

# QUIZ 1 - SOA, Web Service, and Distributed Infrastructure

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1. What is a service? (Select 2 correct answers)
  - a. A component
  - b. An identity
  - c. A module
  - d. A port
2. What is a "thin client" in the client-server architecture?
  - a. Client having minimal compute resources.
  - b. Application code execution hardly occurs on the client.
  - c. Client with the lowest privileges.
  - d. The client's screen is small in size, so it cannot display big contents.
3. What is "marshalling" in inter-process communication?
  - a. Providing a queue where packets are placed while waiting to be served.
  - b. Protecting a server against malicious attacks.
  - c. Sending a warning to an unresponsive server.
  - d. Transforming an object to a data format suitable for transmission among heterogeneous hosts.
4. What can represent a service's logic? (Select 2 correct answers)
  - a. A task
  - b. A process
  - c. A bot
  - d. An agent
5. Which statement is INCORRECT about SOA?
  - a. It is a rebrand of Web services.
  - b. It is well-suited to bolster business automation.
  - c. It supports fast and cheap development of applications.
  - d. It is implementation-agnostic.
6. What are the data encoding standards commonly used in Web services? (Select 2 correct answers)
  - a. XML
  - b. SQL
  - c. JSON
  - d. HTTP
7. Which communication style supports many-to-many?
  - a. Publish/Subscribe
  - b. Store and Forward
  - c. Synchronous Messaging
  - d. Remote Procedure Call (RPC)
8. Goals of employing Web services include ... (Select 2 correct answers)
  - a. Enable the exploration to new business ventures.
  - b. Support application integration across business functions.
  - c. Extend the life of legacy systems.
  - d. Redefine the roles of existing applications.

9. Which element of a message contains key-value pairs?
- a. Message properties
  - b. Message headers
  - c. Message body
  - d. Message list
10. Examples of simple Web services are ... (Select 3 correct answers)
- a. News report
  - b. Courier reservation service
  - c. Inventory management service
  - d. Stock quote information
11. What are essential aspects of SOA? (Select 2 correct answers)
- a. Statelessness
  - b. Searchability
  - c. Tight coupling
  - d. Anonymity
12. Which are non-functional properties of a Web service? (Select 2 correct answers)
- a. Output formats
  - b. Mean time between failures
  - c. Price rate
  - d. Service endpoint
- 13.
14. [LO-1.1] Benefits of middleware are ... (Select 2 correct answers)
- a. Abstracting the hardware layer for the software layer
  - b. Bridging differences among servers
  - c. Delivering messages to multiple users
  - d. Simplifying the software developer's tasks

## QUIZ 2 - XML SCHEMA

A:

B:

## QUIZ 3 - SOAP AND WSDL

1. Roles of SOAP intermediaries: (Select 2 correct answers)
- a. Intercepting SOAP messages and converting them to locally defined objects.
  - b. Routing the SOAP messages to the right destination host.
  - c. Helping the SOAP server to attain scalability.
  - d. Processing the header blocks of a SOAP message.
2. Which component converts SOAP messages to programming language specific objects required by the Web service?

