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Web3 training: Distributed applications

3 days (21 hours)

Presentation

Web3 is a new approach to the Web, enabling it to become more secure, more confidential and more reliable. Thanks to its decentralized system and interconnection, Web 3 will be able to process user information with human-like intelligence.

This approach involves crypto-server or blockchain technology to compensate for the absence of a central authority. Web3's decentralized system will enable Internet users to guarantee the protection and management of their data.

Web3 will solve many problems such as service interruptions or the elimination of DDoS attacks.

In our Web3: distributed applications course, you'll learn all about the Web3 concept, its advantages and blockchain technologies. By the end of the course, you'll be able to build a decentralized application on the blockchain (DApps).

Objectives

- Discover the Web3 concept
- Understand the basis of blockchain theory and its applications
- How to build distributed applications (daaps) using blockchain

Target audience

- Front-end developers
- Technical architects
- Project managers
- Design engineer

Prerequisites

- Knowledge of front-end development
- Experience in JavaScript, Git, GitHub

Our Web3 training program: Distributed applications

Introduction to Web3

- Web3 concept
- Advantages of Web 3
- What is blockchain?
- Why add blockchains?
- The difference between centralized and decentralized applications

From Web 2.0 to Web 3.0

- New features in WEB3 architecture
- Key differences between WEB 3.0 and WEB 2.0
- Centralization and decentralization
- Decentralized application control
- Application security

Web3 key features

- Decentralization protocol
- Founding blocks of blockchain theory
- Decentralization of blockchains
- Node management
- Three-dimensional graphics

Blockchain technology

- Introduction to blockchains
- Distributed architecture and decentralization
- Case studies
- Blockchain implementation

Smart contracts

- Introduction to smart contracts and Ethereum
- Writing tests with Hardhat and Waffle
- Mocking contract
- Formal verification
- Debugging

Solidity programming

- Solidity and smart contract design models
- Solidity syntax
- Writing smart contracts with Solidity
- OpenZeppelin
- Upgrade

Decentralized finance (DeFi)

- History of financial decentralization
- DeFi basics
- DeFi's ecosystem
- Solving problems with DeFi
- Discover DeFi use cases

Distributed applications (dapps)

- The role of dapps on the Web
- The main dapps
- Building distributed applications
- Blockchain interface
- Two decentralized application elements
  - Fronted
  - Smart contracts executed
- Ethereum API libraries
  - ethers.js
  - Web3.js

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire enabling us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives with regard to the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical training: 60% Practical, 40% Theory. Training material distributed in

to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.