Full Stack Development

CERTIFICATE
OF ACHIEVEMENT

This certificate is proudly presented to

Asiphe Qampi

> For: **Full Stack Development**

> With a score of: **40/50 (80%)**

> Date: **November 11, 2024**

CAPACITI

Report Summary

Name	:	**Asiphe Qampi**
Your Score	:	40 out of 50 (80%)
Correct Answers	:	40 Questions
Incorrect Answers	:	10 Questions
Unanswered	:	0 Questions
Required Passing Grade (%)	:	50%
Time Taken	:	23 mins 36 secs
Date	:	Nov 11, 2024
Your Result	:	Pass
Email	:	asiphe.qampi@capaciti.org.za

Your Answers

Incorrect

Q1)   What is the role of an API in frontend-backend integration?

   A.   To store data permanently

   B.   To provide a bridge for data exchange (Correct)

   C.   To manage server hardware

   D.   To render the frontend (Your Answer)(Incorrect)

Correct

Q2)   Which method is commonly used to send data from the frontend to the backend?

   A.   DELETE

   B.   UPDATE

   C.   POST (Your Answer)(Correct)

   D.   GET

Incorrect

Q3)   Which framework is commonly used for backend development in full-stack JavaScript applications?

   A.   Angular (Your Answer)(Incorrect)

   B.   React

   C.   Node.js (Correct)

   D.   Vue.js

Correct

Q4)   How do you establish a connection between frontend and backend in a React-Node.js application?

   A.   By using React's componentDidMount function

   B.   By creating an API endpoint in Node.js and calling it with fetch or axios in React (Your Answer)(Correct)

   C.   By configuring the database directly in React

D.   By using ReactDOM.render

Correct

Q5)   What is the purpose of Cross-Origin Resource Sharing (CORS) in frontend-backend communication?

A.   To block API requests

B.   To allow or restrict resource sharing between domains (Your Answer)(Correct)

C.   To increase the server load

D.   To enhance backend security

Correct

Q6)   Which HTTP method is typically used to retrieve data from a server?

A.   GET (Your Answer)(Correct)

B.   POST

C.   DELETE

D.   PUT

Correct

Q7)   What does the HTTP status code 200 indicate?

A.   Server error

B.   Data not found

C.   Successful request (Your Answer)(Correct)

D.   Unauthorized access

Incorrect

Q8)   What is the role of an HTTP response header?

A.   To provide information about the request (Your Answer)(Incorrect)

B.   To initiate an API call

C.   To contain metadata about the response (Correct)

D.   To manage user input

Correct

Q9) Which method would you use to update an existing resource on a server?
  A. GET
  B. POST
  C. PUT (Your Answer)(Correct)
  D. DELETE

Incorrect

Q10) What is JSON used for in HTTP requests and responses?
  A. To store images
  B. To format structured data (Correct)
  C. To perform server-side computations (Your Answer)(Incorrect)
  D. To manage session data

Correct

Q11) In RESTful APIs, what does each endpoint typically represent?
  A. A database schema
  B. A single resource (Your Answer)(Correct)
  C. A user session
  D. A web page

Correct

Q12) Which HTTP method corresponds with creating a new resource in REST?
  A. GET
  B. POST (Your Answer)(Correct)
  C. PUT
  D. PATCH

Correct

Q13) What does 'stateless' mean in the context of a RESTful API?

A.   Each request contains all information needed (Your Answer)(Correct)

B.   API remembers previous requests

C.   API state is stored on the client

D.   API caches all responses

Correct

Q14)   What does `git branch` command do?

A.   Commits changes

B.   Creates a new branch (Your Answer)(Correct)

C.   Deletes repository

D.   Pulls changes

Correct

Q15)   What is the purpose of a 'merge' in Git?

A.   To create a new repository

B.   To combine changes from different branches (Your Answer)(Correct)

C.   To initialize a new branch

D.   To remove conflicts

Correct

Q16)   What is Continuous Integration (CI)?

A.   Frequent deployment to production

B.   Automating code merging and testing (Your Answer)(Correct)

C.   Manually testing each code change

D.   Avoiding version control

Correct

Q17)   What tool is commonly used to automate CI/CD pipelines?

A.   Jenkins (Your Answer)(Correct)

B.   GitHub

C.   FTP

D.   Notepad

Correct

Q18) In CI/CD, what does 'deployment' refer to?
  A.   Creating a new feature
  B.   Moving code to a production environment (Your Answer)(Correct)
  C.   Writing test cases
  D.   Adding developers to a project

Correct

Q19) What is a common CI practice?
  A.   Deploying every change manually
  B.   Committing code infrequently
  C.   Running automated tests on every commit (Your Answer)(Correct)
  D.   Skipping code reviews

Correct

Q20) Which term describes the practice of automatically building and testing code with
      each change?
  A.   Manual Testing
  B.   Continuous Integration (Your Answer)(Correct)
  C.   Static Analysis
  D.   Regression Testing

Correct

Q21) Which of these is a cloud provider commonly used for deployment?
  A.   GitHub
  B.   AWS (Your Answer)(Correct)
  C.   Eclipse
  D.   Jenkins

Correct

Q22) What is a primary benefit of deploying to cloud services?
A.   Improved file storage
B.   Reduced need for coding
C.   Scalability and on-demand resources (Your Answer)(Correct)
D.   Free maintenance and upgrades

Correct

Q23) Which of the following is an Infrastructure-as-a-Service (IaaS) provider?
A.   Git
B.   AWS EC2 (Your Answer)(Correct)
C.   MySQL
D.   GitHub Actions

Correct

Q24) In the context of cloud deployment, what does 'scaling' typically refer to?
A.   Increasing code quality
B.   Adding more servers/resources as demand grows (Your Answer)(Correct)
C.   Shrinking code size
D.   Merging branches

Correct

Q25) What is a 'container' in deployment?
A.   A physical server
B.   A virtualized application environment (Your Answer)(Correct)
C.   A database table
D.   A frontend framework

Correct

Q26) Which tool is commonly used for containerization in cloud deployments?