- a. SOAP client
  - b. SOAP server**
  - c. Web browser
  - d. Web server
3. Through the online interactive service, the teacher sends a poll to the students. Which message exchange pattern is suitable for that service?
- a. Request/response
  - b. Solicit/response
  - c. One-way
  - d. Notification
4. Benefits of WSDL 2.0 over WSDL 1.1: (Select 2 correct answers)
- a. More firewall friendly
  - b. More clarity
  - c. Simpler and easier to use
  - d. Compatibility support
5. Which statements are CORRECT about WSDL? (Select 2 correct answers)
- a. The part elements are nested in the message element.**
  - b. The message elements are nested in the operation element.
  - c. The operation elements are nested in the portType element.**
  - d. The message elements are nested in the types element.
6. SOAP communication styles: (Select 2 correct answers)
- a. CORBA
  - b. Publish/Subscribe
  - c. Document**
  - d. RPC**
7. A service description is needed so that ... (Select 2 correct answers)
- a. the service can run correctly.
  - b. the service and its detailed processes can be explained by the developer.
  - c. the service can be assembled with other services.**
  - d. the service can be published and discovered.**
8. Which protocol can be used as the transport protocol for SOAP? (Select 2 correct answers)
- a. HTTP**
  - b. SMTP**
  - c. UDP
  - d. TCP
9. Two parts of a WSDL document that can be defined separately but complement each other are ... (Select 2 correct answers)
- a. Logical design
  - b. Concrete implementation**
  - c. Abstract description**
  - d. Detailed prescription
10. Which element of WSDL contains the service endpoint(s)?
- a. service
  - b. port**
  - c. binding
  - d. portType
11. What does a WSDL document describe? (Select 2 correct answers)

- a. Data formats and protocols to access the service
  - b. Terms and conditions that a user must agree upon before accessing the service
  - c. The list of operations of the service
  - d. The location to get more details about the service
12. In an HTTP message, where should a SOAP message be contained?
- a. Header
  - b. Body
  - c. Object
  - d. Request
13. Downsides of SOAP: (Select 2 correct answers)
- a. Closed standards
  - b. Stateless
  - c. Not supporting serialization by reference
  - d. Unscalable
14. Which element of a SOAP message must exist one and only one?
- a. Body entry
  - b. Body
  - c. Header block
  - d. Header
15. The patient wants to know his/her doctor's schedule from the hospital service. Which message exchange pattern is suitable for that service?
- a. One-way
  - b. Solicit/response
  - c. Notification
  - d. Request/response
16. Which element renamings occur in WSDL 2.0? (Select 2 correct answers)
- a. The portType element to interface
  - b. The port element to endpoint
  - c. The binding element to extends
  - d. The description element to definitions
17. What are described in the service implementation? (Select 2 correct answers)
- a. Location of the service
  - b. Concrete protocol and data format
  - c. Data types used by the service
  - d. Incoming and/or outgoing parameter data
18. Elements in Abstract Service Description of WSDL: (Select 2 correct answers:)
- a. definitions
  - b. service
  - c. portType
  - d. message
19. Which communication style is used in this SOAP message?

```
<env:Body>  
  <w:ShowTemperature>  
    <location>Surabaya</location>  
  </w:ShowTemperature>  
</env:Body>
```

- a. CORBA
- b. Publish/Subscribe

- c. RPC
  - d. Document
- 20. What is the *de facto* language for describing the contract that a service exposes to its clients?
  - a. CDL
  - b. BPEL
  - c. WSDL
  - d. SOAP
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## QUIZ 4 - REST AND JSON

1. Which statement is INCORRECT about REST?
  - a. REST is rather resource-centric than message-centric.
  - b. REST was first introduced in Roy Fielding's dissertation.
  - c. REST defines a few protocols that run on top of HTTP.
  - d. REST is lighter and more concise than SOAP.
2. What are characteristics of a JSON String? (Select 2 correct answers)
  - a. A sequence of ASCII characters
  - b. May contain multiple values separated by commas
  - c. May contain two-character escape sequences
  - d. Enclosed by quotation marks
3. Besides digits, what characters may be accepted in JSON numbers? (Select 2 correct answers)
  - a. Infinity token
  - b. Minus sign
  - c. Decimal point
  - d. Extra leading zeros
4. Which ones are structural characters in JSON? (Select 3 correct answers)
  - a. ; (semicolon)
  - b. {} (braces)
  - c. [] (brackets)
  - d. , (comma)
5. The minimum and maximum numbers of values in a JSON array are ...
  - a. one and only one
  - b. zero and unbounded
  - c. one and unbounded
  - d. zero and one
6. Which statement is INCORRECT about the resource representation?
  - a. The resource representation is solely determined by the server.
  - b. The resource representation is placed in the payload of the HTTP response returned to the client application.
  - c. Relationships between resources (objects) in the data model are represented when they are sent to the client.
  - d. A resource representation reflects the state of a resource at a particular time.
7. JSON (JavaScript Object Notation) was inspired by ...
  - a. HTML Script
  - b. ECMAScript
  - c. JavaScript
  - d. Shell Script

