Please find the list of questions assigneted to your ID at the end of this document.

1 : Which is NOT a tenent of CAP theorem?

1. Partition tolerance
2. Availability
3. Consistency
4. Asynchronicity

Correct Answer: 4

2 : According to Reactive Manifesto, reactive systems are:

1. Consistent, Message Driven, Scalable, Responsive
2. Centralized, Data-Driven, Secure
3. Responsive, Message Driven, Elastic, and Resilient
4. Inflammatory on social media

Correct Answer: 3

3 : Which design pattern involves seperating read and write operations for a data store?

1. Command and Query Responsibility Segregation (CQRS)
2. Gateway Offloading
3. Sidecars
4. Event Sourcing

Correct Answer: 1

4 : This software deployment strategy involves rolling out new versions a few machines at a time in order to detect bugs in the production environment without downtime.

1. Red-Black Deployment
2. Canary Deployment
3. Blue-Green Deployment
4. Continuous Deployment

Correct Answer: 2

5 : Which is NOT A reason telemetry is important to microservice systems?

1. Load Balancing
2. Troubleshooting
3. Optimization
4. Net Neutrality

Correct Answer: 4

6 : Where would an RPC pattern API fit over a REST API?

1. CRUD Operations
2. Serving dynamic webpage data
3. Running a batch command on a server
4. Validating a login

Correct Answer: 3

7 : Which security strategy is employed in pure microservice architecture?

1. Castle Wall secutiry
2. Port Forwarding
3. Monolithic Security
4. Zero Trust security

Correct Answer: 4

8 : Which algorithm was discussed in class related to service discovery?

1. Keep Alive Algorithm
2. Raft Algorithm
3. Kruskal's Algorithm
4. Discovery Channel Algorithm

Correct Answer: 2

9 : Reactive Programming is

1. Event-driven
2. Synchronous
3. Blocking
4. High footprint

Correct Answer: 1

10 : What is Event sourcing code?

1. Creat for fail-safety
2. Extremely flexible
3. Increased Complexity
4. Excellent for real-time data

Correct Answer: 3

11 : Which one is distributed tracing tool?

1. Zipkin
2. ZUUL
3. Consul
4. Zookeeper

Correct Answer: 1

12 : Which API architectural style for real-time chat application ?

1. Rest
2. RPC
3. GraphQL
4. HTTP

Correct Answer: 2

13 : What are the advantages of service mash?

1. Service discovery

2. Detects Latency
3. Encrypts connection
4. All of the above

Correct Answer: 3

14 : What are some technologies commonly used to implement microservices?

1. Docker, Kubernetes
2. Service mesh
3. Cross cut
4. API

Correct Answer: 1

15 : How many layers in OSI?

1. 6
2. 4
3. 7
4. 8

Correct Answer: 3

16 : Which API style is more suitable for mobile app projects where performance (roundtrips and payload) is a priority?

1. Restful
2. RPC
3. GraphQL
4. none of above

Correct Answer: 3

17 : What main purpose of Command Query Responsibility Segregation (CQRS)

1. Keep database queries separate from database commands
2. Improve performance for only moible apps
3. Integrate queries and commands in a single database to guarantee scalability
4. Improve writes in database system

Correct Answer: 1

18 : What is gossip protocol?

1. A protocol ensures that the node replication is done
2. It's a a service for any type of system comunication
3. a communication protocol that allows state sharing in distributed systems
4. none of above

Correct Answer: 3

19 : What is Istio used for?

1. It allows organizations to deliver distributed applications at scale. It simplifies service-to-service network operations
2. It's a service for docker compose environments exclusively

3. It's a service for kubernetes cluster environments exclusively
4. It's service for distributed enviroments mainly on-cloud

Correct Answer: 1

20 : Different States of Circuit Breaker pattern

1. On, standby, off
2. Closed, Open, Half-Open
3. listening, established, off
4. It does not have states

Correct Answer: 2

21 : What are 4 principles of the Reactive Manifesto

1. Replication, containment, isolation, and delegation
2. Stay responsive, accept uncertainty, embrace failure
3. Replication, responsive, Isolation, and message driven
4. Responsive, resilient, elastic, and message driven

Correct Answer: 4

22 : What is Kubernetes

1. It's platform as a service (PaaS) products that use OS-level virtualization to deliver software in packages
2. It's a scheduling tool for Docker containers
3. is an open-source container orchestration system for automating software deployment, scaling, and management
4. none of above

Correct Answer: 3

23 : What's the difference between a microservices-oriented architecture (MOA) and a service-oriented architecture (SOA)?

1. An SOA uses intermediation technology to facilitate communication between services
2. An MOA shares as little data as possible while an SOA shares as much data as possible
3. A developer can run a monolithic application with SOA principles
4. All the above

Correct Answer: 4

24 : What does the term "bounded context" mean in relation to microservices?

1. How a microservice uses memory
2. The logical domain represented by the data consumed and emitted by a microservice according to the data's purpose, structure and meaning
3. The cloud provider's region where the microservice operates
4. The common characteristics within a collection of entities in one or many business domains

Correct Answer: 2

25 : Technology that lets you create useful IT services using resources that are traditionally bound to hardware.

1. Virtualization
2. Docker hub
3. Docker swarm
4. All the above

Correct Answer: 1

26 : How does a backing service apply to microservices?

1. It prevents a microservice from failing
2. It acts as a dedicated service that provides essential functionality required by a microservice
3. It shuts down a microservice when it can no longer handle the computing load
4. It coordinates network activity between microservices

Correct Answer: 2

27 : A technology that can connect to systems to capture streams of data store those streams process them as data arrives and transform them into new streams is called?

1. Kubernetes
2. Docker
3. Kafka
4. None of the above

Correct Answer: 3

28 : Apache Cassandra is a massively scalable open source _____ database.