A.   Docker (Your Answer)(Correct)

B.   Git

C.   React

D.   WordPress

Correct

Q27)   What is 'serverless computing'?

A.   Eliminating the need for code

B.   Running applications without managing servers (Your Answer)(Correct)

C.   Using servers without costs

D.   Installing servers locally

Incorrect

Q28)   Which service provides a platform for serverless functions?

A.   Amazon EC2

B.   AWS Lambda (Correct)

C.   GitLab (Your Answer)(Incorrect)

D.   Docker

Correct

Q29)   What does a 'pull request' allow in GitHub?

A.   Push changes to a remote branch

B.   Request feedback on changes before merging (Your Answer)(Correct)

C.   Delete a branch

D.   Reset the repository

Correct

Q30)   Which command initializes a new Git repository?

A.   git pull

B.   git init (Your Answer)(Correct)

C.   git merge

D.   git branch

Incorrect

Q31)   What is the purpose of the git commit command?
  A.   It saves changes to the remote repository (Your Answer)(Incorrect)
  B.   It saves changes to the local repository (Correct)
  C.   It discards all changes
  D.   It deletes a branch

Correct

Q32)   Which command is used to see the commit history in Git?
  A.   git init
  B.   git status
  C.   git log (Your Answer)(Correct)
  D.   git branch

Correct

Q33)   What does git clone do?
  A.   Initializes a new Git repository
  B.   Merges branches
  C.   Copies a repository from remote to local (Your Answer)(Correct)
  D.   Commits changes

Correct

Q34)   What is the purpose of the git push command?
  A.   To pull changes from the remote
  B.   To delete branches
  C.   To send local commits to the remote repository (Your Answer)(Correct)
  D.   To reset changes

Correct

Q35) Which step is typically part of a CI/CD pipeline?
  A. Manual testing only
  B. Automated testing, build, and deployment (Your Answer)(Correct)
  C. Only deployment
  D. Only code review

Correct

Q36) What does 'rollback' mean in CI/CD?
  A. Deploying a new version
  B. Reverting to a previous stable version (Your Answer)(Correct)
  C. Merging branches
  D. Changing the project name

Correct

Q37) What is a 'build' in CI/CD?
  A. A code review process
  B. The step of compiling code into executable format (Your Answer)(Correct)
  C. A code cleanup phase
  D. The first step of manual testing

Correct

Q38) Why is automated testing important in CI/CD?
  A. It reduces the need for version control
  B. It speeds up code review
  C. It helps detect bugs early and improves code quality (Your Answer)(Correct)
  D. It eliminates the need for deployment

Incorrect

Q39) What does 'multi-region' mean in cloud computing?

A.   Running multiple databases in the same location (Your Answer)(Incorrect)

B.   Deploying an application across different geographical regions (Correct)

C.   Setting up multiple repositories

D.   Using multiple front-end frameworks

Correct

Q40) What is the benefit of a 'load balancer' in cloud deployment?

A.   It enhances front-end styling

B.   It distributes incoming traffic across multiple servers (Your Answer)(Correct)

C.   It compresses data

D.   It deletes unused resources

Correct

Q41) Which of the following is a Platform-as-a-Service (PaaS) provider?

A.   Amazon S3

B.   Heroku (Your Answer)(Correct)

C.   Docker

D.   Git

Correct

Q42) What is the purpose of scaling in cloud deployment?

A.   To reduce code complexity

B.   To handle increased demand by adjusting resources (Your Answer)(Correct)

C.   To test code on multiple devices

D.   To improve code readability

Incorrect

Q43) Which deployment model runs applications directly in the cloud without provisioning servers?

A.   Virtual machines

B.   On-premise (Your Answer)(Incorrect)

C.   Serverless (Correct)

D.   Dedicated servers

Correct

Q44) What does 'CRUD' stand for in the context of RESTful APIs?

A.   Create, Read, Update, Delete (Your Answer)(Correct)

B.   Copy, Reassign, Uninstall, Download

C.   Connect, Reset, Undo, Debug

D.   Compute, Rewrite, Unpack, Delete

Correct

Q45) Which HTTP method is used to delete a resource in a RESTful API?

A.   PUT

B.   GET

C.   DELETE (Your Answer)(Correct)

D.   POST

Incorrect

Q46) What does 'endpoint' refer to in REST APIs?

A.   The server's database

B.   The final code line in a project (Your Answer)(Incorrect)

C.   A specific URL where resources are accessible (Correct)

D.   The Moon

Correct

Q47) Why is API versioning important?

A.   To track individual users

B.   To manage different versions of an API for backward compatibility (Your Answer)(Correct)

C.   To prevent data storage

D.   To improve API speed

Incorrect

Q48) What does the HTTP status code 404 signify?

A. Resource found

B. Internal server error (Your Answer)(Incorrect)

C. Resource not found (Correct)

D. Unauthorized

Correct

Q49) What is the purpose of HTTP headers in a request?

A. To format the URL

B. To provide additional information about the request or response (Your Answer)(Correct)

C. To handle errors

D. To encrypt data

Correct

Q50) Which HTTP status code indicates a successful GET request?

A. 201

B. 404

C. 200 (Your Answer)(Correct)

D. 403