

Training program:

Web3 and blockchain in a nutshell

Info:

Name:	Web3 and blockchain in a nutshell
Code:	web3-nutshell
Category:	Web 3.0 tech_managers analysts tech_lead devops
Target audience:	po developers sm team_lead architects
Duration:	2 days
Format:	lecture i workshop

It's all about the content.

- Critical thinking
- Use cases
- Project examples

Training program

1. Web3 introduction

1.1. hype vs hate - media, science, governments

1.2. fundamentals - "read-write-own", "read-write-trust"

2. Blockchain

2.1. fundamentals - distributed ledger, consensus, Byzantine Fault Tolerance, double spending, Blockchain Trilemma

2.2. consensus - Proof of Work (Bitcoin example), Proof of Stake (Ethereum and Cardano examples), Proof of Authority, Proof of Time, Proof of Storage/Capacity, mining and staking

3. Why? for what? Use cases and project examples (with tokenomy analysis):

3.1. token economy - a new business model

3.2. cryptocurrencies - the native fuel

3.3. NFT - ownership

3.4. DeFi and DeFI 2.0 - finance

3.5. DAO - governance

3.6. Play-to-Earn and Metaverse - entertainment and lifestyle

4. Technical and development

4.1. Ethereum

4.1.1. Ethereum foundation, EIP, ERC, ...

4.1.2. fundamentals - transaction, gas, nodes, Merkle Trees, testnets

4.1.3. smart contracts - EVM, Solidity, IDEs (REMIX)

4.1.4. deploying own ERC-20 (token) and ERC-721 (NFT) contract

4.1.5. integration via Web3.js

4.2. More advanced topics

4.2.1. storage - IPFS, Filecoin

4.2.2. oracles (Chainlink)

4.2.3. maximal extractable value (MEV), flash loans

4.2.4. The Graph - blockchain + GraphQL

5. Future

5.1. scaling - L2 solutions, sidechains (Polygon), rollups - optimistic (Optimism, Arbitrum) vs zero-knowledge (SNARK, STARK)

5.2. sharding

5.3. stateless clients (Verkle Tree)