1. SQL
2. NoSQL
3. NewSQL
4. PlSQL

Correct Answer: 2

29 : Which of the following are the main architectural styles for APIs

1. REST
2. GraphQL
3. RPC
4. All of the above

Correct Answer: 4

30 : In a microservice application what is the single point of entry?

1. Service Mesh
2. API Gateway
3. Side Car
4. Service Bus

Correct Answer: 2

31 : What is Kubernetes

1. Container creator
2. Container orchestration tool

3. Service Bus
4. Container orchestration tool

Correct Answer: 4

32 : Which of the following is a distributed tracing tool?

1. Zipkin
2. Istio
3. Consul
4. Eureka

Correct Answer: 1

33 : What is Istio?

1. A Container Orchestrator
2. A load balancer
3. A service mesh implementation
4. A kubernetes worker node

Correct Answer: 4

34 : Which device is used to distribute traffic to an application?

1. A Load Balancer
2. A Service Bus
3. A Circuit Breaker
4. Kubernetes

Correct Answer: 1

35 : Which tool is used for monitoring microservices

1. Docker
2. Istio
3. Zipkin
4. Kafka

Correct Answer: 3

36 : Which one of the following is not a Architectural Pattern?

1. Observer Pattern
2. Event Driven Pattern
3. Service Oriented Pattern
4. Layered Pattern

Correct Answer: 1

37 : What is the single point of entry for you microservices based application called?

1. Service Discovery
2. Service Mesh
3. API Gateway
4. None of the above

Correct Answer: 3

38 : What is Kubernetes?

1. Container system
2. Container orchestration system
3. Cloud provider
4. All of the above

Correct Answer: 2

39 : What is a core networking solution used to distribute traffic across multiple servers in a server farm

1. Load balancer
2. Circuit breaker
3. Service discovery
4. Config Server

Correct Answer: 1

40 : What is Istio?

1. Container orchestration system
2. A service mesh implementation
3. Container system
4. None of the above

Correct Answer: 2

41 : What are the properties of the CAP theorem?

1. Consistency
2. Availability
3. Partition Tolerance
4. ALl of the above

Correct Answer: 4

42 : What is the basic operational unit of Kubernetes?

1. Pod
2. Nodes
3. Task
4. Container

Correct Answer: 1

43 : To have a reactive programming system it should be?

1. Asynchronous
2. Event driven
3. Non-blocking
4. All of the above

Correct Answer: 4

44 : How many components are required to create Docker Image?

1. 4
2. 5
3. 3
4. 6

Correct Answer: 1

45 : Docker containerd is a core container runtime that manages?

1. Container and data security
2. Log analysis and reporting
3. The container lifecycle of its Linux or Windows host system
4. The resources necessary to run the container

Correct Answer: 3

46 : Which of the following is a common messaging pattern in Client/Server relationships?

1. handshake
2. request-response
3. one-way
4. solicit-response

Correct Answer: 2

47 : Data-Flow architecture is also called?

1. Data Transformation Architecture
2. Black Box Architecture
3. Cascade Architecture
4. Pipe and Filter Architecture

Correct Answer: 4

48 : API Gateway provides end point in which manner?

1. Single Entry Point
2. Multiple Entry Point
3. Two Tier Entry Point
4. N Tier Entry Point

Correct Answer: 1

49 : In Kubernetes, what is running on each node and ensures containers are running in a pod

1. Kubelet
2. Etcd
3. Pod
4. Scheduler

Correct Answer: 1

50 : What is a container management framework that keeps a list of instances that are ready to receive requests or be discovered by other services

1. Service Mesh
2. Service Discovery

3. Kubernetes
4. Istio

Correct Answer: 2

51 : All the following are components of JWT token except

1. Header
2. Payload
3. Signature
4. Footer

Correct Answer: 4

52 : Which Of the folowing is not an API style?

1. REST
2. RPC
3. Hql
4. GraphQL

Correct Answer: 3

53 : When we want wide column data which of the following database is most preferable?

1. MongoDB
2. RDBMS
3. Neo4j
4. Cassandra

Correct Answer: 4

54 : Kafka maintains feeds of messages in categories called

1. Chunks
2. Domains
3. Messages
4. Topics

Correct Answer: 4

55 : Microservices architecture is an architectural style that structures an application as a collection of services that are

1. Strongly coupled
2. Loosely coupled
3. Non-Independently deployable
4. none

Correct Answer: 2

56 : API Gateway is

1. single endpoint for UI
2. multiple endpoint for UI
3. not used in microservices
4. none

Correct Answer: 1

57 : Problems the Bulkhead Pattern Fixes

1. Propagation of Failure
2. Noisy Neighbors
3. Unusual Demand
4. All of above

Correct Answer: 4

58 : Strong Consistency offers up-to-date data but at the cost of high

1. latency
2. price
3. performance
4. risk

Correct Answer: 1

59 : Reactive Programming is

1. Synchronous
2. Asynchronous
3. Blocking
4. High memory

Correct Answer: 2

60 : When you include a Spring Cloud Circuit Breaker starter on your classpath a bean implementing this API will

1. munially be created
2. automatically be created
3. stop
4. start

Correct Answer: 2

61 : Server load balancing ensures application

1. delivery
2. scalability
3. reliability
4. all above

Correct Answer: 4

62 : Microservices architecture is an architectural style that structures an application as a collection of services that are

1. Strongly coupled
2. Loosely coupled
3. Non-Independently deployable
4. none

Correct Answer: 2

63 : API Gateway is

1. single endpoint for UI
2. multiple endpoint for UI
3. not used in microservices
4. none

Correct Answer: 1

64 : Problems the Bulkhead Pattern Fixes

1. Propagation of Failure
2. Noisy Neighbors
3. Unusual Demand
4. All of above

Correct Answer: 4

65 : Cap theorem try to prove that in a distributed system, Consistency, Availability, and Partition Tolerance cannot all be achieved at the same time.

