

SCEA Mock Architecture Principles

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1. Architecture Principles

4. Chapter: Architecture Principles

1. Architecture Principles Questions

4.1.1. What is considered a nonfunctional requirement of a system? Choose ...

Author: JavaChamp Team

What is considered a nonfunctional requirement of a system? Choose all what apply

Please choose all the answers that apply:

- Availability
- Compatibility
- Reliability
- Performance
- Cost

Check the answer of this question online at QuizOver.com:

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4.1.2. What is a true statement or a definition for Architecture?

Author: JavaChamp Team

What is a true statement or a definition for Architecture?

Please choose all the answers that apply:

- Architecture refers to implementation details of a system components
- Architecture is a high level representation of a system
- Architecture covers only the nonfunctional requirements of a system, leaving the functional requirements covered later by the developers
- An architecture of a reconfigurable/flexible system should shout out the purpose, the nature or the customer-service the system provides
- An architecture of a system abstracts its components and their behavior

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4.1.3. What does UML stand for and used for?

Author: JavaChamp Team

What does UML stand for and used for?

Please choose all the answers that apply:

- UML stands for Unified Markup Language and used to write an architecture requirements in a standard form
- UML stands for Unified Modeling Language and used to graphically represent a business process
- UML stands for Unified Modeling Language and used to graphically represent an architecture
- UML stands for Unidirectional Modeling Language and used to graphically represent an architecture

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4.1.4. What are the differences or similarities between architecture and d...

Author: JavaChamp Team

What are the differences or similarities between architecture and design?

Please choose all the answers that apply:

- Both are of the same high-level of abstraction
- Architecture is of higher level of abstraction
- Architecture concerns only about the nonfunctional requirements of a system (scalability,security...), whereas design concerns about the functionality required by a system
- In the design process, the system components internal details are elaborated based on the architecture
- Architecture and design are synonyms for the same task

Check the answer of this question online at QuizOver.com:

Question: [enterprise software architecture vs design](#)

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4.1.5. Let say that you are in the requirements gathering/analysis phase f...

Author: JavaChamp Team

Let say that you are in the requirements gathering/analysis phase for developing a web-based pet shop, what is considered a typical task in this phase ?

Please choose all the answers that apply:

- You ask the clients what functionality should the website provide to its customers
- You ask the clients how the web interface should look like in style and colors
- Technical Information like hardware used would be gathered
- Study whether the client requirements are possible to implement

Check the answer of this question online at QuizOver.com:

Question: [requirements gathering and analysis phase in software development](#)

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4.1.6. What is the output of requirements analysis phase in software devel...

Author: JavaChamp Team

What is the output of requirements analysis phase in software development?

Please choose only one answer:

- Domain models
- Detailed cost study
- Architecture of the system

Check the answer of this question online at QuizOver.com:

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Flashcards:

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4.1.7. which is a true statement?

Author: JavaChamp Team

which is a true statement?

Please choose all the answers that apply:

- a thick client provides rich functionality independently of the server
- an applet is considered a thin client
- HTML and JavaScript are considered thin clients
- A thick client requires more request/response cycles to a server than a thin client

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Question: [thick client and thin client](#)

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4.1.8. what does "Surface Area" term in architecture terminology mean?

Author: JavaChamp Team

what does "Surface Area" term in architecture terminology mean?

Please choose only one answer:

- Surface area is a measure of how small or big a class is
- Surface area is a measure of how small or big a subsystem is
- Surface area describes how much methods of a class are exposed or publicly provided to other classes

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Question: [surface area in software architecture terminology](#)

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4.1.9. What does Brittleness mean in Architecture Terminology?

Author: JavaChamp Team

What does Brittleness mean in Architecture Terminology?

