



You completed this exam on *21/12/2022, 03:00*  
Your score is 100.00%

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CORRECT

## Transforming Data using Choices

Which of the following choice types are valid in Daml:

*`nonconsuming` choice*

*`consuming` choice*

*`transform` choice*

*`update` choice*

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CORRECT

## Choices and their Properties

Select all that are **true** for nonconsuming choices:

*Nonconsuming choices can be denoted with the keyword `nonconsuming`*

Nonconsuming choices change the contract's status from active to passive

*Nonconsuming choices do not archive the contract automatically*

Nonconsuming choices are a type of a fetch action

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CORRECT

# Templates

Select all that applies for templates in Daml:

*define who can create a contract*

*can describe contracts' data restrictions*

are instances of a contract

must have an execution and expiration date set

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CORRECT

## Template Syntax

Which of the following templates is valid?

```
template A
with
  p : Party
  i : Integer
observer p
```

```
template B with
  p : Party
  b : Bool
where
  signatory p
```

```
template C
with
  p : Party
  d : Decimal
where
  signatory t
```

```
template D with
  p : Party
where
  signatory p
```

```
template E
where
  p : Party
  t : Text
with
  maintainer p
```

A

B

C

D

E

---

CORRECT

## Parties and their Rights

Select the correct answer:

Only observers see when a contract has been created and archived

Only signatories see when a contract has been created and archived

*Both signatories and observers see when a contract has been created and archived*

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CORRECT

## Authorized Choices

Given the below Daml contracts, will the final submission in the script succeed?

```

module Main where

import Daml1.Script

template Question
  with
    party1: Party
    party2: Party
    party3: Party
    content: Text
  where
    signatory party2, party3
    controller party1 can
      BlankOutContent: ContractId Question
        do create this with content = ""
    controller party1, party3 can
      ModifyContent: ContractId Question
        with newContent: Text
        do create this with content = newContent

template QuestionProposal
  with
    q: Question
  where
    signatory q.party2
    observer q.party1
    controller q.party3 can
      Accept: ContractId Question
        do create q

test : Script ()
test = do
  party1 <- allocateParty "Party1"
  party2 <- allocateParty "Party2"
  party3 <- allocateParty "Party3"
  p <- submit party2 do
    createCmd QuestionProposal
      with
        q = Question
          with
            party1, party2, party3, content=""
  q <- submit party3 do exerciseCmd p Accept
  submit party1 do
    exerciseCmd q ModifyContent
      with
        newContent = "Foo"
  pure()

```

Yes, every action in the script is authorized by all the required authorizers

No, because party1 does not have any rights on the final contract

*No, because party3 has not authorized the final exercise in this context*

No, party3 must also be defined as a maintainer in the template

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CORRECT

## Daml Application Components

Which of the following APIs is exposed by every ledger that runs Daml?

*Ledger API*

Deploy API

Upload API

LedgerDeploy API

LedgerUpload API

JSON API

React libraries

Ledger bindings (Java, Scala, NodeJS)

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CORRECT

## Recommended Daml Application Architecture

Arrange the components as they are in the recommended application architecture (from highest level/frontend components, to lowest level/backend components) of a full-stack Daml application.

React Application Code

Daml React libraries

Typescript Generated Code

JSON API Server

Participant Node

Daml Drivers

Synchronization Technology

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CORRECT

## Interacting with a Daml Ledger

Select all that apply when interacting with a Daml Ledger:

*There is a time window in which the same command cannot be executed twice*

Transaction's ledger time must match exactly the ledger's system time, otherwise transaction will be rejected

*Each transaction is automatically assigned a ledger time by the participant server*

*In development environment requests sent to the ledger do not need to be authorized*

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CORRECT

## Authentication and Authorization

When accessing a Daml Ledger in a production environment:

The Ledger API is used to authenticate users

The JSON API validates the authorization of the token

*A third party service such as Auth0 can be used for access tokens if you want your Ledger API to require authorization*

*The Ledger API validates the authorization of the token*

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CORRECT

## Ledger API Structure

Select all that apply for the Ledger API:

*It is structured as a stream of commands to the ledger*

*It is structured as a stream of transactions and corresponding events from the ledger*

*Commands sent to the ledger are the only way an application can cause the state of the ledger to change*

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CORRECT

## Ledger API Services

The Ledger API can be used to:

*Bootstrap a Daml application with all the visible contracts that are active on a ledger*

Reset the ledger state on a production ledger

Creating a new ledger instance

*Submit commands to the ledger*

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CORRECT

## JSON API Services

Select all that apply: The JSON API can be used to:

*Create ledger parties*

*Create contracts*

Creating ledger instances

*Exercising choices*

---

CORRECT

## Daml TypeScript types

The @daml/types library contains TypeScript data types that correspond to (select all that apply)

*Party data type*

*Text data type*

*Integer data type*

CORRECT

## Interacting with a Daml Ledger via @daml/react library

With @daml/react library you can

*query Daml contracts*

*create Daml contracts*

*exercise choices on Daml contracts*

create ledger parties

create ledgers

*communicate with the JSON API via @daml/ledger library*

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CORRECT

## Interacting with a Daml Ledger

The command `ledger.fetchByKey(User.User, credentials.party);` uses the [ ✓ **@daml/ledger** ] library to make a call to the [ ✓ **JSON API** ]

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CORRECT

## JSON API Error messages

Select all that apply: the JSON API can return status codes indicating that:

*contract has been successfully created (200)*

*authentication is required (401)*

*party has been successfully allocated (200)*

*the exercise choice for a specific contract key was successfully executed (200)*

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CORRECT



# Daml Contract Data Types

Select all that apply: **On the frontend side**, Daml contract data types

are created when the Daml model is compiled to a DAR file

are deployed via the JSON API

*are generated via the TypeScript code generator*

*are generated from data types declared in the deployed DAR*

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CORRECT

# Daml Tooling

Select all that are **true** about Daml tools and their respective functionalities:

*Daml Sandbox enables rapid application prototyping by simulating a ledger*

*Daml Navigator is a front-end application that allows viewing templates and active and archived contracts, as well as exercising choices on contracts*

*Daml REPL allows you test and manipulate a ledger interactively*

Daml scripts are used for creating a ledger instance

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CORRECT

# Daml Assistant

Select all that apply: The following command `daml start --json-api-port=7899`

*starts the JSON API on localhost*

*starts the Navigator on localhost*

*starts the Sandbox on port 6865*

*starts the JSON API on port 7899*

starts the IDE

starts a node and connects is to the global testnet

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CORRECT

## Daml Sandbox

Select all that are true for Daml Sandbox:

- uses MySQL DB for persistent storage by default
  - can be started with `daml start` command*
  - can be started with `daml deploy sandbox` command
  - runs without authentication by default*
- 

CORRECT

## Daml Script

Daml Script can be used to (select all that apply):

- List known parties*
  - Create a contract of a given template*
  - Create a new ledger
  - Frontend and UI testing
- 

CORRECT

## The Navigator

Select all that are true for the Navigator

- The Navigator needs to be installed with `daml install navigator` command
- The Navigator can be started with `daml navigator server` command*
- The Navigator can be used to view templates*
- The Navigator can be used to view archived contracts*
- The Navigator can be used to create a DAML ledger

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CORRECT

## Daml REPL

Daml REPL can be used to (select all that apply):

*List known parties to a given participant*

*Ledger initialization*

*Allocate a party with a given display name and id hint*

Create a contract with a specific id

Upload new DAML Packages to a Ledger

Delete a ledger

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CORRECT

## Deploying to a Ledger

Which of the following service(s) can be used to deploy a DAR file **to a running ledger**:

*Ledger API*

Deploy API

LedgerDeploy API

Upload API

LedgerUpload API

*JSON API*

Sandbox

Navigator

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CORRECT

# Daml SDK Tools to Interact with a Deployed Daml Ledger

What Daml SDK tools can you use to inspect and modify a deployed ledger:

*Navigator*

Daml Cube

Sandbox

*Daml Script*

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CORRECT

## Deploying to a Ledger via Daml Assistant - I

Which of the following commands can be used to deploy a Daml model:

daml upload

*daml deploy*

*daml ledger upload-dar*

daml distribute

daml post

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CORRECT

## Deploying to a Ledger via Daml Assistant - II

The following command `daml deploy --host localhost --port 7575` will

Start the Sandbox on localhost:7575 as a deployment ledger

*Compile the current project to a DAR file*

*Deploy templates contained in the compiled DAR file*

Deploy the UI via JSON API running on localhost:6865

*Deploy the DAR to a ledger running on localhost:7575*

*Allocate the parties specified in the project configuration file*

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CORRECT

## Interacting with a deployed Daml Ledger

The following command `daml ledger allocate-parties --host localhost --port 6865 Alice Bob Carol` Will:

Authenticate against a ledger with an access token

*Allocate parties on a ledger running on localhost:6865*

Will use your client key (.pem) and certificate chain (.crt) files in a mutual authentication process

*Return the parties with the given display names, and their party ids*

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CORRECT

## Daml Supported Ledgers

Select all the ledgers where Daml can be deployed:

*Hyperledger Besu*

*PostgreSQL*

Hyperledger Indy

*Daml Hub*

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Exam completed!