1. true
2. FALSE
3.
4.

Correct Answer: 2

66 : behaviour of reactive programming

1. elastic
2. event driven
3. high resillence
4. all

Correct Answer: 4

67 : A single endpoint for UI:

1. Gateway
2. Discovery Server
3. Circuit breaker
4. Server Mesh

Correct Answer: 1

68 : limitation of monolith application include

1. Difficult to scale separate parts
2. Does no support small agile scrum teams
3. Hard to change
4. all

Correct Answer: 4

69 : One of the following is Fallacies of Distributed computing

1. The network is reliable
2. Latency is zero.
3. Bandwidth is infinite
4. all

Correct Answer: 4

70 : : Advantages of object relational mapping

1. Maintainability
2. Performance
3. Productivity
4. all

Correct Answer: 4

71 : One of the following is NOT a goal in reactive manifesto

1. Message driven
2. Resilience
3. Dockerization
4. Elasticity

Correct Answer: 3

72 : what are the advantage of microservices?

1. Independent deployment
2. Greater support for smaller and parallel team
3. Technology diversity
4. All

Correct Answer: 4

73 : Which one is not a scaling mechanism

1. Functional decomposition
2. Horizontal duplication
3. Data partitioning
4. None

Correct Answer: 4

74 : Which one is true about the CA from the CAP theorem

1. Clients can not see current data regarless of updates or deletes
2. System continues to operate as expected even with node failures
3. System continues to operate as expected despite network or message failures
4. All

Correct Answer: 2

75 : Strong consistency ofers uptodate data but at the cost of high latency

1. True
2. False
3. Can not be true

4. None

Correct Answer: 1

76 : The best analogic term to descirbe "resistance or force opposing the desired flow of data through software" is

1. Load balancing
2. Reactive programming
3. Back pressure
4. None

Correct Answer: 3

77 : Which one is false about reactive programming

1. It is suitable for CPU intensive operation
2. In reactive programming everything should be written in a reactive way
3. It is a programming with asynchronous data streams
4. None

Correct Answer: 1

78 : What one is true about services in microservice architecture

1. They are highly maintainable and testable
2. They are loosely coupled
3. They are independently deployable
4. All

Correct Answer: 4

79 : Microservices architecture describes that:

1. Having multiple services creates pleasing architecure
2. Services with a lot of complexity increase product value and yield high profit.
3. Managing and working on multiple services is great for developer growth and skillset.
4. Having small, well-defined services makes application more scalable, maintainable and flexible.

Correct Answer: 4

80 : In Microservices, the main purpose of discovery server is

1. To maintain registry of services and allow other service to discover the requested service
2. To implement security and allow/block services from discovering each other
3. To find what are the endpoints exposed by the services and what they are doing
4. To deploy all discovered services into the cloud

Correct Answer: 1

81 : Which of the following is the essential concept of Microservices

1. Service Discovery, Registration, and Monitoring
2. Configuration Management, Automation, and Resiliency
3. Containerization, Rapid Deployment, and Load Balancing
4. All of the above

Correct Answer: 4

82 : We want to manage, build and deploy many microservices, which is most suitable

1. virtual machines
2. Containerization platform
3. Single physical machine
4. Linux Operating System

Correct Answer: 2

83 : Which one will help us in building images and running them in containers

1. Maven/Gradle
2. Virtual Machine
3. Spring Cloud
4. Docker

Correct Answer: 4

84 : Which of the following is the best scaling option

1. Vertical Scaling (adding more processing power)
2. Horizontal Scaling (adding more nodes or machine)
3. None of the above
4. Depends on the system and requirements.

Correct Answer: 4

85 : Which of the following Database scaling patterns is always preferred and is the best ?

1. Read Replicas (Scaling for reads, One server "master" accepts any incoming write and read request. And all "slaves" server are available for data reads)
2. Multi-Master (Scaling out for writes, all servers are masters and allow any write and read. Applications will generally generate UUIDs for concurrent writes and to make id consistent)
3. Partitioning (Scaling for availability, by breaking data into smaller subsets. By partitioning data across multiple servers, also called "Sharding". Or By partitioning single table or groups data into frequently and rarely accessed categories)
4. Depends on the system requirements

Correct Answer: 4

86 : What is Kubernetes?

1. A Set of Container Platforms
2. An Open-Source Container Orchestration Platform
3. All of the above
4. None of the above

Correct Answer: 2

87 : In microservices, which tool is used for distributed tracing?

1. Docker
2. Zipkin
3. Eureka
4. Py

Correct Answer: 2

88 : Which of the following will help us when we implement a microservice?

1. Kubernetes
2. Service Mesh
3. Nginx
4. All of the above

Correct Answer: 4

89 : Which of the following types of scaling allows for efficient scaling of transactions and large data sets while facilitating fault isolation?

1. x-axis scaling
2. y-axis scaling
3. z-axis scaling
4. All of the above

Correct Answer: 2

90 : What is Istio?

1. Container orchestration system
2. A service mesh implementation
3. A security platform for microservices
4. All of the above

Correct Answer: 2

91 : What are some technologies commonly used to implement microservices?

1. Docker
2. Kubernetes
3. All of the above
4. None of the above

Correct Answer: 3

92 : What is the disadvantages of API Gateway

1. It requires routing rules
2. There is a possibility of a single point of failure
3. Risk of complexity due to all the API rules are in one place
4. All of the above

Correct Answer: 4

93 : Microservice is a subset of _____.

1. POA
2. SOA
3. Cloud
4. Spring

Correct Answer: 2

94 : Microservice archiecture prefer _____ data storage technology.

