Hey, I wasn't sure, do you want to..."  
    qnaSkipIfIntentFound: true  
    qnaEnable: true  
transitions:  
actions:  
  Balances: "startBalances"  
  Transactions: "startTxns"  
  Send Money: "startPayments"  
  Track Spending: "startTrackSpending"  
  Dispute: "setDate"  
  Reset Password: "resetPassword"  
  unresolvedIntent: "unresolved"  
  qna: "qna"
```



Q & A builder - how it works

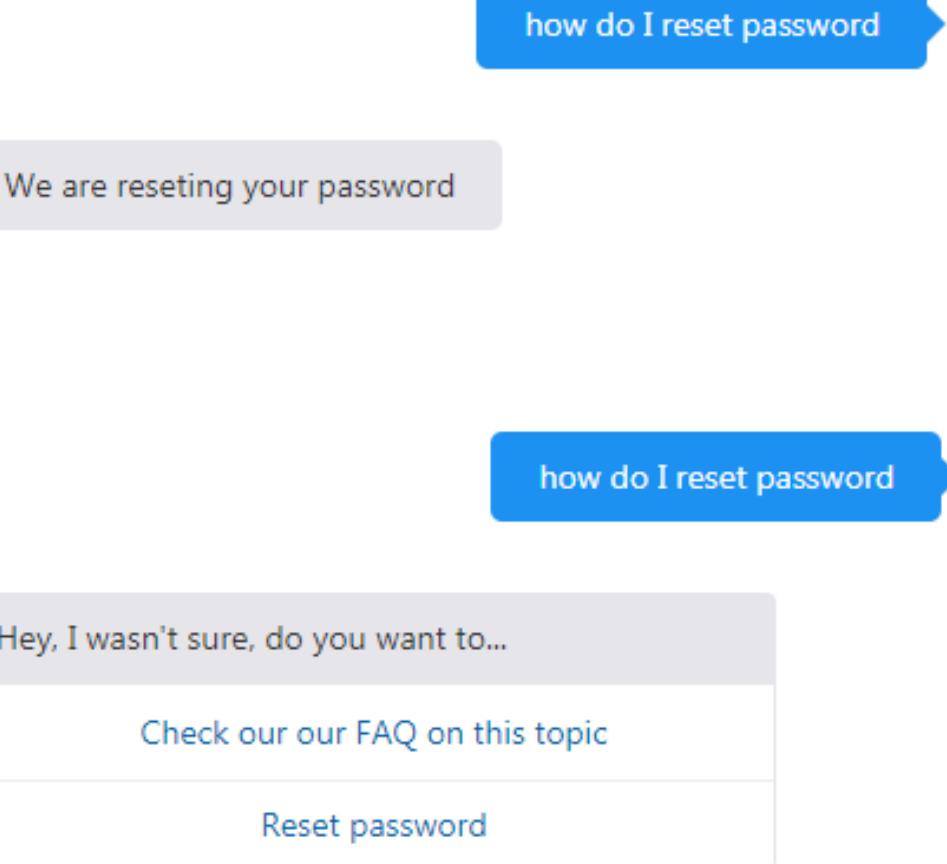
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  Send Money: "startPayments"  
  Track Spending: "startTrackSpending"  
  Dispute: "setDate"  
  Reset Password: "resetPassword"  
  unresolvedIntent: "unresolved"  
  qna: "qna"
```

how do I reset password

We are resetting your password

Q & A builder - how it works

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  component: "System.Intent"  
  properties:  
    variable: "iResult"  
    optionsQnaLabel: "Check our FAQ on this topic"  
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    qnaSkipIfIntentFound: false  
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transitions:  
  actions:  
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    Send Money: "startPayments"  
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    Dispute: "setDate"  
    Reset Password: "resetPassword"  
    unresolvedIntent: "unresolved"  
    qna: "qna"
```



Q & A builder - how it works

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  Send Money: "startPayments"  
  Track Spending: "startTrackSpending"  
  Dispute: "setDate"  
  Reset Password: "resetPassword"  
  unresolvedIntent: "unresolved"  
  qna: "qna"
```

We are reseting your password

how do I reset password

how do I reset password

Hey, I wasn't sure, do you want to...

Check our our FAQ on this topic

Reset password

Q & A builder - how it works

```
qna:  
  component: "System.QnA"  
  properties:  
    transitionOnTextReceived: true  
    categoryListLimit: 4  
    matchListLimit: 3  
    viewAnswerLabel: "Show me!"  
    moreAnswersLabel: "Show me more"  
    answersLabel: "Drill in here!"  
    categoriesLabel: "Browse FAQ"  
    exitLabel: "Exit Label"  
    keepTurn: true  
  transitions:  
  actions:  
    none: "unresolved"  
  next: "output"
```

How do I reset my password

In order to reset your password you need to call our call center on 555-1234 or send an email to x@y.com

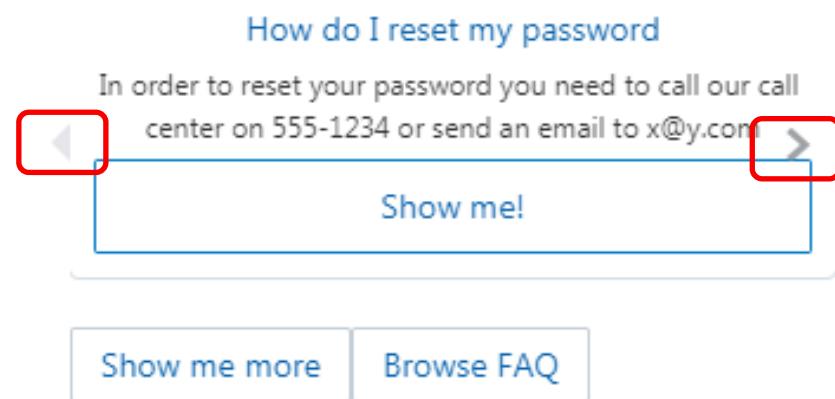
Show me!

Show me more

Browse FAQ

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How do I reset my password

In order to reset your password you need to call our call center on 555-1234 or send an email to x@y.com

Show me!

Show me more **Browse FAQ**

Q & A builder - how it works

```
qna:  
  component: "System.QnA"  
  properties:  
    transitionOnTextReceived: true  
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    exitLabel: "Exit Label"  
    keepTurn: true  
  transitions:  
  actions:  
    none: "unresolved"  
    next: "output"
```

What is Family Floater Plan?

Family floater plan is where the sum insured opted floats on the entire family and can be used by any or all the members.

Show me!