Please choose only one answer:

- Brittleness means how vulnerable a system is to outside attacks
- Brittleness means how a small change in a part of a system requires a propagation of changes across the system
- Brittleness means how ready a system is to a sudden increase in the number of the visitors or users

Check the answer of this question online at QuizOver.com:

Question: [what does brittleness mean in enterprise architecture terminology](#)

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4.1.10. Which is a true statement? choose all what apply

Author: JavaChamp Team

Which is a true statement? choose all what apply

Please choose all the answers that apply:

- In Bidirectional-layered systems, the interaction between layers is always initiated by the higher layer
- Uni-directional Layering is also referred as strict layering
- In Uni-directional Layering, the services are flowing from lower to upper layers
- In unidirectional-layered systems, an entity at layer N can only interact with entities at layers N+1 and N-1 and no other layers

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Question: [bidirectional layering and unidirectional layering in a system](#)

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4.1.11. The software architect role must fulfill the following:

Author: Yasser Ibrahim

The software architect role must fulfill the following:

Please choose all the answers that apply:

- deploy the software artifacts into the application server.
- define the nonfunctional requirements such as the security, scalability, etc..
- choose the software design patterns and write java code.
- administer the enterprise resources like databases, legacy applications
- plan the software functional requirements

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Question: [what is the software architect role](#)

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4.1.12. In the Model-View-Controller (MVC) architecture,

Author: JavaChamp Team

In the Model-View-Controller (MVC) architecture,

Please choose all the answers that apply:

- A view renders to the client the contents of a particular part of the application data
- A view is responsible for fetching data directly from the data source
- A controller is the business logic, it responds to user actions
- A system can have multiple views for the same model
- The controller decides which view to display

Check the answer of this question online at QuizOver.com:

Question: [model-view-controller \(mvc\) architecture or pattern](#)

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4.1.13. What does an EJB container do?

Author: JavaChamp Team

What does an EJB container do?

Please choose all the answers that apply:

- It creates servlet instances
- It manages transactions
- It automatically synchronizes data in an entity bean's instance with corresponding data items in database
- It maintains pools of enterprise bean instances ready for incoming requests
- It creates and manages request and response objects

Check the answer of this question online at QuizOver.com:

Question: [what does an ejb container do](#)

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4.1.14. What does a web container do?

Author: JavaChamp Team

What does a web container do?

Please choose all the answers that apply:

- It provide runtime support for responding to client requests
- It manages transactions
- It manages servlets
- It maintains pools of enterprise bean instances ready for incoming requests

Check the answer of this question online at QuizOver.com:

Question: [what does a web container do](#)

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4.1.15. What may an EAR (An Enterprise ARchive) file contain?

Author: JavaChamp Team

What may an EAR (An Enterprise ARchive) file contain?

Please choose all the answers that apply:

- A Web module (.war file)
- An Enterprise Java Bean module (.jar file)
- Java applets
- Deployment descriptors (xml files)
- Stand-alone desktop java application client
- EJB container

Check the answer of this question online at QuizOver.com:

Question: [what does ear file contain](#)

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4.1.16. Which of the following is a true statement? choose all what apply

Author: JavaChamp Team

Which of the following is a true statement? choose all what apply

Please choose all the answers that apply:

- JNDI is used to organize and locate resources like email or database resources,EJB instances,etc..
- JNDI provides naming and directory functionality to applications written in heterogenous diverse languages
- Java distributed programming systems (for example EJB) rely on JNDI

Check the answer of this question online at QuizOver.com:

Question: [what does jndi do in java](#)

Flashcards:

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4.1.17. Consider the following scenario,
you would like to make two applic...

Author: JavaChamp Team

Consider the following scenario,

you would like to make two applications written in two different languages (one in java) to communicate with each other, what protocol would be appropriate in this case?

Please choose all the answers that apply:

- RMI
- Web services
- CORBA
- DCOM

Check the answer of this question online at QuizOver.com:

Question: [heterogeneous computing environments communication protocol](#)

Flashcards:

<http://www.quizover.com/flashcards/heterogeneous-computing-environments-communication-protocol?pdf=3044>

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4.1.18. User interface and business tiers can conduct communications using ...