1. NoSQL Database
2. RDMS Database
3. Graph Database
4. Not dependent to any specific one

Correct Answer: 4

95 : Client use to consume API from microservices using _____.

1. Messaging
2. API
3. API Gateway
4. Proxy Server

Correct Answer: 3

96 : Istio is used for ..... design pattern.

1. CQRS
2. Saga
3. Service Mesh
4. None of the above

Correct Answer: 3

97 : What are the two components of CQRS pattern.

1. Query and Client
2. Command and Server
3. Server and client
4. Command and Query

Correct Answer: 4

98 : Eureka Discovery is an example of _____.

1. Client-side discovery
2. Server-side discovery
3. Both of the above
4. None of the above

Correct Answer: 1

99 : CQRS is an example of _____ design pattern.

1. Event Driven
2. Domain Driven
3. Function Driven
4. Event sourcing

Correct Answer: 1

100 : What do CAP stand for?

1. Consistency Availability Partitioning

2. Consistency Application Partitioning
3. Component Application Partitioning
4. None of the above

Correct Answer: 1

101 : Which is the key feature of Consul?

1. Health checking
2. Multi datacenter
3. Service discovery
4. All of the above

Correct Answer: 4

102 : What tool can we use for distributed tracing?

1. Zookeeper
2. Zipkin
3. Eureka
4. Consul

Correct Answer: 2

103 : Which of the following is not true regarding Kubernetes?

1. provides secret and configuration management
2. provides service discovery
3. build your application and deploy source code
4. . provides load balancing

Correct Answer: 3

104 : What is Availability

1. Is Reduced using redundancy
2. . Is the ability to minimize down time
3. . Can be achieved using heart beat
4. Is Calculated using MTTR & MTBF

Correct Answer: 1

105 : What are some technologies commonly used to implement microservices?

1. Kubernetes
2. Docker
3. All the above
4. None of the above

Correct Answer: 3

106 : Microservice could be considered as subset of

1. JAVA
2. POA
3. Cloud
4. SOA

Correct Answer: 4

107 : What does The Kano Model suggest?

1. Over time delightful innovations of now becomes another basic need for the future.
2. Every single year the amount of transistors in a processor and processing power will double.
3. If something can go wrong it will.
4. Any piece of software reflects the organizational structure that produced it.

Correct Answer: 1

108 : What could be an advantage of using CQRS + ES?

1. Having every action that changes the state recorded and not losing data.
2. Easily adding new features by replaying every event that is stored in the system
3. Separating reads from writes making them able to scale independently
4. All of the above

Correct Answer: 4

109 : Raft is implemented by:

1. Zookeeper
2. Consul
3. Chubby
4. All of the above

Correct Answer: 4

110 : What's the difference between a microservices-oriented architecture (MOA) and a service-oriented architecture (SOA)?

1. An SOA uses intermediation technology to facilitate communication between services
2. An MOA shares as little data as possible while an SOA shares as much data as possible
3. A developer can run a monolithic application with SOA principles
4. All of the above

Correct Answer: 4

111 : Where should we implement authentication?

1. At gateway
2. At each service
3. At one service
4. It depends on your system and requirements

Correct Answer: 4

112 : Which one is not component of JWT?

1. Header
2. Payload
3. Signature
4. None

Correct Answer: 4

113 : How many brokers will be marked as leaders for a partition in raft?

1. 1
2. 5
3. 0
4. All running brokers

Correct Answer: 1

114 : How does Kano Model improve the customer satisfaction of a product or feature?

1. By making the service of the product or feature highly available.
2. By using micro-services architecture to enable faster deployment and troubleshooting turnaround times.
3. By prioritizing features on a product roadmap based on the degree to which they are likely to satisfy customers.
4. By providing customers a less complicated product or feature.

Correct Answer: 3

115 : What are some truths about horizontal scaling and vertical scaling?

1. Horizontal scaling is usually cheaper, faster, and has a less complicated maintenance.
2. Vertical scaling has fewer periods of downtime. Horizontal scaling increases performance in small steps as needed.
3. Vertical scaling increases the risk of facing the single point of failure, but decreases the possibility of downtime.
4. Horizontal scaling can scale out the system as much as needed. Vertical scaling requires substantial financial investment.

Correct Answer: 4

116 : If you are building a social media app which requires fetching real-time data, what are some architecture types and frameworks that you can use to improve your app functionality?

1. Async/await, local database.
2. Cloud function, rest API.
3. Pub/sub, event-driven.
4. Second and third answer.

Correct Answer: 4

117 : What does the term "Asynchronouse" refer to?

1. Events/objects that do interact within the same system but do not occur at predetermined intervals and do not necessarily rely on each other's existence to function.
2. Events and processes that occur simultaneously or have dependencies relating to time or another event that relies on time.
3. A programming paradigm where programs are constructed by applying and composing functions.
4. First and third answer.

Correct Answer: 1

118 : Is highly consistency architecture the best choice for all types of systems?

1. Yes, Strong consistency is more important especially read-modify-write transactions. Systems that don't provide strong consistency in such situations create a burden for application developers, as

there's always a risk of putting your data into an inconsistent state.
2. Not always because the cost of implementing is expensive and risk for downtime is smaller.
3. Yes, it provides a great deal of flexibility. Data is not tied to resources or methods, so it can handle multiple types of calls, return different data formats and even change structurally with the correct implementation of hypermedia.
4. None of these answers.

Correct Answer: 4

119 : What does Kubernetes provide?

1. Allows running apps on physical servers. Use an existing operating system.
2. Provides fameworks that runs distributed systems resiliently. It allows automate deploys, scale deployments, deploy stateless or stateful applications, etc.
3. Provides multiple Virtual Machines on a single physical server's CPU. Applications can be isolated between Virtual Machines and provides a level of security as the information of one application cannot be freely accessed by another application.
4. Enable Isolation properties to share the Operating System (OS) among the applications. Has its own filesystem, share of CPU, memory, process space, and more.