Show me more

Browse FAQ

Browse FAQ



Q & A builder - how it works

```
qna:  
  component: "System.QnA"  
  properties:  
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    next: "output"
```

What is Family Floater Plan?

Family floater plan is where the sum insured opted floats on the entire family and can be used by any or all the members.

Show me!

Show me more

Browse FAQ

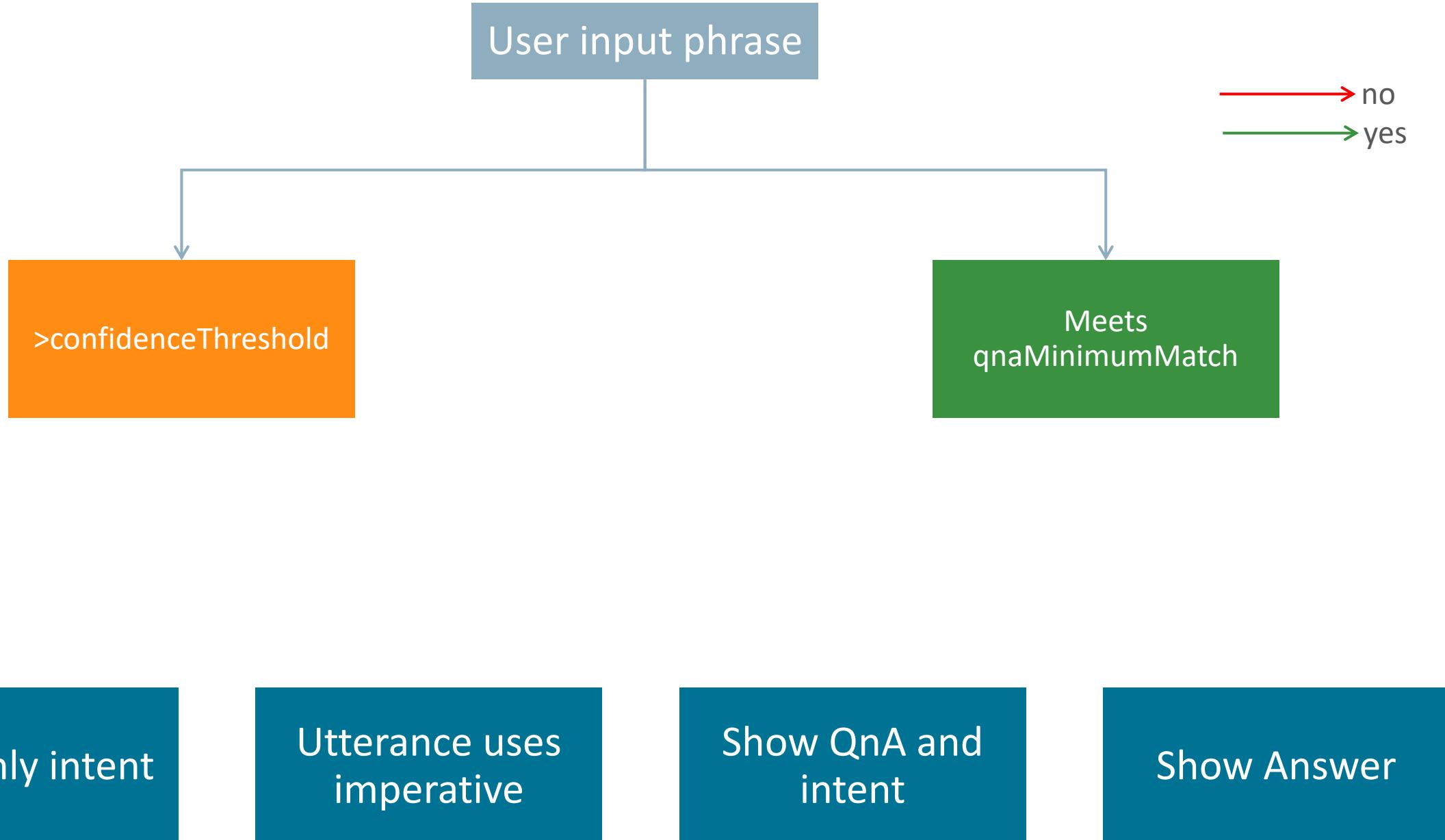
Browse FAQ

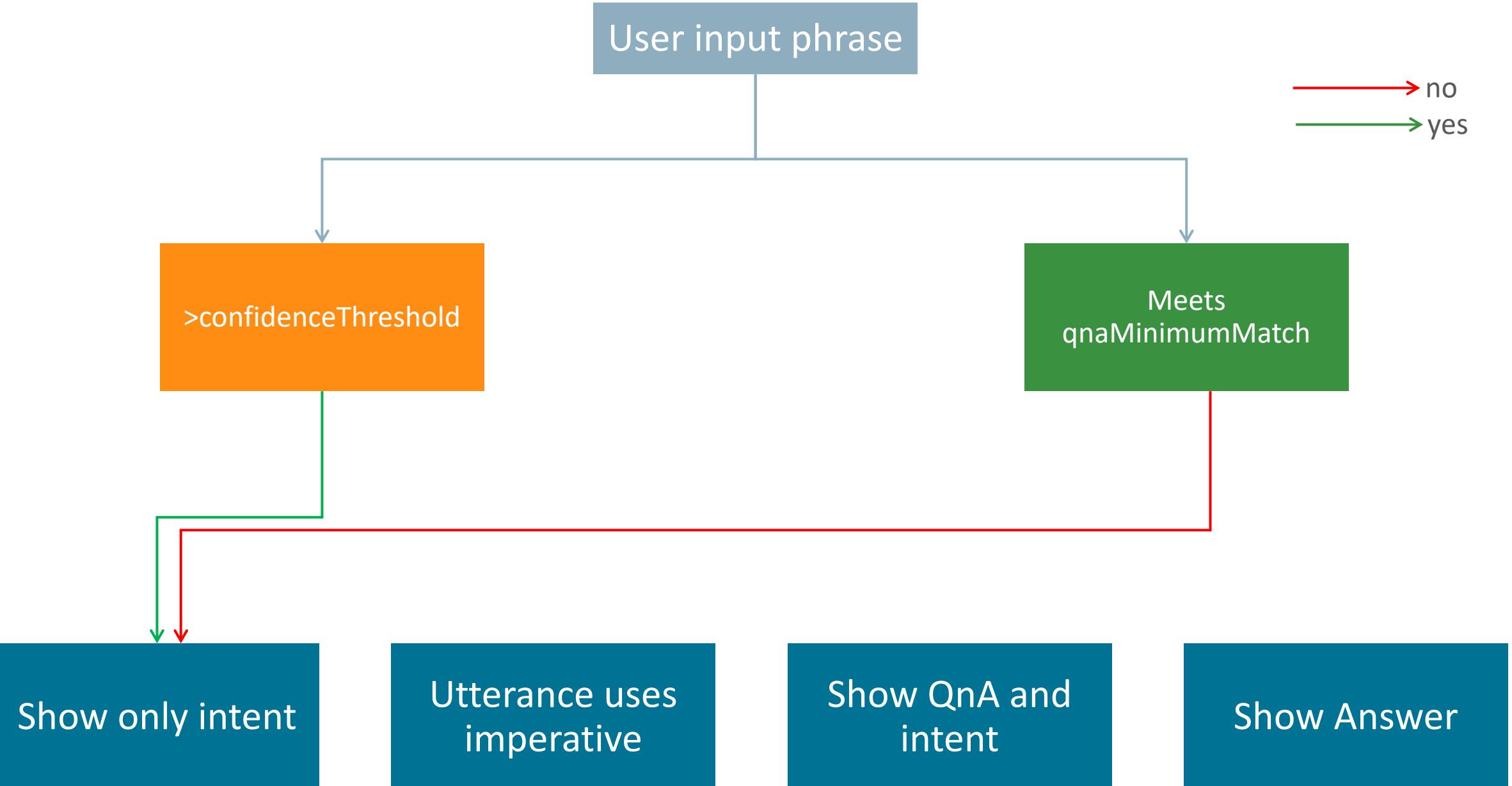
Trvl

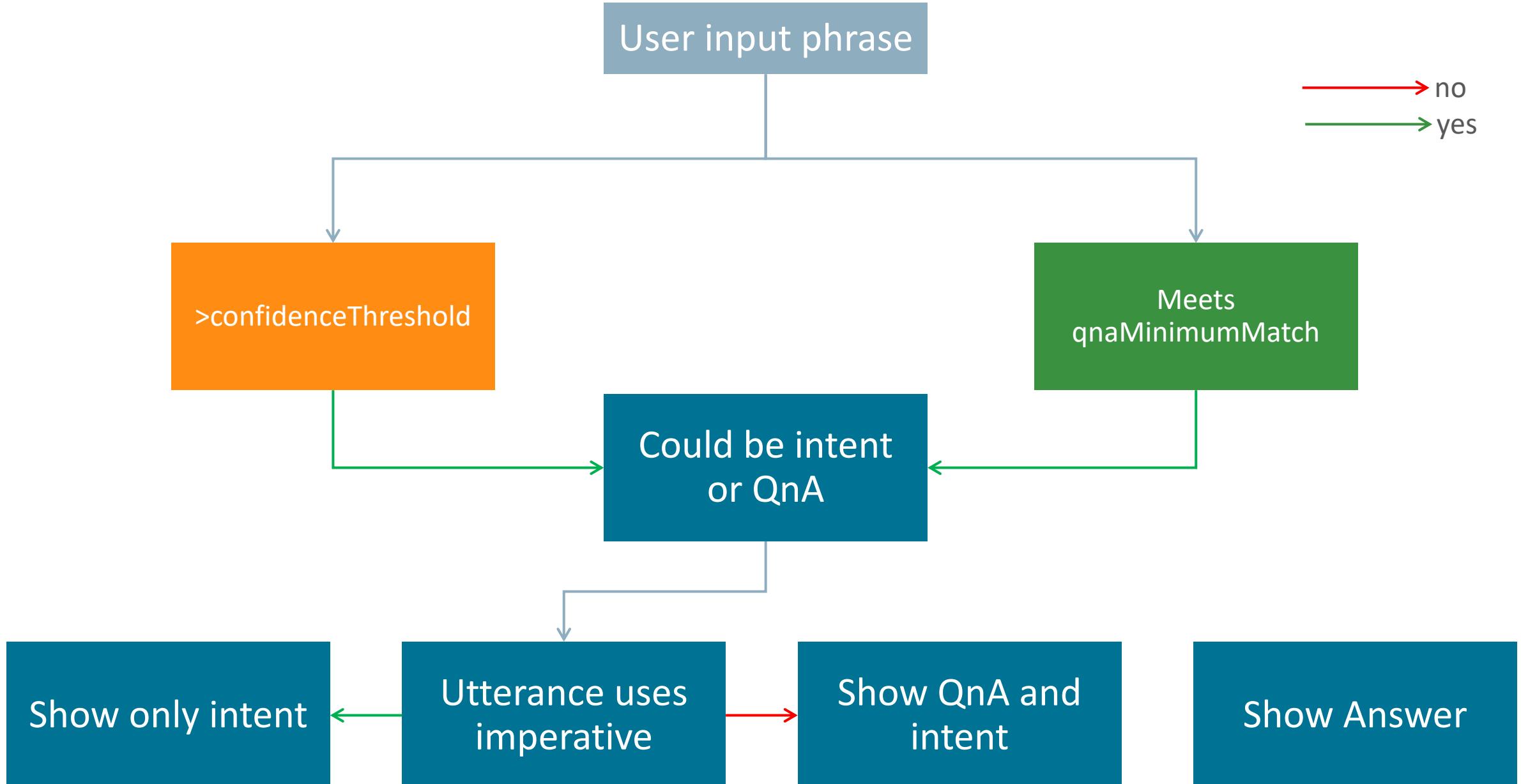
Drill in here!