Author: JavaChamp Team

User interface and business tiers can conduct communications using which of the following protocols or APIs:

Please choose all the answers that apply:

- HTTP
- RMI
- JDBC
- DCOM

Check the answer of this question online at QuizOver.com:

Question: [tier-to-tier communication protocols](#)

Flashcards:

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4.1.19. Which protocol is best suited to conduct communication between two ...

Author: JavaChamp Team

Which protocol is best suited to conduct communication between two applications, both written in java, but one runs in windows OS while the other in Linux OS? Choose all that apply

Please choose all the answers that apply:

- RMI
- CORBA
- DCOM

Check the answer of this question online at QuizOver.com:

Question: [inter-system communication protocols for different operating system](#)

Flashcards:

<http://www.quizover.com/flashcards/intersystem-communication-protocols-for-different-operating-system?pdf=3044>

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4.1.20. DCOM (Distributed Component Object Model) fits well with which OS ...

Author: JavaChamp Team

DCOM (Distributed Component Object Model) fits well with which OS deployment platform?

Please choose only one answer:

- Linux
- Apple Macintosh
- Windows
- AS400

Check the answer of this question online at QuizOver.com:

Question: [distributed component object model](#)

Flashcards:

<http://www.quizover.com/flashcards/distributed-component-object-model?pdf=3044>

Interactive Question:

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4.1.21. Which of the following tasks is classified as nonfunctional require...

Author: Yasser Ibrahim

Which of the following tasks is classified as nonfunctional requirement:

Please choose only one answer:

- Define user interface
- System Performance
- Define user roles and rights

Check the answer of this question online at QuizOver.com:

Question: [software architecture nonfunctional requirements](#)

Flashcards:

<http://www.quizover.com/flashcards/software-architecture-nonfunctional-requirements?pdf=3044>

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4.1.22. As a software architect, what does your client consider as a decisi...

Author: Yasser Ibrahim

As a software architect, what does your client consider as a decisive acceptance criteria for a new architecture:

Please choose only one answer:

- The developed system response time is less than 1 second
- The system covers 100% of the client functional requirements
- The system is available 24/7

Check the answer of this question online at QuizOver.com:

Question: [software architecture acceptance criteria](#)

Flashcards:

<http://www.quizover.com/flashcards/software-architecture-acceptance-criteria?pdf=3044>

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4.1.23. The software designer task is to:

Author: Yasser Ibrahim

The software designer task is to:

Please choose only one answer:

- Define the network topology
- Design the software application main building blocks and assign functionality to each subsystem
- Create a technical object model based on the domain model and the business use cases for each application subsystem

Check the answer of this question online at QuizOver.com:

Question: [enterprise software designer task](#)

Flashcards:

<http://www.quizover.com/flashcards/enterprise-software-designer-task?pdf=3044>

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4.1.24. You have been contracted to architect a brand new enterprise Java w...

Author: JavaChamp Team

You have been contracted to architect a brand new enterprise Java web-based accounting application for a major retail store in your country.

The users are the sales persons accessing the system from 500 outlets from all over the country using standard web-browsers and mobile devices.

The accounting information will be saved in a relational data bank.

The data integrity and consistency is of essence, you have to make sure that all sales transactions are intact.

Which technology stack would you use?

Please choose only one answer:

- Java Servlets and JDBC
- JSF, EJB3 and JPA
- JSP, DAO and JDBC
- JSF and JPA

Check the answer of this question online at QuizOver.com:

Question: [when to use java enterprise bean ejb3?](#)

Flashcards:

<http://www.quizover.com/flashcards/when-to-use-java-enterprise-bean-ejb3?pdf=3044>

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4.1.25. What is TRUE about HttpSession clustered replication?

Author: JavaChamp Team

What is TRUE about HttpSession clustered replication?