Correct Answer: 2

120 : When should you use the GraphQL API Style?

1. When client-server architecture is completely separated from the server and you need a stateless server.
2. When you want to executes procedures and commands with ease and run remote workloads.
3. When you want to implement certain design patterns on new or existing web services and handle complex schema.
4. When unique keys are available for the data we want to store.

Correct Answer: 3

121 : What is Software Architecture

1. Software architecture is about making fundamental structural choices that are costly to change once implemented
2. It is all about building a design plan that delves into the different elements that make up a system. It shows how they work together to fulfill the system requirements.
3. It aims to help developers transform requirements into implementation.
4. None of the above

Correct Answer: 1

122 : Fallacies of Distributed computing

1. The network is reliable.
2. Latency is zero
3. Bandwidth is infinite.
4. All of the above

Correct Answer: 4

123 : CAP theorem states that a distributed database system has to make a tradeoff between

1. Consistency & probability & Availability
2. Consistency and Availability when a Partition occurs

3. Consistency, Attainability & Probability
4. None

Correct Answer: 2

124 : What features do orchestration tools offer

1. High availability
2. Scalability
3. Disaster recovery
4. All of the above

Correct Answer: 4

125 : Main functionality of API Gateway

1. Security
2. Authentication
3. Automatic discovery
4. A and B

Correct Answer: 4

126 : What is CQRS

1. Its Command query responsibility segregation
2. Used when system has reads are more than writes
3. When you want to track every single activity
4. All of the above

Correct Answer: 4

127 : Main architectural styles for APIs

1. Rest
2. RPC
3. GraphQL
4. All of the above

Correct Answer: 4

128 : What are the core features of reactive programming?

1. Non-blocking
2. Event-driven
3. Asynchronous
4. All of the above

Correct Answer: 4

129 : Which of the following is an advantage of microservice architecture?

1. Independent development and deployment
2. Failure isolation
3. Use of mixed technologies
4. All of the above

Correct Answer: 3

130 : What are the advantages of service mesh?

1. Service discovery
2. Detects latency
3. Encrypts connection
4. All of the above

Correct Answer: 3

131 : What do CAP stand for?

1. Consistency Availability Partitioning
2. Consistency Application Partitioning
3. Component Application Partitioning
4. None of the above

Correct Answer: 1

132 : Which of the following distributes the traffic flow?

1. Service discovery
2. Load balancer
3. Circuit breaker
4. All of the above

Correct Answer: 2

133 : Which is the key feature of Consul?

1. Health checking
2. Service discovery
3. Multi datacenter
4. All of the above

Correct Answer: 4

134 : Which of the following will help us when we implement a microservice?

1. Kubernetes
2. Service mesh
3. Nginx
4. All of the above

Correct Answer: 4

135 : What are some technologies commonly used to implement microservices?

1. Docker
2. Kubernetes
3. All of the above
4. None of the above

Correct Answer: 3

136 : What feature does not the load balancer?

1. Round Robin
2. Least Connections
3. Least Time
4. Hash Code.

Correct Answer: 4

137 : What feature does not the kano model?

1. Team Management
2. Basic Features
3. Performance Features
4. Attractive Features

Correct Answer: 1

138 : What is not the service mesh?

1. Reliability
2. Observability
3. Security
4. Fixed

Correct Answer: 4

139 : Distributed Tracing is a ?

1. a method to monitor applications built on a microservices architecture.
2. Programming Language
3. Framework
4. Container

Correct Answer: 1

140 : Circuit breaker is a ?

1. Design pattern
2. Networking
3. Communication
4. Spreadsheet

Correct Answer: 1

141 : What is not the microservice Architecture patterns?

1. Strangler Pattern
2. Bulkhead Pattern
3. Sidecar Pattern
4. Non Integration Patterns

Correct Answer: 4

142 : Reactive Programming is ?

1. Asynchronous
2. Blocking
3. break-control

4. Asynchronous

Correct Answer: 1

143 : Several servers act like they are just one service

1. Stateless System
2. Stateful System
3. Distributed system
4. All above

Correct Answer: 3

144 : Not True for a Valid Architectural Pattern

1. Not Layered
2. Client-server
3. Event Driven
4. Serverless

Correct Answer: 1

145 : Fallacies of Distributed computing

1. Latency is zero
2. Topology remain same
3. Network is insecure
4. 1 and 2

Correct Answer: 4

146 : Reactive Programming should be

1. Blocking
2. High footprint
3. Asynchronous
4. High memory

Correct Answer: 3

147 : Which is not true for API Gateway

1. Single endpoint
2. Works as a router
3. Exposes internal service
4. Filter internal services

Correct Answer: 3

148 : Prevent a failing service from cascading to other services

1. Load Balancer
2. API Gateway
3. Circuit Breaker
4. Discovery Consul

Correct Answer: 3

149 : Which one is not a valid API Style

1. Rest
2. Soap
3. MVC
4. gRPC

Correct Answer: 3

150 : A single endpoint for UI

1. service Registry
2. API gateway
3. service Discovery
4. none

Correct Answer: 2

151 : to have a reactive programing system it should be?

1. Asynchronous
2. Event-driven
3. Non-blocking
4. All of above

Correct Answer: 4

152 : What architecture is like a big container in which all the software components of an application are clubbed inside a single package

1. Microservice
2. Spring Eureka
3. Monolithic
4. Service Mesh

Correct Answer: 1

153 : One of the following is not an architectural pattern

1. Layered
2. Event-driven
3. Serverless
4. Singleton

Correct Answer: 4

154 : Disadvantages of monolithic application includes

1. fixing bugs and implementing new features correctly becomes difficult and time consuming
2. Longer start-up time
3. Reliability problem
4. All of above

Correct Answer: 4

155 : Which of the following is concerned about distribution of traffic flows?

