

ORACLE

# Resource bundles 101

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Use message bundles everywhere.  
No exceptions.

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Multilingual skills  
requirement

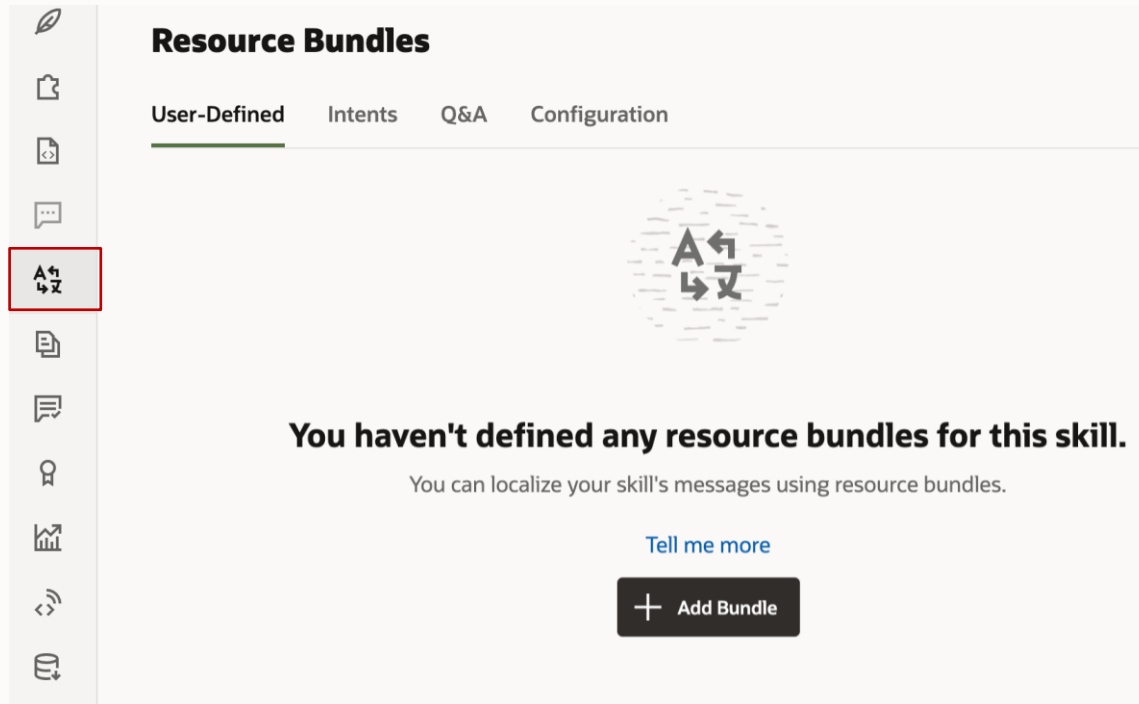
Helps you to organize  
messages

Required for displaying  
adaptive bot responses

Helps copy writers  
to do their job

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# Creating a resource bundle in a skill



You create resource bundles for skills and digital assistants

"Default" bundle

- Created to define messages for the base language

Option to import/export bundles

Resource bundle categories

- User defined
- Intent display names
- Answer intents (Q&A)
- Configuration

# Resource bundle entry edit panel

Open by using **Add Bundle** or **Add Key** buttons, or by selecting an existing message and clicking the **edit icon**

## Key

- Unique within a skill
- Used to reference message bundle

## Text

- String that gets displayed to the user

## Annotation

- Use to provide hints for the translator, the copy writer or simply to track changes

**+ Add Key**

**Create Entry** ×

Language

Key

 Required

Text

 Required

Annotation

# Best practices for resource bundle key names

No strict rules for defining key names

Names must be unique within skill

Recommendation is to add context to a key name

- Where is the key used?
  - Entity, dialog flow, dialog flow state
- What does a key represent?
  - Prompt, error, message, label, keywords




# "view by key" vs. "view by Language" resource bundle views

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The message bundle panel provides two view options

