

Building AI-Powered Assistants with Oracle Digital Assistant

Student Guide
D1107928GC10



Copyright © 2024, Oracle and/or its affiliates.

Disclaimer

This document contains proprietary information and is protected by copyright and other intellectual property laws. The document may not be modified or altered in any way. Except where your use constitutes "fair use" under copyright law, you may not use, share, download, upload, copy, print, display, perform, reproduce, publish, license, post, transmit, or distribute this document in whole or in part without the express authorization of Oracle.

The information contained in this document is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

Restricted Rights Notice

If this documentation is delivered to the United States Government or anyone using the documentation on behalf of the United States Government, the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software" or "commercial computer software documentation" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. No other rights are granted to the U.S. Government.

Trademark Notice

Oracle®, Java, MySQL, and NetSuite are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Epyc, and the AMD logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

Third-Party Content, Products, and Services Disclaimer

This documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Table of Contents

- Module 1: Course Overview** 7
 - Welcome to Digital Assistant 7
 - Course Overview 8
 - Course Speakers 9
 - Course Contributors 10
 - For whom is this course intended? 11
 - Prerequisites 12
 - What does the Digital Assistant exam validate? 13
 - Course Outline 14
 - Digital Assistant Labs 15
 - Get the Most Out of This Course 16
 - Ratings and Feedback 17
- Module 2: Intro to Conversational AI and Oracle Digital Assistant** 18
 - What is Conversational AI? 18
 - Linguistic Model Concepts 28
 - What is Oracle Digital Assistant? 36
- Module 3: Conversation Design** 54
 - Conversation Design 54
 - What makes a Great Conversation? 67
 - The Conversational Project Timeline 73
 - The Human Skills You Need for a Conversational Project 91
 - The Fundamentals of Conversation Design 110
 - Conversation Design Focus Areas 119

Conversation Design Challenges	127
Module 4: Design and Build Intents and Entities	138
A Quick Introduction to NLP	138
Intent Design and Partitioning	143
NLP and Designing Intents	151
Utterance Design	159
Manual Utterance Creation	169
Crowdsourcing Utterance Creation	179
Testing the NLP Model	191
Introduction to Entities	198
Entity Types, Properties, and Extraction	205
Real-World Entity Extraction Challenges	217
Best Practices with Entities	230
Module 5: Dialog Flows, Custom Components and Backend Services	244
Introduction to Dialog Flows	244
Getting Started with the Visual Flow Designer	250
Dialog Flow Components	264
Dialog Flow Design Considerations	276
Testing Flows	286
Some Dialog Flow Best Practices	291
Introduction to Answer Intents in Dialog Flows	302
Implementing and Customizing Answer Intents	307
Introduction to Custom Components	319
The Bots Node SDK	324
Large Language Models in Digital Assistants	334
LLM Building Blocks in Dialog Flows	343

Module 6: Digital Assistants and Channels	350
Digital Assistant Basics	350
Routing in Digital Assistants	366
Configuration and Conversation Testing	380
Overview of User Channels	391
Web Channel Basics	402
Web Messenger Customization	409
Resource Bundles	418
Creating Multi-Language Digital Assistants	426
Additional Configuration of Multi-Language Digital Assistants	438