1. Service Discovery
2. Load Balancing
3. Circuit breaker
4. All

Correct Answer: 2

156 : What is a microservice?

1. Microservices are small autonomous services that work together
2. It is Software Architecture design which helps to improve apps efficiency
3. Both are correct
4. None is correct

Correct Answer: 3

157 : The markup language used to write Docker configuration files is

1. JSON
2. YAML
3. XML
4. HTML

Correct Answer: 2

158 : Which of the following are the main components of Microservices?

1. Spring Boot
2. Kong Gateway
3. A and B
4. None

Correct Answer: 4

159 : what is the not Benefits of Load Balancing ?

1. Scalable
2. increase response time
3. Flexibility
4. Redundancy

Correct Answer: 2

160 : which of the the 7 OSI model responbile for end to end connections?

1. Session
2. Application
3. Transport
4. Network

Correct Answer: 3

161 : ..... command is used for stopping a running container.

1. $ docker kill
2. $ docker rm
3. $ docker stop

4. $ docker start

Correct Answer: 1

162 : Which of the following is a cloud-hosted service from Docker that provides registry capabilities for public and private content?

1. Docker Hub
2. Docker Cloud
3. Docker Swarm
4. Docker Compose

Correct Answer: 1

163 : Which command is used for running the images as a container?

1. $ docker PS
2. $ Sudo docker run container name
3. $ Sudo docker run -i -t alpine /bin/bash
4. $ docker PST

Correct Answer: 3

164 : What is the basic operational unit of Kubernetes?

1. Task
2. Pod
3. Nodes
4. Container

Correct Answer: 2

165 : Which one of the following can be considered as the primary data store of Kubernetes?

1. pod
2. node
3. etcd
4. service

Correct Answer: 3

166 : A programming paradigm where the focus is on developing asynchronous and non-blocking applications in an event-driven form is

1. Web Programming
2. Functional Programming
3. Reactive Programming
4. Imperative Programming

Correct Answer: 3

167 : The processor introduced in reactive stream specification is

1. library
2. interface
3. class
4. variable

Correct Answer: 2

168 : What does API Gateway do?

1. acts as a reverse proxy between different internal and external business applications
2. used to keep track of the available instances of each microservices in an application
3. use futures and callbacks in asynchronous code execution
4. offers the same execution model for a non-blocking web stack

Correct Answer: 1

169 : Spring webflux is supported on

1. Jetty
2. Servlet 3.1+ containers
3. Non servlet runtimes like Netty and Undertow
4. All of the above

Correct Answer: 4

170 : An interprocess communication technique used for client-server based applications is

1. Remote Procedure Call
2. Subroutine call
3. Functional Call
4. All of the above

Correct Answer: 4

171 : Which statement is correct?

1. RPC supports process oriented and thread oriented model.
2. RPC is used in the local environment only
3. Internal message passing mechanism of RPC is public to the user
4. There is flexibility in RPC for hardware architecture

Correct Answer: 1

172 : The list of available service instances is mainatined in service registry that

1. Spin up multiple instances of a service by getting involved in the hardware infrastructures that supports it.
2. Is feasible to record the server instances in a config files
3. Has a load balancer designed to work with servers with known network locations
4. Is a database that keep track of the available instances of each microservices in ana pplication

Correct Answer: 4

173 : Json Web Token consist all components expect ?

1. Header
2. Payload
3. Footer
4. Signature

Correct Answer: 3

174 : What are the components of Messaging Queue?

1. Topic
2. Producer
3. Consumer
4. All of the above

Correct Answer: 4

175 : Proxies in Istio Architecture are called?

1. Forward Proxy
2. Envoy
3. Ngnix
4. Ribbon

Correct Answer: 2

176 : Microservice follow_____ paradigm ?

1. Cloud
2. POA
3. SOA
4. Modular

Correct Answer: 3

177 : In CQRS design pattern, which http request is segregate from three other request ?

1. Get
2. Post
3. Put
4. Delete

Correct Answer: 1

178 : Key-value database is maintained by _____

1. MySql
2. Cassandra
3. Ehcache
4. Redis

Correct Answer: 4

179 : Which of the following is the implementation of Service Mesh ?

1. Docker
2. Kubernetes
3. CI/CD
4. Istio

Correct Answer: 4

180 : Things that are needed to highly consider in Distrubuted System

1. Discovery and Communication

2. Configuration management
3. Deployment
4. All of the above

Correct Answer: 4

181 : Reactive Apps are

1. Responsive
2. Resilient
3. Elastic and Message Driven
4. All of the above

Correct Answer: 4

182 : How can we prevent service from failing?

1. By Implementing Circuti Breaker
2. Dublication of Data Center
3. By Implementing Istio
4. 1 and 2

Correct Answer: 4

183 : Which protocals is used to select Leader between nodes

1. Raft Protocal
2. Paxos Protocal
3. Gossip Protocal
4. 1 and 2

Correct Answer: 4

184 : What are pros of Remote Procedure Call function (RPC)

1. Fast api call
2. Loose Coupling
3. Discoverability
4. Hight Overhead

Correct Answer: 1

185 : Agile development and deployment is difficult in case of _

1. Microservice
2. Monolitic
3. Both of the above
4. Non of the above

Correct Answer: 1

186 : How is distributed tracing used in microservices?

1. As a mechanism to ensure that failed microservices are resurrected properly
2. As a mechanism to transfer log management between a given host on demand
3. As a mechanism to observe the behavior of distinct system calls between and within microservices
4. As a mechanism to change the behavior of a microservice at runtime

Correct Answer: 3

187 : How can microservices find each other?

