Daml Certification Syllabus

Daml Fundamentals

April 2023

Digital Asset

Introduction

Daml Fundamentals Certification Path

The Daml Fundamentals certification path is a curriculum that leads to a foundational-level certification exam and capstone project. The certification path prepares a developer to build a simple Daml application through learning the basics of Daml programming and testing. The Daml Fundamentals certification path consists of three courses: **Functional Programming in Daml**, **Canton Ledger Programming in Daml,** and **Testing in Daml.**

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Certification Exam

Exam Details

This foundational-level exam is required before taking any of the more advanced certifications and training programs. It tests your knowledge of the concepts in the Daml Fundamentals certification path through a written exam and project-based assessment. Candidates must successfully complete the Daml Fundamentals certification path prior to taking the exam.

Candidates can start the exam at any time, and can take as much time as they need. Exam takers are welcome to reference the Daml Fundamentals curriculum, [Daml developer documentation](), and SDK as aids during the exam.

The 30 exam questions are separated into three categories, one category for each course in the Daml Fundamentals certification path curriculum. Within each category, questions are 50% theoretical, and 50% technical in nature. All questions carry the same weight, and add up to your total score. To be Daml-certified, you must have a total exam score of 75%. Candidates may have two attempts to pass the exam, before being required to retake the Daml Fundamentals certification path again.

Exam Topics

Functional Programming in Daml (14 questions)

- What makes Daml unique
- How to reason about functional programming and why it is important for creating applications in Daml
- SDK setup and configuration
- How to create and leverage functions
- Primitive data types
- Collection data structures
- Typeclasses and records
- Conditional control flow
- Iterative control flow
- Type variables

Canton Ledger Programming in Daml (11 questions)

- How to reason about the Canton ledger model and its components
- How to write and test templates
- How to identify and retrieve contracts
- Transaction trees

- Functor, applicative, and action
- Actions and loops

Testing in Daml (5 questions)

- How to reason about testing Daml code
- How to leverage Navigator for testing and debugging
- How to design test scripts
- How to use debug, trace, assert, abort, ensure, and handle exceptions

Capstone Project

Project Details

Once a candidate passes the exam, they will be asked to complete a mini backend-only capstone project, which is manually graded by the Digital Asset Training & Education team and based on a rubric to ensure objective and consistent scoring. The requirements for the project are detailed within the course, and the candidate will receive feedback after their submission is graded. The minimum passing score for the capstone project is 75%.

Candidates are allowed 2 chances to pass the capstone project. If a candidate fails to pass the capstone project on their 2nd attempt, they must retake the Daml Fundamentals Certification Path (all courses), and the exam, before attempting the capstone project again.

A review of the overall certification process for Daml Fundamentals:

1. The candidate completes all courses within the Daml Fundamentals certification path, including lessons, quizzes, and labs.
2. The candidate completes the certification exam with a minimum score of 75%.
3. The candidate completes the capstone project with a minimum score of 75% within 2 weeks of starting it.
4. The project is manually reviewed using a rubric, within two weeks. If the rubric score is 75% or higher, the candidate will be awarded the Daml Fundamentals certification.
5. If the score is below 75%, the candidate has one more week to adjust their work based on feedback from the Digital Asset Training & Education team. The project is reviewed for the 2nd time within two weeks. If the candidate scores 75% or higher on their second attempt, they will receive their Daml Fundamentals certificate. If they fail their second attempt, they must retake the Daml Fundamentals Certification Path (all courses), and the exam, before attempting the capstone project again.