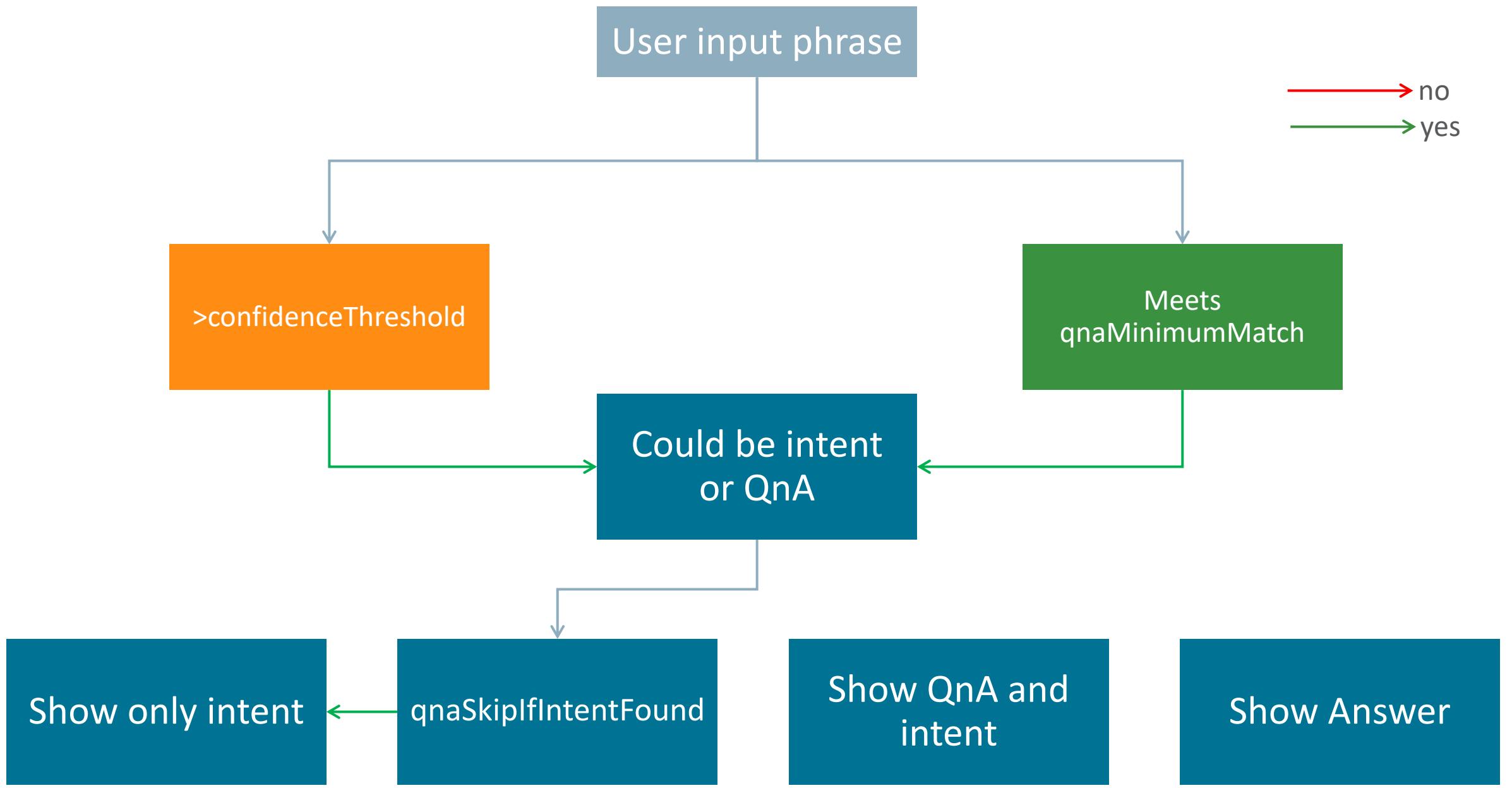
Pacc

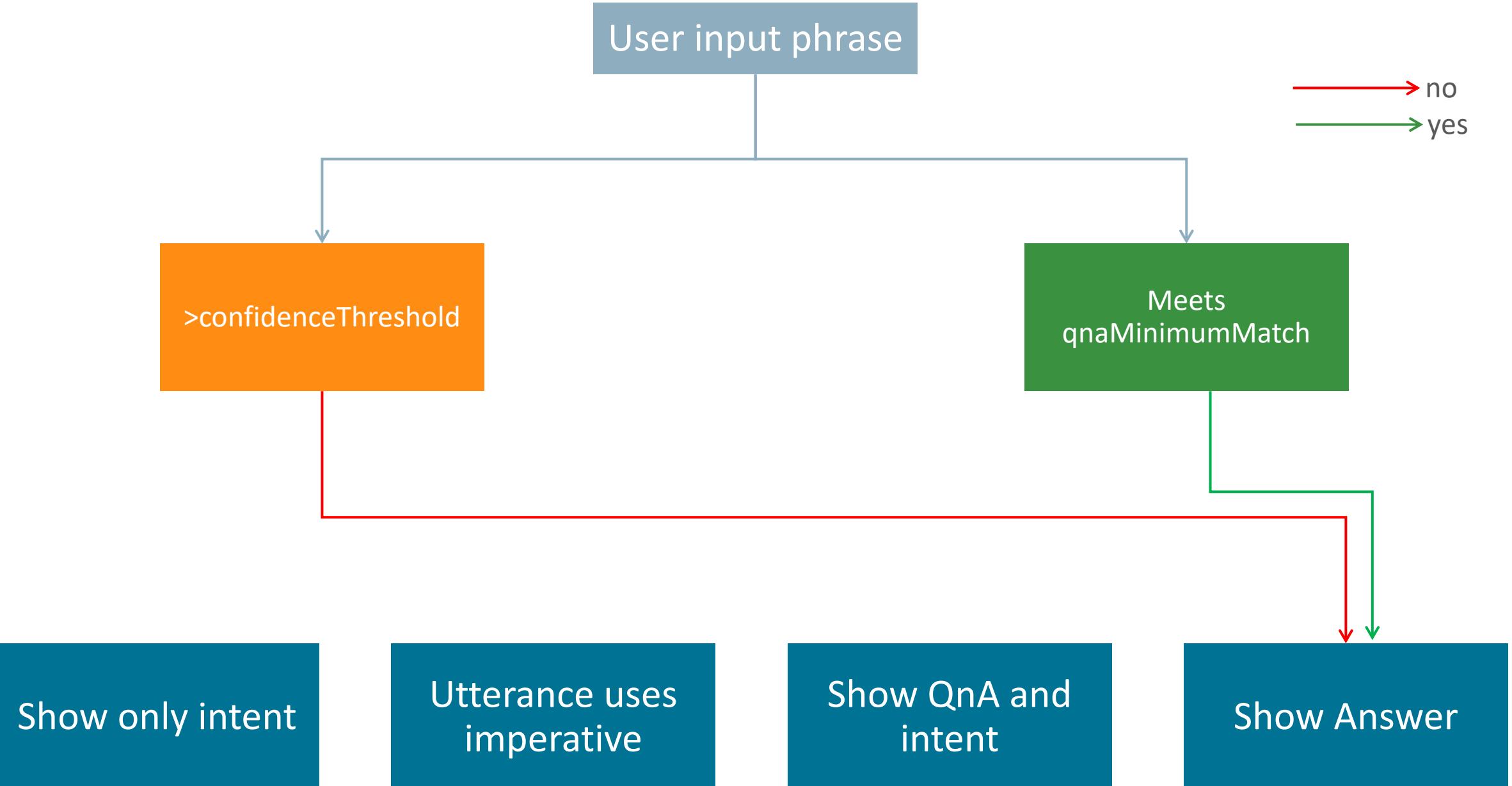
Drill in here!