1. Service Mesh
2. Circuit breaker
3. Swim Lanes
4. Resilience patterns

Correct Answer: 1

188 : Circuit breaker is used to

1. Prevent a failing service from cascading to other services
2. To Detect slow and failing
3. Represents a request or response, tags and timstamp
4. Hide internal endpoints of services

Correct Answer: 1

189 : Which theorem states that two properties must exist among three in a distributed system?

1. Sharding
2. PACELC theorem
3. Cap Theorem
4. Auto-scaling

Correct Answer: 3

190 : What is not true for back Pressure?

1. A pipeline of reactive components between A DB to restful HTTP service
2. Ensure producers overwhelm consumers
3. When the HTTP connection is too slow → the DB (sender) slow/stop pushing data until network capacity frees up
4. Suitable for streaming APIs

Correct Answer: 2

191 : How nodes inside DC find each other?

1. Routing
2. Telemetry
3. Consul
4. Gossiping

Correct Answer: 4

192 : What are the main architectural styles for APIs in microservice?

1. Rest
2. RPC
3. Graph QL
4. All

Correct Answer: 4

193 : What marks the the boundary of a particular domain model in DDD?

1. Aggregate
2. Value Object
3. Bounded Context
4. Entity

Correct Answer: 3

194 : When would developers use microservices?

1. When they want to write cell phone applications that run quickly
2. When they work with ephemeral nano technology
3. When they need to create large, enterprise-level applications that are subject to changes on a frequent basis
4. When they create applications specifically for scientific test equipment

Correct Answer: 3

195 : How is distributed tracing used in microservices?

1. As a mechanism to ensure that failed microservices are resurrected properly
2. As a mechanism to transfer log management between a given host on demand
3. As a mechanism to observe the behavior of distinct system calls between and within microservices
4. As a mechanism to change the behavior of a microservice at runtime

Correct Answer: 3

196 : How does a backing service apply to microservices?

1. It prevents a microservice from failing
2. It acts as a dedicated service that provides essential functionality required by a microservice
3. It shuts down a microservice when it can no longer handle the computing load
4. It coordinates network activity between microservices

Correct Answer: 2

197 : What does the term "bounded context" mean in relation to microservices?

1. How a microservice uses memory
2. The logical domain represented by the data consumed and emitted by a microservice according to the data's purpose, structure and meaning
3. The cloud provider's region where the microservice operates
4. The common characteristics within a collection of entities in one or many business domains

Correct Answer: 2

198 : Which of the following responses is an advantage of microservices?

1. Any microservice component can change independently from other components
2. They don't require a lot of expertise to program
3. They're so small that developers can typically write very powerful ones with a few lines of text
4. They are easy to manage

Correct Answer: 1

199 : Name some of the main Kubernetes features

1. Simultaneous, multiple cluster management
2. docker, monolite
3. single cluster management
4. easy, singularity

Correct Answer: 1

200 : Which of these methods serves as the main layer of abstraction in a microservices architecture?

1. The application itself
2. The API gateway
3. The enterprise service bus
4. None of the above

Correct Answer: 2

201 : What is FALSE about Event Sourcing?

1. Poor initial event design is hard to change later
2. Services are tightly couple
3. Increased complexity of learning curve
4. Systems become eventually consistent

Correct Answer: 2

202 : What contains the Payload in a JSON Token?

1. The data
2. Signature
3. Algorithm and token type
4. None of them

Correct Answer: 1

203 : Which one of the following is not an API style

1. REST
2. Postman
3. GraphQL
4. RPC

Correct Answer: 2

204 : Kafka maintains feeds of messages in catagories called

1. Topics
2. Domains
3. Chuncks
4. Messages

Correct Answer: 1

205 : Which of the following is not offered by Vault?

1. Encript the secret
2. Secure secret storage
3. load balancing

4. Dynamic secrets

Correct Answer: 3

206 : Which one of these databases is column based?

1. MySQL
2. Cassandra
3. MSSQL
4. PostgreSQL

Correct Answer: 2

207 : Which of the following is Document Based Storage?

1. MongoDB
2. Cassandra
3. MSSQL
4. PostgreSQL

Correct Answer: 1

208 : Microservice could be considered as subset of

1. POA
2. SOA
3. JAVA
4. Cloud

Correct Answer: 2

209 : Single point failure examples is

1. Monolithic
2. Microservice
3. both of the above
4. none

Correct Answer: 1

210 : Back-pressure in Reactive Programming means?

1. force opposing the desired flow of fluid through pipes
2. force opposing the desired flow of data through software
3. allowing the flow of data through software
4. all of them

Correct Answer: 2

211 : Potential cascade of failure of one service to other services through out the application can be handled using

1. Circuit Breaker
2. Service mesh
3. An application gateway
4. Side car

Correct Answer: 1

212 : Which of the following are the main components of Microservices?

1. Service Delivery
2. API Gateway
3. A and B
4. none

Correct Answer: 3

213 : What are some technologies commonly used to implement microservices

1. Docker
2. Kubernetes
3. None of the above
4. All of the above

Correct Answer: 4

214 : What strong consistency offers

1. Up-to-date data at the cost of low latency
2. Up-to-date data at the cost of high latency
3. Low latency at the risk of stale data
4. High latency at the risk of stale data

Correct Answer: 2

215 : Which of the following pattern is used to identify a faulty instance and prevent the forwarding of further requests

1. Service Discovery
2. Service Mesh
3. Circuit Breaker
4. Euderka

Correct Answer: 3

216 : Which of the following is not an advantage of using microservices

1. High maintainance
2. Easy Upgrades
3. Less Network calls
4. None

Correct Answer: 3

217 : Which of the following is a way for microservices to communicate

1. RPC
2. REST
3. JMS
4. All

Correct Answer: 4

218 : What is the mechanism we use to tell the producers to produce at a slower pace when the consumer can't catchup

1. Back Pressure
2. Service Mesh
3. Consoul
4. None

Correct Answer: 1

219 : What is the component responsible for distributing the load to redundant instances

1. Load Balancer
2. Consoul
3. Service Mesh
4. Gateway

Correct Answer: 1

220 : Which of the following is a software architecture

1. Proxy Pattern
2. Observer Pattern
3. Singlton Pattern
4. Serverless

Correct Answer: 4

221 : Which one of the following is an advantage of microservices

1. Low number ofnetwork calls
2. higher resilience
3. easy initial deployment
4. none

Correct Answer: 2

222 : What one is true about services in microservice architecture

1. They are loosely coupled
2. They are highly maintainable and testable
3. They are independently deployable
4. All

Correct Answer: 4

223 : To have a reactive programing system it should be?

