**1.  What do you understand by Monolithic Architecture?**

* Monolithic architecture is like a big container that contains all the software components of an application.
* This applications are clubbed inside a single package within the application.

**2. What are the main components of Microservices?**

* Containers, Clustering, and Orchestration
* IaC (Infrastructure as Code Conception)
* Cloud Infrastructure
* API Gateway
* Enterprise Service Bus
* Service Delivery

**3. Which are some famous companies that are using Microservice architecture?**

* Most large-scale software companies and websites such as Twitter, Netflix, Amazon are using microservices architecture instead of monolithic architecture.

**4. What are the biggest challenges in Microservice deployment?**

* It requires a heavy infrastructure setup also.
* Microservices require a heavy investment.
* We need excessive planning for managing operations overhead.
* It cost a lot in staff selection and maintenance.

**5. What are the three commonly used tools for Microservices?**

* Wiremock
* Docker
* Hysrix

**6. What do you understand by Spring Cloud?**

* Spring cloud is an Integration software used to integrate with external systems.
* It allows a microservices framework to build applications that perform restricted amounts of data processing.

**7. What are the main advantages of using Microservices?**

* Microservices provide great technology diversity. You can mix it easily with other frameworks, libraries, and databases.
* It provides excellent support for the minor and parallel team.
* It reduces the deployment time significantly.
* Independent deployment

**8. How does a Microservice architecture work?**

* An application is fragmented into loosely coupled various modules, each of which performs a distinct function.
* It is distributed across clouds and data centers.
* Under microservice architecture, an application can grow along with its requirements.

**9. What are the three types of tests used in Microservices?**

* Bottom Level Test
* Middle-Level Tests
* Top Level Tests

**10. What is the main difference between SOA and the Microservices Architecture?**

* SOA stands for Service Oriented Architecture.
* It is a collection of services used to communicate with each other through simple data passing or activity coordination.

**11. What are the most significant disadvantages of using Microservices?**

* It requires accurate pre-planning before use.
* It uses modular dependencies that are hard to calculate.
* The third-party applications are hard to control.
* More opportunities for malicious intrusions.
* Complete end-to-end testing is complex.
* Deployment Challenges.

**12. What is a Client certificate? What is its usage?**

* A client certificate is a digital certificate used to make authenticated requests to a remote server.
* A certificate is generated for each microservice.

**13. What are the different strategies used in Microservices deployment?**

* Multiple Service Instance per Host
* Service Instance per Host
* Service Instance per Container
* Serverless Deployment

**14. What are the most significant benefits of using microservices?**

* The most significant benefit of using microservices is that it builds an application to collect small autonomous services developed for a business domain.
* Business needs to change constantly, the development teams can rapidly build new apps components to meet the requirement.

**15. What do you understand by RESTful?**

* REST or RESTful stands for Representational State Transfer.
* The RESTful web service is an architectural style that helps computer systems to communicate over the internet.
* This web services make microservices easier to understand and implement.

**16. What are the most significant advantages of using Microservices?**

* Provide improved scalability
* Increased Agility
* Localized Complexity
* Provide fault isolation
* Smaller development teams
* You can easily upgrade the technology etc

**17. In which cases microservice architecture is best suited?**

* The microservice architecture is best suited for all tech devices such as desktop, web, mobile devices, Smart TVs, Wearable devices, etc.

**18. What are the principles Domain-Driven Design?**

* Focus on the core domain and domain logic.
* Base complex designs on models of the domain.
* Collaborate with the domain experts to improve the application model and resolve any emerging domain-related issues regularly.

**19. What do you understand by Domain-Driven Design?**

* Domain-Driven Design is an architectural style based on Object-Oriented Analysis Design concepts and principles.
* It is used to develop a complex system by connecting the related components of the software system into a continuously evolving system.

**20. What do you understand by semantic monitoring in Microservices architecture?**

* Semantic monitoring is used to combine the automated tests by monitoring the application.
* It is used to find out the reasons why your business is not getting more profits.

**21. What are the main differences between Microservices and Monolithic Architecture?**

|  |  |
| --- | --- |
| **Microservices** | **Monolithic Architecture** |
| It is a loosely coupled architecture. | It is primarily a tightly coupled architecture. |
| The service startup is fast in Microservices. | The service startup takes time as it is slow in Monolithic Architecture. |

**22. What do you understand by OAuth?**

* OAuth stands for Open Authorization protocol.
* This protocol allows you to access the client applications on HTTP for third-party providers GitHub, Facebook, etc.
* It also facilitates us to share resources stored on one site with another site without their credentials.

**23. What is Spring Cloud?**

* Spring Cloud is a collection of tools used by developers to quickly build some of the common patterns in distributed systems such as configuration management, circuit breakers, service discovery, intelligent routing, micro-proxy, control bus, one-time tokens, global locks, leadership election, distributed sessions, cluster state and more.

**24. What are Microservices?**

* Microservices are an architectural approach or style that is used to build applications.
* The microservice architecture provides a rapid, frequent and reliable delivery of large and complex applications.

**25. What is the use of containers in Microservices?**

* Containers are the easiest and effective method to manage microservice-based applications.
* They are like a software development platform.
* They also help us to develop and deploy individually.

**26. What is Spring Boot? Why is it used?**

* Spring Boot is an open-source, Java-based framework that provides developers an excellent platform for developing a stand-alone and production-grade spring application.
* It is easy to understand, reduces development time, and increases productivity. It automatically configures a claim based on the added dependencies of an application.

**27. What is the difference between Coupling and Cohesion?**

|  |  |
| --- | --- |
| **Coupling** | **Cohesion** |
| Coupling is specified as a relationship between module A and another module B. There are mainly three types of coupling | Cohesion is the relationship between 2 or more parts within a module. |
| Any module can be highly coupled (highly dependent), loosely coupled, and uncoupled with other modules. | The high cohesion within a module specifies that the module can perform a specific task with maximum efficiency on its own, without the need to communicate with other modules. |

**28. What do you understand by end-to-end Microservices testing?**

* End-to-end testing is used to validate that every process in the workflow is functioning correctly.
* It also ensures that the system works together as a whole and fulfills all the requirements.

**29. What is the method to override a Spring Boot project’s default properties?**

* We can do it by specifying the properties in application properties.
* The Spring MVC applications need the suffix and the prefix to be specified i.e For suffix:mvc.view.suffix: .jsp For prefix**:**mvc.view.prefix: /WEB-INF/

**30. What is the use of PACT in Microservices architecture?**

* PACT is an open-source tool used for testing interactions between service providers and consumers.
* It increases the reliability of the Microservices applications.