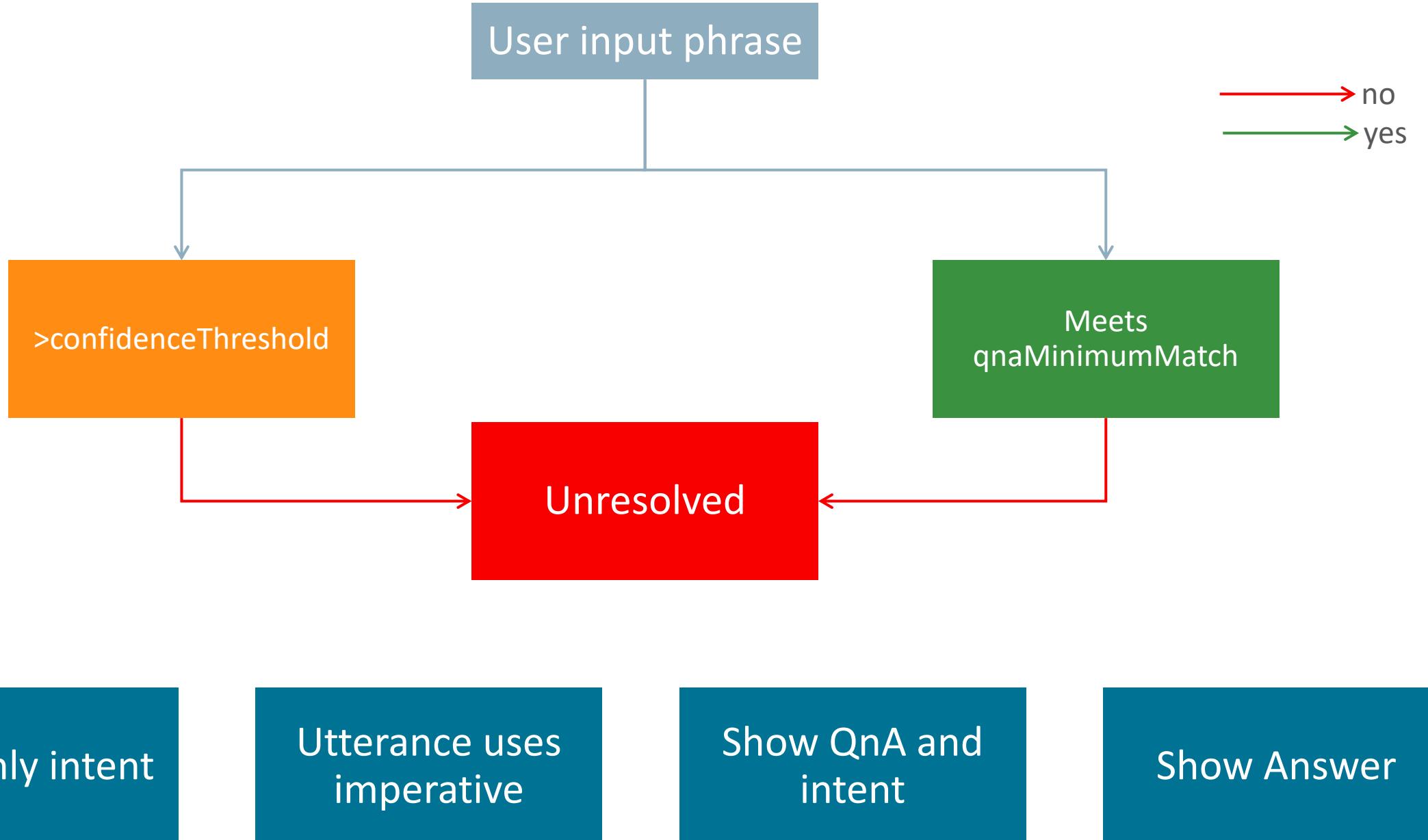












Q & A routing

- Transaction Config
 - Input is then treated as intent
- Question Config
 - Ensures QnA shown first in choice dialog

The screenshot shows the Oracle Digital Assistant interface for Q&A Routing Config. On the left is a sidebar with icons for General, Configuration, Digital Assistant, Events, and Q&A Routing Config. The Q&A Routing Config tab is selected. The main area has tabs for General, Configuration, Digital Assistant, Events, and Q&A Routing Config. The Q&A Routing Config tab is active. It contains sections for Transaction Config and Question Config, each with input fields for additional request verbs, request verbs expansion, and request sentence prefixes. There are also 'Reset to Defaults' buttons for each section.

Hey, I wasn't sure, do you want to...

[Check our our FAQ on this topic](#)

[Reset password](#)

Topic agenda

- 1 ➤ Introducing QnA
- 2 ➤ Answer intents
- 3 ➤ QnA and Digital Assistant
- 4 ➤ Reusable QnA skill

Answer intents

- QnA styles of questions can be modelled as intents
 - Aim to resolve sentence level “understanding” rather than simply search
 - “One turn” – displays answer only then completes state
 - No YAML required
- Like intents, has to be trained with at least 5 utterances
- Switch on optimize for answer intents
 - Found under skill settings 

▲ Description

Conversation Name *

Opening times

Name *

OpeningTimesQnA

Description

Answer

We are open from 9 am until 5pm Monday to Saturday and are closed all day on Sunday.

Examples ?

Filter

Enter your example utterances here.

Are you open on Sunday?