Please choose all the answers that apply:

- HttpSession clustered replication means redundant storing of the attributes of a HttpSession on nodes of a cluster
- HttpSession clustered replication means divide storing the attributes of a heavy HttpSession on nodes of a cluster
- It increases the application's availability
- It decreases the application's fault-tolerance
- It may impact performance

Check the answer of this question online at QuizOver.com:

Question: [how to httpsession clustered replication?](#)

Flashcards:

<http://www.quizover.com/flashcards/how-to-httpsession-clustered-replication?pdf=3044>

Interactive Question:

<http://www.quizover.com/question/how-to-httpsession-clustered-replication?pdf=3044>

4.1.26. What is the difference between active and passive replication?

Author: JavaChamp Team

What is the difference between active and passive replication?

Please choose all the answers that apply:

- They both provide fault tolerance
- In passive replication each client request is processed by all the replicas
- In active replication each client request is processed by all the replicas
- In passive replication there is only one primary server that processes client requests , where the remaining replicas work as back ups
- In passive replication before the back up is made from the primary server to the other replicas, the primary server sends the response to the client
- In active replication all the servers send a response to the client, but the client waits for the first response and ignore the rest since they are all identical

Check the answer of this question online at QuizOver.com:

Question: [what is passive replication?](#)

Flashcards:

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Interactive Question:

<http://www.quizover.com/question/what-is-passive-replication?pdf=3044>

4.1.27. You have been contacted by a company who has just launched a new e-...

Author: Yasser Ibrahim

You have been contacted by a company who has just launched a new e-commerce web application based on enterprise java technology. The head of IT operations complained to you that the application performs poorly even under moderate load. Knowing that the application is hosted on a modern server with multi-core processors and enough memory.

What would be your suggestion?

Please choose only one answer:

- Add more processors and memory to the host server (vertical scaling)
- Add more servers beside the main one and introduce load balancing (horizontal scaling)
- Use a profiler to hunt for performance bottlenecks and possible memory leaks or multi-threading deadlocks
- Change the hosting service provider

Check the answer of this question online at QuizOver.com:

Question: [enterprise java performance problems troubleshooting](#)

Flashcards:

<http://www.quizover.com/flashcards/enterprise-java-performance-problems-troubleshooting?pdf=3044>

Interactive Question:

<http://www.quizover.com/question/enterprise-java-performance-problems-troubleshooting?pdf=3044>

4.1.28. You noticed that your banking enterprise application is not scaling...

Author: JavaChamp Team

You noticed that your banking enterprise application is not scaling gracefully during peak time load. So you are planning to scale your infrastructure horizontally by investing your allocated budget in 3 additional web servers and 2 application servers. What could be the possible drawback of your decision?

Please choose only one answer:

- your system will become less manageable
- the overall performance will drop dramatically
- the system availability will decrease proportionally
- it will make it harder for future code refactoring

Check the answer of this question online at QuizOver.com:

Question: [horizontal scalability](#)

Flashcards:

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4.1.29. Your application is deployed using one application server. Consider...

Author: JavaChamp Team

Your application is deployed using one application server. Considerable amount of your content is static (.css, images, .html pages, etc..). You decided to move all static content to a web server, leaving the application server serving the dynamic requests.

What is NOT true about such action?

Please choose only one answer:

- Performance may be positively improved
- This action is called vertical scaling
- This may require a new machine to install the web server
- This is considered a separation of concerns (SoC) process
- The static content will not be part of the EAR files, hence it's change won't require a new EAR deployment

Check the answer of this question online at QuizOver.com:

Question: [separation of concerns](#)

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4.1.30. What is NOT true about Two-Tier Architecture?

Author: JavaChamp Team

What is NOT true about Two-Tier Architecture?

Please choose only one answer:

- is also known as Client–server model
- each client requires its own connection session
- it has poor scalability
- better security than n-tier since data flow is restricted between only 2 tiers
- is manageable

Check the answer of this question online at QuizOver.com:

Question: [two tier architecture disadvantages](#)

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<http://www.quizover.com/flashcards/two-tier-architecture-disadvantages?pdf=3044>

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