 View message strings by key

- When selected, shows all translation strings for a resource bundle key name
- Allows you to compare language translations and the base message string

 View by language

- When selected, shows all resource bundle keys for a language
- Allows to search messages by key names and by message content
- Easier to use when creating translations

# How to create translations of a resource bundle entry

The selected resource bundle view determines how to add translation

## View by key

- Select resource bundle key
- Click **Add Language** button to enter translation
- Select or add language code to translate message to

## View by language

- Click **Add Language** button
- Set language to translate to
- Select the resource bundle key to translate
  - Resource bundle keys that have a translation for the selected language are not displayed in the list, giving you good control over what needs to be translated and what has been translated

+ Add Language

**Create Entry** ×

Key

Language  
 ▼

Text

Annotation

Create Entry





## What you should know about translated message

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” A missing translation of a message does not mean the end of a conversation with digital assistants

The user language is either detected by the digital assistant or set by a configuration

`profile.languageTag` built-in variable holds the two letter country code of the user language

- Set manually using "set variable" template

If `profile.languageTag` is set, then digital assistant tries to lookup message strings for that language

- ODA uses base string if no translation found

To enable digital assistant to also understand a foreign language, use a translation service or enable one of the natively supported languages



Apache FreeMarker expressions are used in components, entities, and skill configurations to reference resource bundle keys

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"rb" is the system-level variable that points to the resource bundle

`${rb('resource_key')}`

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# Accessing resource bundles using Apache FreeMarker

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Resource bundle key-name and message

welcome.message

Hello, I am pleased to welcome you as a new chatbot user.

```
${rb('welcome.message')}
```

Resource bundle key-name and message with positional parameters

welcome.message

Hello `{0}` `{1}`, I am pleased to welcome you as a new chatbot user.

```
${rb('welcome.message', 'John', 'Doe')}
```

## About the ICU message format

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” Developing multilingual digital assistants requires more than translating messages

Message translation is more than changing a base string with its translation

Some languages use different word endings depending on the gender of the user

Plurals often require a different word endings

- "You have one item in your shopping cart"
- " You have two items in your shopping cart"

Numbers and dates may require a different formatting based on the user's local region

ICU message format allows you to build dynamic messages to handle all of these

# Popular ICU message formats: Named parameters

Resource bundle string

```
Hello {firstName} {lastName}, I am pleased to welcome you as a new chatbot user.
```

Named parameters make it easier for translators and for reviewers to understand a message

- Like index numbers, names can be used multiple times in a message
- Names can be moved in a message
- Names are case sensitive

```
#{rb('keyname', 'firstName,lastName',profile.firstName,profile.lastname)}
```

# Popular ICU message formats: Select type

Argument passed to message bundle can be used to print different messages

## Examples

- Different messages based on gender as needed in some foreign languages
- Different messages based on the channel type (e.g., web channel vs. SMS channel)

```
{gender, select,  
  male {... }  
  female {... }  
  other { ... }  
}
```

```
#{rb('keyname','gender', gender_var.value)}
```

# Popular ICU message formats: Plural type

Number input argument determines what message gets printed

- Used to apply plural word endings
- May be used to print different messages based on the plural number

```
{guests, plural,  
=0 {{host} does not give a party.}  
=1 {{host} invites one guest to her party.}  
=2 {{host} invites two guests to her party.}  
other {{host} got a real party going an invites # guests.}  
}
```

```
${rb('keyname',guests,host',<variable>.value, <variable>.value)}
```

”

ICU message formats can be nested and used in combination.



# Resource bundles best practices

Apply meaning to resource bundle keys

- Decide for a good naming convention
- Use annotations to provide hints to translators and reviewers

Use named parameters instead of positional parameters

- Easier to understand for translators

Use annotation fields in resource bundles for communication between the digital assistant developer and the language translator

Ensure translated versions of your messages apply the same bot persona and use of language (e.g., format vs relaxed language)



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