Opening times

What are the store times

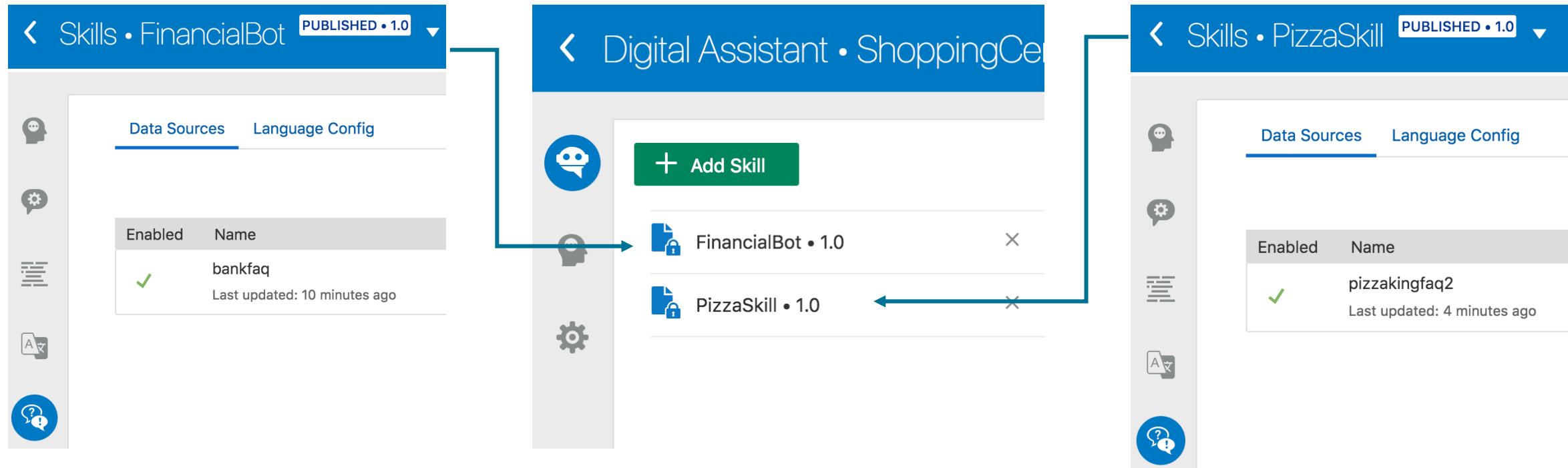
What is the store opening hours

When are you open

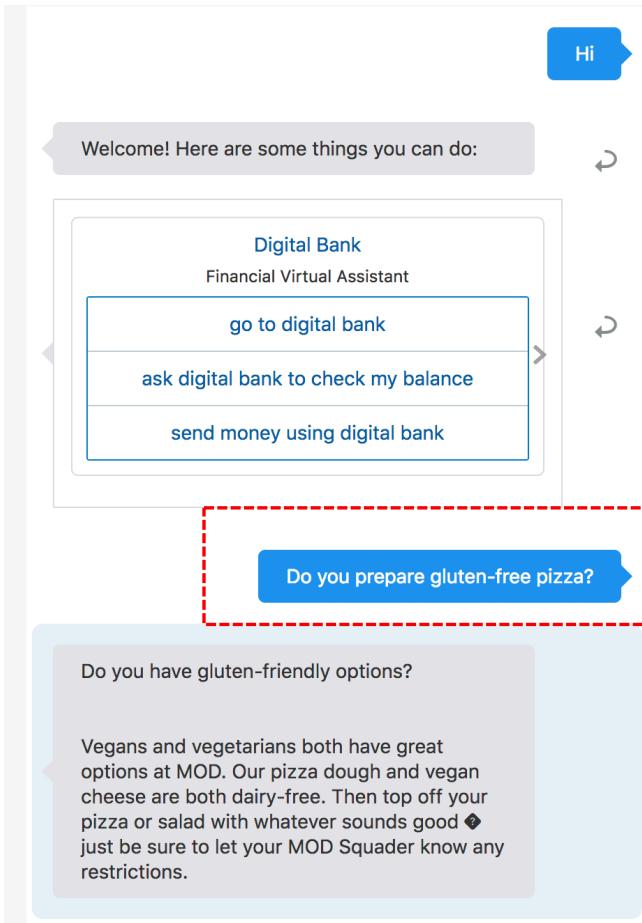
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Evaluate routing behavior



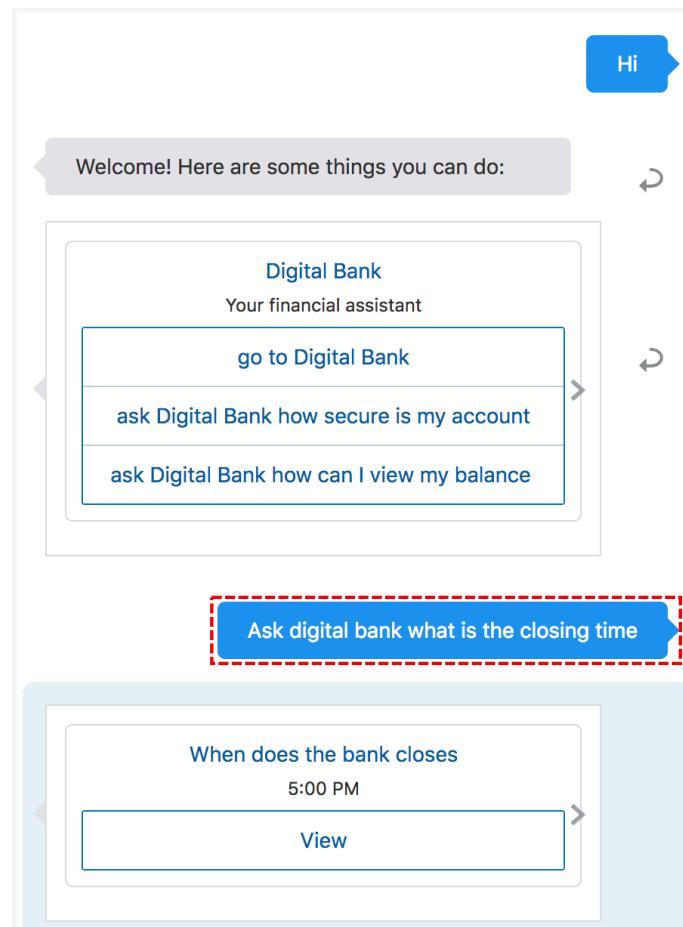
Implicit invocation



Routing

| Action | Details |
|---------------------------------|---|
| Router response | Skill: PizzaSkill Intent: Ask Question Score: 84.23% |
| Start routing user message | Sentence: Do you prepare gluten-free pizza? Reformed Sentence: Do you prepare gluten-free pizza? |
| Starting context-aware routing. | Conversation State: START_FIRST_FLOW |

Explicit invocation



Routing

| Action | Details | Payload |
|---------------------------------|---|--|
| Router response | Skill: Digital Bank Intent: Ask Question | Score: 0% View JSON |
| Start routing user message | Sentence: Ask digital bank what is the closing time Reformed Sentence: Ask digital bank what is the closing time | View JSON |
| Starting context-aware routing. | Conversation State: START_FIRST_FLOW | View JSON |

Rules

| Details | Payload |
|---|---------------------------|
| Explicit invocation takes precedence over other flows in digital assistant context. | View JSON |