8. Which URI structures are recommended? (Select 2 correct answers)
- a. [http://foo.service.com/purchase\\_orders/{id}](http://foo.service.com/purchase_orders/{id})
  - b. <http://foo.service.com/orders/{date}/{order-id}>
  - c. [http://foo.service.com/purchase\\_orders/{PO}](http://foo.service.com/purchase_orders/{PO})
  - d. <http://foo.service.com/POs/{items}>
9. Which HTTP method is used to modify a resource (in a RESTful web service)?
- a. GET
  - b. POST
  - c. PUT
  - d. DELETE
10. What are the benefits of statelessness in web services? (Select 2 correct answers)
- a. It supports scalability to handle increasing demands.
  - b. It reduces the bandwidth required to serve the client.
  - c. It removes the need to synchronize session data with another application/service.
  - d. It encourages the client to involve in processing web services.
11. Whitespace characters in JSON are ... (Select 3 correct answers)
- a. Vertical tabulation
  - b. Carriage return
  - c. Line feed
  - d. Space
12. Code points that must be escaped in JSON strings are ... (Select 3 correct answers)
- a. solidus
  - b. hex digits representing any Unicode code point
  - c. delete
  - d. quotation mark
13. Which statements are CORRECT about JSON? (Select 2 correct answers)
- a. JSON can be used for data interchange between different systems and platforms.
  - b. JSON is dependent on Java and its related technologies.
  - c. JSON represents numbers as sequences of digits.
  - d. JSON can specify the meaning of data it contains.
14. Which HTTP methods should NOT include a payload? (Select 2 correct answers)
- a. PUT
  - b. DELETE
  - c. POST
  - d. GET
15. The structure of a URI should be ... (Select 2 correct answers)
- a. Understandable
  - b. Straightforward
  - c. Predetermined
  - d. Composable
16. Which statement is INACCURATE about the issue of stateful vs stateless service?
- a. Stateless services require clients to send complete and independent requests.
  - b. Stateful services are harder to design and build than the stateless ones.
  - c. Stateless services perform better than stateful ones.
  - d. Stateful services transfer the onus to maintain states to the client applications.
17. Standard HTTP headers for content negotiation: (Select 3 correct answers)
- a. Accept-MIME
  - b. Accept-Language
  - c. Accept

**d. Accept-Encoding**

18. Referring to the following snippet:

```
[
  {
    "nrp": "c14200001",
    "name": "Sarah Summers"
  },
  {
    "nrp": "c14200002",
    "name": "Bill Winters"
  }
]
```

19. What does it contain?

- a. A dictionary of two objects
- b. An array of objects**
- c. Two objects with two name/value pairs
- d. A list of strings

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## QUIZ 5 - ini api

## QUIZ 6 - Microservices

1. In terms of composability, what benefits may microservices give? (Select 2 correct answers)
  - a. Microservices may be opened up for access by external partners or customers.
  - b. Microservices may be functionally reused for other purposes and applications.
  - c. Microservices may be replicated in another platform and consumed in different ways.
  - d. Microservices may be bonded together to strengthen the application's robustness.
2. What does SOA lack of? (Select 2 correct answers)
  - a. Many problems still linger on communication protocols, middleware, and the absence of clear guidance.**
  - b. No agreement in the industry on how to implement it properly.**
  - c. It is only a concept and no materialization whatsoever this far.
  - d. The idea is too complex to understand and to execute.

