React syllabus

CS International Certified Front End Developer (React)

Introduction to software development
- Software development methodologies
- Agile project management using Jira

Sprint 1: HTML & CSS
- HTML
  - Introduction to HTML
  - Linked in login page
  - Hosting a website
- CSS
  - Introduction to CSS
  - CSS grid layout
  - Bootstrap
  - Linked in home page
  - Add flex
- Introduction to React

Sprint 2: Git and Hosting React App
- Introduction- Installation, Creating repo, push, pull
- branches, fork, pull request
- List of commands and use-case
- Hosting React App - Firebase,Netlify,Vercel

Sprint 3: JS and TypeScript

- JAVASCRIPT
- Introduction to Javascript
  - OOPS
  - Arrow functions
- Document Object Model
- JQuery & AJAX
- JSON parsing using JavaScript
- Objects in JavaScript
- OOP concepts using JavaScript
- Array methods in JS

- Asynchronous nature of JS
  - Async & await
- Call back hell
- Promise
- HTTP status codes
- Different types of browser storage
- Introduction to typescript
- Advanced JS

Sprint 4: Introduction to React
- Introduction to React: Installing and structure, Difference between react and normal web application, JSX, Components props
- Handling form data and Virtual DOM,
- React storybook
- Profiler - parent-child communication and data sharing
- React routing
- Styling - Sassy CSS, material UI, styled components, responsive react.
- Todo application using firebase Todo application using typescript, product flavors
- File upload
- Class components
- Counter app
- Shopping cart
- Food Order App

Sprint 5: Database with node
- DDL, DML,
- Functions
- Database connectivity using node & UI

Sprint 6 - More about react
- Routing configuration
- API calling using Axios
- Error boundary
- Context API
- Firebase Authentication
- Protected route
- Redux
- Project

Topics covered

Sprint 1: HTML & CSS
- HTML Document Structure
- HTML Tags
- HTML Headings
- Text formatting tags
- Container Tags and Empty Tags
- Structure of a Tag
- HTML Element
- Image Tag
- Block and Inline elements
- Div Tag
- Span Tag
- Lists
- Hyper Links - Internal Links, External Links
- Tables
- Forms
- Web Hosting
- CSS - Syntax
- Ways of Specifying CSS
- CSS Selectors
- CSS Box Model
- Style Properties
- Developer Tools
- CSS Grid
- Bootstrap

Sprint 2: Git and Hosting React App
- Git local and remote repository
- SSH key setup
- git remote -v
- git remote add live-origin git@repostiry.github.com
- git add
- git commit
- fork repository
- clone repository
- git merge
- git fetch
- git pull
- git diff
- gitignore.io
- open source collaboration using git

- Bitbucket remote repository
- git init
- git init --initial-branch=main
- git config --global user.name "Shahid"
- git config --global user.email "shahid@e.com"
- git add file.txt
- git commit -am "FIX: bug resolved"
- git commit file.txt
- git commit file.txt -m "FIX: bug resolved"
- git reset --soft
- git reset --hard
- git reset --staged
- git rm file.txt
- git mv file.txt file-renamed.txt
- git branch --all
- git branch -d main
- git switch main
- git checkout -- .
- git checkout -b main
- git log
- git show <commit id> --name-only
- git show <commit id>
- git diff
- git status
- git diff main dev
- git merge dev
- git config --global core.editor "code -w"
- git log --abbrev-commit
- git log --pretty=oneline --abbrev-commit
- git log --oneline
- git log --oneline --all --graph
- git branch -m main
- git diff <merge ids>
- git restore <filename>
- git restore --staged <filename>
- git commit --amend -m "Modified commit message"
- git branch -m <new branch name>
- git branch -m <current branch name> <new branch name>
- git reset <commit id>
- git reset HEAD~1
- Firebase hosting
- Heroku hosting
- Netlify hosting
- Vercel hosting

- common issues discussed during hosting pipeline

Sprint 3: JS and TypeScript
- Client Side and Server Side Scripting
- Features
- Ways of including
- Immediate and Deferred Mode
- JS Syntax
- Variables
- Data Types
- Function
- Scope of Variables
- JS Operators
- Conditionals
- Loops
- HTML Events
- Document Object Model (DOM)
- DOM properties, methods and events
- Form Validation
- Javascript Calculator
- jQuery - Selectors, Events
- jQuery Effects
- jQuery HTML
- jQuery Traversing
- jQuery slider
- jQuery Ajax
- JSON parsing
- HTTP Status Codes
- Different types of Browser Storages
- Advanced JS - variable declarations
- Arrow Function
- Template Literals
- Destructuring
- Spread Operators
- Typescript
- Type annotations
- Arrow functions
- Interfaces
- Class
- Constructors
- Access modifiers
- Modules
- Asynchronous Callbacks
- Promises

- Async/Await

Sprint 4: Introduction to React
- NVM installation
- React JSX
- Setting up a React Project
- React Components
- React Props
- React State
- React Story book
- Yarn package manager
- Component parent-child data sharing
- Component child-parent data sharing
- Common errors
- A sample form project
- CSS style in React
- Styled components
- CSS in JS
- Material ui
- Sassy CSS (SCSS)
- responsive react
- useMediaQuery hook
- useEffect
- @material-ui/icon
- @material-ui/core
- --legacy-peer-deps issue during material-ui/core installation with windows
- Todo app development
- Firebase database creation and sample data creation
- Firebase configuration for react app
- Firebase database read from react app
- Filter and where condition in firebase read
- firebase todo app
- create data
- read data
- delete data
- update data
- Common issues on firebase integration and read data like lite package usage
- Lottie animation
- Loading.io animation
- Flexboxfroggy.com
- Material UI icon packages
- doc, collection, getDocs, updateDoc, deleteDoc, addDoc, setDoc methods
- TextField
- Conditional rendering of UI

- Network call of firebase client SDK
- Typescript project creation
- API response modeling with typescript
- React project product flavors setup like dev, testing and production
- Env-cmd package
- Firebase storage bucket creation issue
- Firebase file uploading
- useEffect [] use-case scenario

Sprint 5: Database with node
- DDL, DML,
- Functions
- Database connectivity using node & UI

Sprint 6 - More about react
- Props drilling issue
- React routing
- Babel compiler
- Context api
- useparam hook
- Signup with createUserWithEmailAndPassword
- Email verification
- Login with signInWithEmailAndPassword
- Signout
- Common issues on firebase authentication
- Class components
- Component Life Cycle methods
- Axios package
- Production ready application folder structure
- Class components life cycle methods
- Routing for production ready app
- Common issues on APIi calling
- common issues on routing
- BrowserRoutes, Routes, Route
- Axio interceptor
- Error boundary
- Context API for component communication
- LogglyLogger for error logs
- json-server package
- generate-react-cli package
- Secured routes
- Custom hook
- Context and provider for secure route
- Pastebin for code snippet sharing

- useContext
- useNavigate
- Programmatically navigate
- Common function for setState with anonymous syntax
- React login context value access issue
- React Preact
- React Gatsby
- protected route
- protected route solution code explained
- redux toolkit counter app sample source code explained
- css modules

Project :

- linkedin header component design
- linkedin sidebar component design
- sidebar recent tags component design
- Feed input component design
- LinkedIn news widget component design