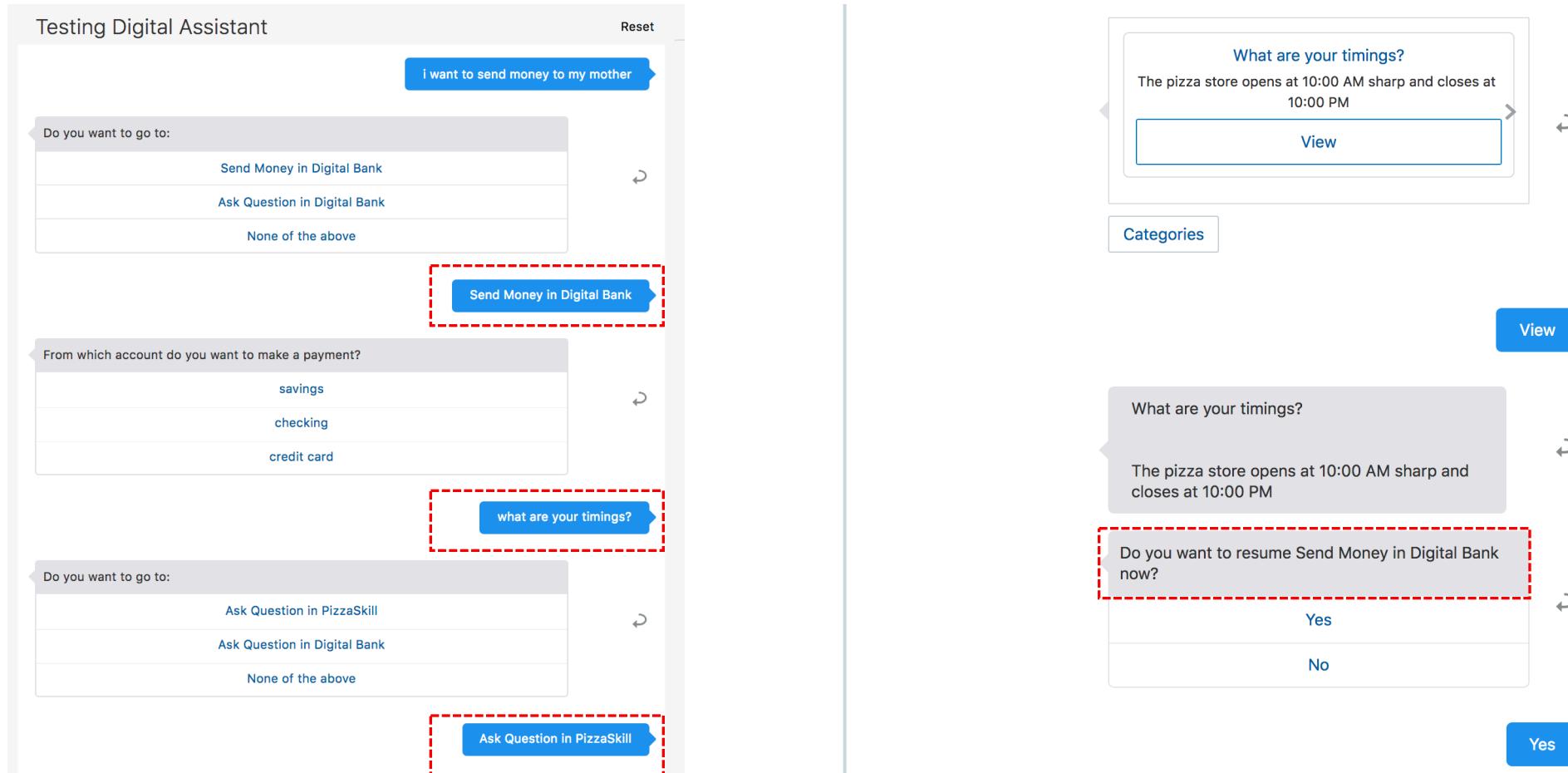
Ambiguous utterance

The image displays two side-by-side screenshots of a digital assistant interface titled "Testing Digital Assistant".

Left Screenshot: The user has typed "what are your timings" into the input field. Below the input field, a list of options is shown, with the second option, "Ask Question in Digital Bank", highlighted by a red dashed box. A blue button labeled "Ask Question in Digital Bank" is also highlighted with a red dashed box. The response card below shows the question "What are your timings?" and the answer "The bank opens at 10:00 AM sharp and closes at 5:00 PM". A "View" button is present in the response card.

Right Screenshot: The user has typed "what are your timings" into the input field. Below the input field, a list of options is shown, with the first option, "Ask Question in PizzaSkill", highlighted by a red dashed box. A blue button labeled "Ask Question in PizzaSkill" is also highlighted with a red dashed box. The response card below shows the question "What are your timings?" and the answer "The pizza store opens at 10:00 AM sharp and closes at 10:00 PM". A "View" button is present in the response card.

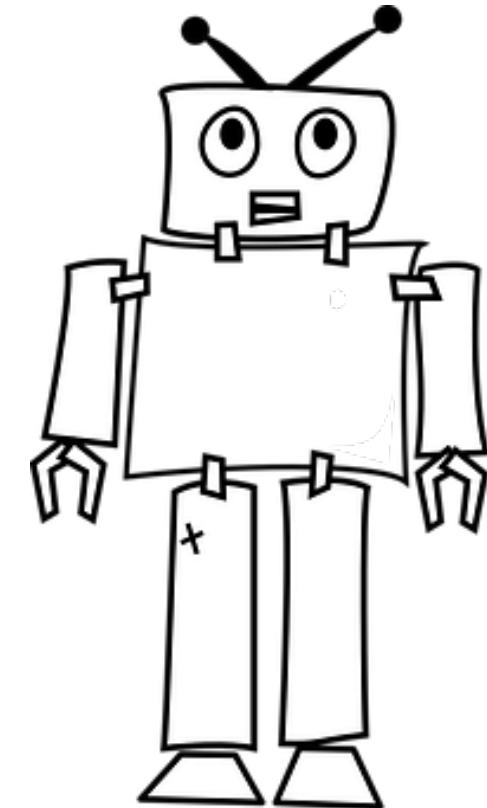
Non sequitur



Topic agenda

- 1 ➤ Introducing QnA
- 2 ➤ Answer intents
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- 4 ➤ Reusable QnA skill

How might you **reuse** and use
multiple QnA within a digital
assistant?