3. What are the guidelines to decompose a system's application into bounded contexts? (Select 2 correct answers)
  - a. In a nested fashion, separating it according to the organizational structure.
  - b. Making sure that the nested services are always visible to the consumers.
  - c. Splitting it sparingly, or else it breaks apart.
  - d. Breaking it all the way down as needed.
4. How does the deployment of a microservice-based application differ from that of a monolithic application? (Select 2 correct answers)
  - a. Change to a line of code requires just the affected microservice to be deployed.
  - b. Change to a line of code requires just the affected part of the monolithic application to be deployed.
  - c. Change to a line of code requires the entire microservices to be deployed.
  - d. Change to a line of code requires the whole monolithic application to be deployed.
5. Advantages of autonomous services are ... (Select 2 correct answers)
  - a. Easily replaceable
  - b. More resilient to attack
  - c. Isolated failure
  - d. Increased collaboration
6. Is it alright to create the bounded contexts along technical boundary?
  - a. Yes, it perfectly makes sense.
  - b. No, it would be problematic.
  - c. No, it does not make sense.
  - d. Yes, but it should not be the main determinant.
7. How do microservices differ from shared libraries? (Select 2 correct answers)
  - a. The shared libraries may become a point of coupling.
  - b. Technology heterogeneity is preserved in microservices.
  - c. The shared libraries naturally support system resiliency.
  - d. In microservices, the system's application can be decomposed into smaller components.
8. Why is heterogeneity in technology useful?
  - a. Getting the right technology for every task.
  - b. Understanding the technology trends.
  - c. Enabling diverse collaboration.
  - d. Avoiding vendor lock-in.
9. What are the advantages of small services? (Select 2 correct answers)
  - a. Cheap to build
  - b. Well defined
  - c. Highly portable
  - d. Easy to debug
10. How should scaling be carried out with microservices?
  - a. Burst the on-demand microservices in cloud.
  - b. Run parts of every microservice on smaller, less powerful hardware.
  - c. Replicate only the required microservices.
  - d. Scale the entire microservices as a whole.
11. With microservices, is mixing in different technologies risky?
  - a. Yes, mixing technologies brings complexity and overhead.
  - b. Yes, it demands high investment.
  - c. No, it is irrelevant.
  - d. No, due to the microservice's size, the risk is much reduced.
12. How is resilience provided by microservices?



- a. Redundancy and replication are the keys to a resilient system.
  - b. Multiple bulkheads need to be intentionally built in the microservice-based system.
  - c. Service boundaries are logical bulkheads to address the system's failure.
  - d. Every failed microservice has to be quickly and manually isolated from the rest of the system.
13. What characterize an evolutionary architect? (Select 3 correct answers):
- a. Changing the system's technical vision continually.
  - b. Conveying the system's technical vision.
  - c. Collaborating to carry out the system's technical vision.
  - d. Balancing all the trade-offs in making decisions.
14. What are characteristics of microservices? (Select 2 correct answers)
- a. Modular monolith
  - b. High cohesion
  - c. Loose coupling
  - d. Isolated environment
15. How can communications between microservices be seen in parallel with business concepts?
- a. To avoid chatty interfaces, communications between microservices must be limited to only passing important business ideas.
  - b. The same business terms and forms, sent around the organization, should be reflected in the microservices' interfaces.
  - c. The interfaces of microservices should drive how the organization's business is developed.
  - d. New business ideas should be advanced beyond what the microservices can offer.
16. What are some of the things that need more attention to leverage on the benefits of microservices? (Select 2 correct answers)
- a. Adopting microservices wholeheartedly by following the guidelines.
  - b. Ensuring scalability and resilience of the system.
  - c. Fast developing the microservices to avoid bottlenecks among teams.
  - d. Better dealing with deployment, testing, and monitoring.
17. How can tight coupling be prevented with bounded contexts?
- a. Ensuring that internal-only representations are not exposed unnecessarily in the shared model.
  - b. Making sure that the internal and external representations are different to each other.
  - c. Devising a dedicated model in each bounded context to predict external bounded contexts that may couple too tightly.
  - d. Limiting the external representations to a certain number of bounded contexts.
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