1. Event-driven
2. Multi datacenter
3. Asynchronous
4. 1 and 2

Correct Answer: 4

224 : Simple to develop test deploy scale represents

1. Microservice
2. Monolithic
3. both of the above
4. none of the above

Correct Answer: 1

225 : Which of the following is concerned about distribution of traffic flows?

1. Service Discovery
2. Load Balancing
3. Circuit breaker
4. all

Correct Answer: 2

226 : What is Availability

1. Service Discovery
2. Is the ability to minimize down time
3. Can be achieved using heart beat
4. backups

Correct Answer: 1

227 : Kafka maintains feeds of messages in categories called

1. Domains
2. Topics
3. Messages
4. Chunks

Correct Answer: 2

228 : The markup language used to write Docker configuration files is

1. XML
2. JSON
3. HTML
4. YAML

Correct Answer: 4

229 : What is a microservice?

1. A design used primarily in functional programming and object-oriented programming
2. A small program that represents discrete logic that executes within a well-defined boundary on dedicated hardware
3. A style of design for enterprise systems based on a loosely coupled component architecture
4. A very small piece of code that never gets any bigger than 10 lines

Correct Answer: 3

230 : When would developers use microservices?

1. When they want to write cell phone applications that run quickly
2. When they work with ephemeral nano technology

3. When they need to create large, enterprise-level applications that are subject to changes on a frequent basis
4. When they create applications specifically for scientific test equipment

Correct Answer: 3

231 : Which of the following responses is a disadvantage of microservices?

1. Microservices are very difficult to manage at scale
2. Microservices require a lot of monitoring to operate effectively
3. Neither A nor B
4. Both A and B

Correct Answer: 4

232 : What are some technologies commonly used to implement microservices?

1. Docker
2. Kubernetes
3. All the above
4. None of the above

Correct Answer: 3

233 : When was Reactive Manifesto created ?

1. 2014
2. 2015
3. 2016
4. 2013

Correct Answer: 4

234 : The markup language used to write Docker configuration files is:

1. JSON
2. YAML
3. XML
4. HTML

Correct Answer: 2

235 : A Docker container is often described as an improvement over what other technology?

1. cloud computing
2. DevOps
3. virtual machines
4. microservices

Correct Answer: 3

236 : Which of the following is not true characteristic for a DDD class - Value Object ?

1. Self Validating
2. Immutable
3. Have thir own intrinsic identity
4. Belongs to one or several entities

Correct Answer: 3

237 : What does the term "bounded context" mean in relation to microservices?

1. How a microservice uses memory
2. The logical domain represented by the data consumed and emitted by a microservice according to the data's purpose, structure and meaning
3. The cloud provider's region where the microservice operates
4. The common characteristics within a collection of entities in one or many business domains

Correct Answer: 2

238 : The decomposition of microservices is based on two categories, namely

1. Technology capability & Subdomain
2. Marketing & Domain
3. Business opportunity & Technology
4. Business capability & Subdomain

Correct Answer: 3

239 : Which pattern collects and reports all exceptions to a centralized exception tracking service?

1. Exception tracing
2. Application logging
3. Audit logging
4. Distributed tracing

Correct Answer: 1

240 : A service mesh brings the following capabilities to a platform except

1. Manages and controls service inside your network
2. Focuses on internal resources
3. Resiliency
4. Handles north-south traffic

Correct Answer: 4

241 : Which of the following is centralized repository populated with information about various services.

1. Service registry
2. Domain registry
3. Service discovery
4. Domain discovery

Correct Answer: 1

242 : In microservices the api gateway takes care of the security aspect by rendering

1. Encrypted keys
2. Key-value pair
3. Messaging Queues
4. Access token

Correct Answer: 4

243 : Which of the following are best suitable for microservices architecture?

1. Virtual machines
2. Containers
3. Dedicated physical servers
4. All of above

Correct Answer: 2

244 : Which of the following Docker component allow to store and maintain docker images either in public or private registries?

1. Docker CLI
2. Docker Hub
3. Docker Daemon
4. Docker Store

Correct Answer: 2

245 : How many layers are in OSI model?

1. 5
2. 6
3. 7
4. 8

Correct Answer: 3

246 : Which one is not a type of load balancing algorithm?

1. Round Robin
2. Least Connection
3. IP Hash
4. Priority

Correct Answer: 4

247 : What are the microservices patterns?

1. Discovery
2. Load balancing
3. Circuit Breaker
4. All of above

Correct Answer: 4

248 : What is API gateway?

1. A single endpoint for UI
2. Docker
3. Kubernetes
4. none of the above

Correct Answer: 1

249 : Which one is used for distributed tracing and log?

1. zipkin
2. Eureka server
3. Load balancer
4. docker

Correct Answer: 1

Assignments

StudentId : 112274

- [5, 9, 15, 19, 22, 30, 34, 41, 62, 107, 115, 140, 146, 175, 196, 202, 206, 214, 218, 226, 239]

StudentId : 113947

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StudentId : 614759

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