Options for how you might use QnA

- Each skill has its own QnA as required
 - Modular and simplest option
- Calling QnA in a different skill
 - Route to a specific QnA based on conversation context
 - Using the botName and QnaBotName properties that belong to **System.Intent** and **System.Qna** component
- Separate QnA only skill used by the DA
 - FAQ (QnA skill) may be shown upfront in welcome message
 - QnA maintained in single place without impacting other skills

Approach 1: Calling QnA in a different skill

FinancialBot

```
qna:  
  component: "System.QnA"  
  properties:  
    botName: "CorpFinancialBot"  
    botVersion: "1.0"  
  transitions:  
  actions:  
    none: "unresolved"  
    next: "qna"  
unresolved:  
  
  component: "System.Output"  
  properties:  
    text: "Sorry I don't understand that question!"  
  transitions:  
    return: "unresolved"
```

CorpFinancialBot

```
1 metadata:  
2   platformVersion: "1.0"  
3 main: true  
4 name: "CorpFinancialBot"  
5 context:  
6   variables:  
7     greeting: "string"  
8     name: "string"  
9     terminateChoice: "string"  
10 states:  
11   qna:  
12     component: "System.QnA"  
13     transitions:  
14       actions:  
15         none: "unresolved"  
16         next: "qna"  
17   unresolved:  
18     component: "System.Output"  
19     properties:  
20       text: "Sorry, I did not find any match. Can you rephrase the question?"  
21     transitions:  
22       return: "done"
```

Demo – Calling QnA in a different skill

The screenshot shows the Oracle Cloud Skills interface. On the left, there is a sidebar with icons for various skill components. The main area displays two skill configurations:

- Skills • FinancialBot**: Shows a message "You haven't defined Q&A for this skill bot." with a "Tell me more" link and a "+ Q&A" button.
- Skills • CorpFinancialBot**: Shows a "Data Sources" section with a table:

| Enabled | Name | Type |
|---------|------------|------|
| ✓ | corfinance | CSV |

A message at the bottom states "Last updated: 2 minutes ago".

A large blue arrow points from the FinancialBot configuration towards the CorpFinancialBot configuration.

The screenshot shows the "FinancialBot Tester" interface. At the top, it says "Testing Skill" and has a "Reset" button. Below that, a question is displayed in a blue speech bubble: "Can I offer any banking facilities to my Channel Partners?". This question is highlighted with a red rounded rectangle. A response is shown in a grey speech bubble below: "Yes. Your Channel Partners can transfer funds to your company's account from their Corporate Internet Banking login".

Approach 2: Creating a separate QnA skill in DA

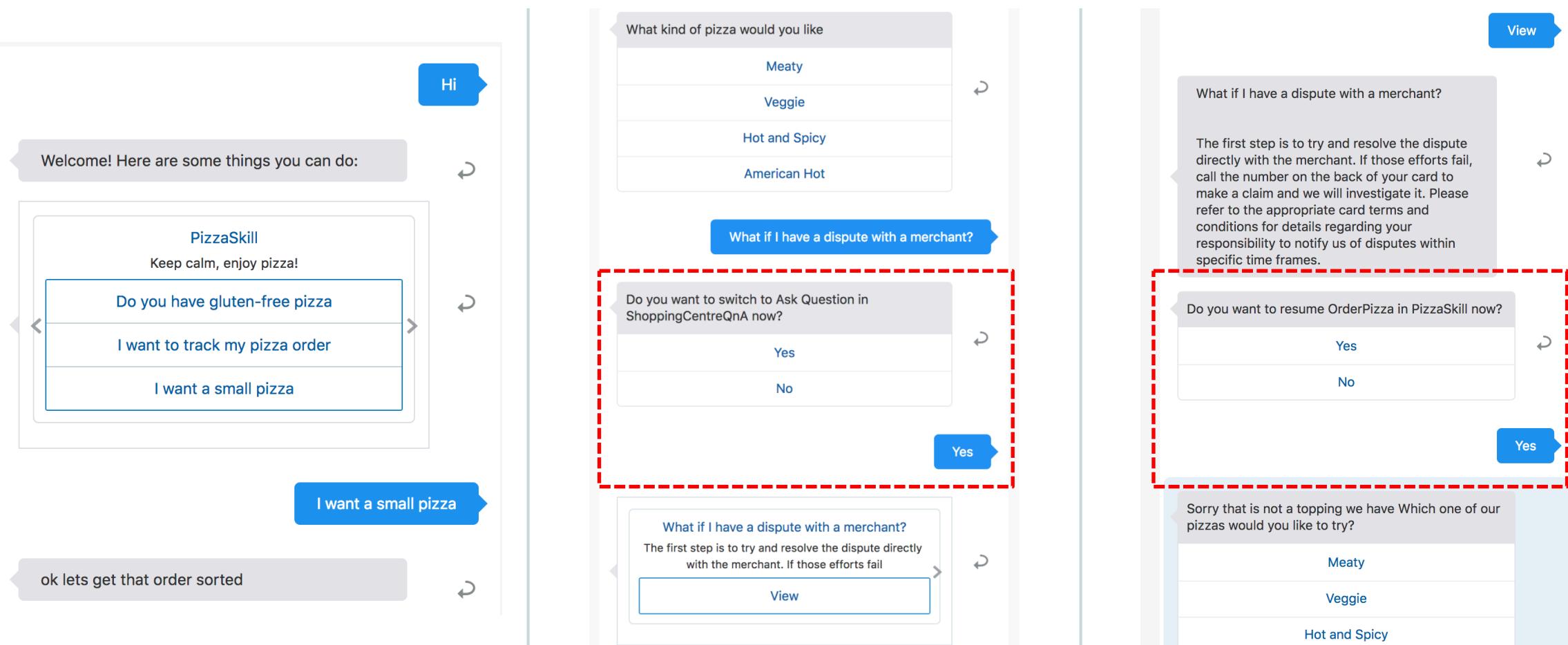
The screenshot shows the Oracle Digital Assistant interface. At the top, it says 'Digital Assistant • ShoppingCentreDA'. Below that is a list of skills:

- PizzaSkill • 1.0 (selected)
- FinancialBot • 1.0
- ShoppingCentreQnA • 1.0
- PizzaSkill • 1.0

A red dashed arrow points from the 'PizzaSkill • 1.0' entry to the right, labeled 'Pizza King skill'. Another red dashed arrow points from the 'Interaction Model' section to the right, labeled 'Shopping center FAQs skill'. A third red dashed arrow points from the 'Digital Assistant' header to the right, labeled 'Digital Bank Skill'. To the right of the interface, there is a table of FAQs:

| Enabled | Name | Type |
|---------|---|------|
| ✓ | DigitalBankFAQ Last updated: an hour ago | CSV |
| ✓ | PizzaKingFAQ Last updated: an hour ago | CSV |

Demo – Having a separate QnA skill in DA



Which approach is better?

- Calling QnA in different Bot
 - **More Flexibility:** BotML coding required, hence more control to the user the way he/she wants to invoke QnA
- Creating separate QnA only skill and consuming in DA
 - QnA skill will be shown upfront in welcome message!
 - No additional code required since the routing will be managed by DA

Integrated Cloud Applications & Platform Services



Oracle Digital Assistant Hands-On

TBD

ORACLE®