Quiz 5: Service Oriented Architecture I

Due Oct 7, 2016 at 11:59pm **Points** 100 **Questions** 4
Available Oct 4, 2016 at 8am - Oct 7, 2016 at 11:59pm 4 days **Time Limit** 60 Minutes

This quiz was locked Oct 7, 2016 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	60 minutes	93.57 out of 100

Score for this quiz: **93.57** out of 100
Submitted Oct 7, 2016 at 6:46pm
This attempt took 60 minutes.

Question 1

23.57 / 30 pts

Match the description with the design pattern below.

Correct!	**Standardize the operation signatures to enhance service discovery.**	Canonical Expression
Correct!	**Allow specialized forms of operations rather than one operation for all variations.**	Contract Denormalization
Correct!	**Centralize data models across a domain.**	Schema Centralization.
Correct!	**Standardize the data models for domains that are shared by services.**	Canonical Schema
Correct!	**Provide an enterprise-wide inventory of policies for specifying cross-cutting functionality.**	Policy Centralization
You Answered	**All applications use the same binding for communication.**	Protocol Bridge

	Correct Answer	Canonical Protocol
Correct!	**Allow two bindings for communication, a primary binding and a secondary binding that may be useful e.g. for efficient communication within a server cluster.**	Dual Protocol ▾
You Answered	**Support interoperability between different bindings.**	Legacy Wrapper ▾
	Correct Answer	Protocol Bridge
Correct!	**A service may provide more than one operations, data or binding contract.**	Concurrent Contracts ▾
Correct!	**A collection of procedures that encapsulates resources and domain logic, abstracting the details of the underlying domain.**	Service Facade ▾
Correct!	**Contracts include version information so service clients and providers can identify which version of a contract they are coupled to.**	Version Identification ▾
Correct!	**There is a standard mechanism across the service inventory for specifying the version of a service contract.**	Canonical Versioning ▾
Correct!	**A service contract should not include a dependency on the underlying implementation technology of the service.**	Decoupled Contract ▾
You Answered	**Legacy systems are encapsulated so that services are not tightly coupled to their implementation.**	Canonical Protocol ▾
	Correct Answer	Legacy Wrapper

Question 2

20 / 20 pts

List the principles of service design.

Your Answer:

Here's the list of principles

1. Standardized service contract: this is a reiteration of the idea of an interface for a distributed service.

2. Service Autonomy: This is an ability to service to execute without its performing being degraded by the execution of other services through replication.

3. Server reusability: Service that can be used in a wide range of different application contexts.

4. Service statelessness: This principle represents the scalibility of the services.

5. Service Discoverability: framework provides global service discovery as well as local service discoveries.

6. Service Composability: it's possible to compose software serrvices to perform a business task.

7. Loose Coupling: Service should be loosely coupled rather than being in a tight coupling.

8. Service Abstraction: Service abstraction is much necessary in business logics.

Question 3

20 / 20 pts

Match the aspect of the architecture design with the appropriate approach.

Correct! **Entry point for DDA clients.** Gateway pattern ▾

Correct! **Entry point for SOA clients.** Service facade pattern ▾

Correct! **Unit of data transfer for DDA.** Persistence data object ▾

Correct! **Unit of data transfer for SOA.**

Data transfer object. ▼

Correct! **DDA organization of operations on data types.** Constructor-oriented ▼

Correct! **SOA organization of operations on data types.** Observer-oriented. ▼

Question 4

30 / 30 pts

1. What is a covariant change in an operations contract?
2. What is a contravariant change in an operations contract?
3. When is it safe to make a covariant change in an operations contract?
4. When is it safe to make a contravariant change in an operations contract?

Your Answer:

1. Covariant change: Covariant changes are modification to the data model that produces a compatible data model. It simply means that "Adding of operations to the service interface and change of input data model"

2. Contravariant Change: Contravariant changes are the modification that are required for backward compatibility caused by service which is more restricted by the update. It simply means that "the removal of operations from the client callback interface and change of output data model."

Assume a procedure subtyping (T1 -> T2) <= (T1' funtyop T'2), (T1 and T2 are procedure types) is safe only if

3. The subtyping is covariant within the range.

4. The subtyping is contravariant in the domain.

Quiz Score: **93.57** out of 100