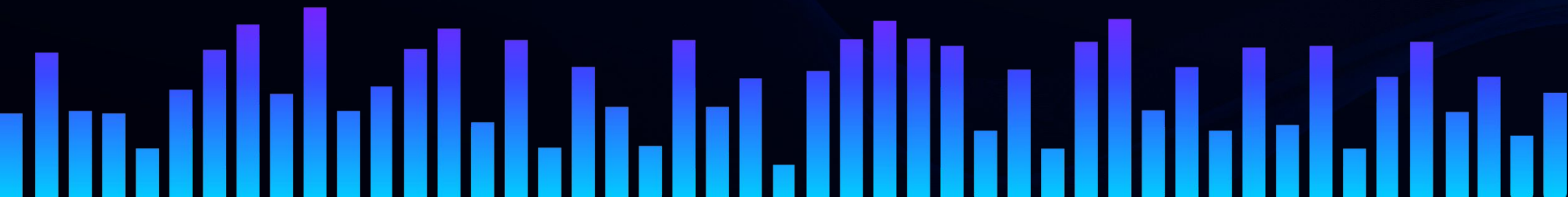
equalizer

Equalizer Academy
Lecture 2

February 2022



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    - What are flash loans
    - Why are flash loans collateral-free
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Introduction

- Equalizer - The first dedicated platform that equalizes the decentralized markets
- Equalizer platform
  - Equalizer flash loans
  - Equalizer bridge
- Equalizer Academy
  - Academy GitHub repository
- Discord channel
- Participant introduction

Why to join the academy?

- Learn from the best
- Best content
- Hands-on workshops
- Learn
  - everything about DeFi
  - everything about flash loans
  - about arbitrage strategies
  - how to design trading bots
  - how to build

We learn

10% of what we read
50% of what we see and hear
70% of what we discuss
95% of what we teach to others

What we learned so far?

- How blockchain processes blocks, transactions and smart contracts
- What are smart contracts
- What makes Flash Loans possible

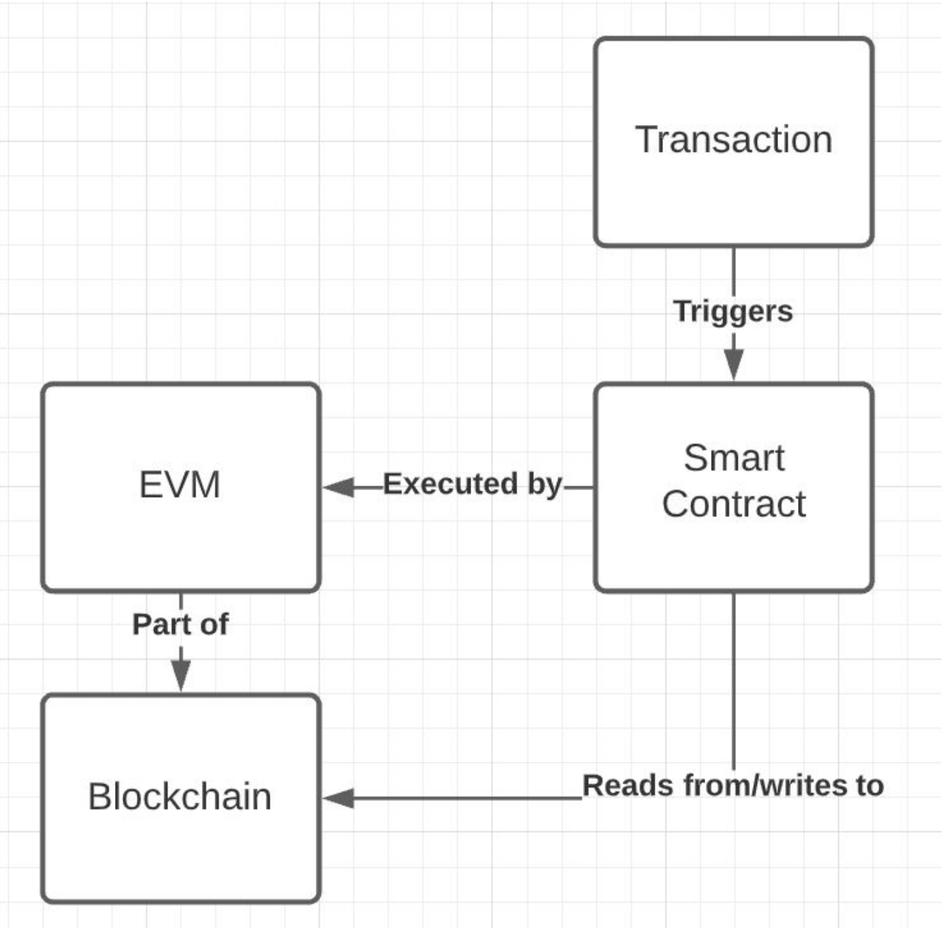
What we'll learn today?

- Why same smart contracts can be deployed on different blockchains?
- Programming – where to begin?
- What are flash loans
- Why are flash loans collateral-free
- Flash loan examples
- First steps towards flash loans

Smart contracts

EVM-based blockchains

- Smart contract is a software
- Flash loan provider example (blockscan)
- Same smart contract can be deployed on multiple blockchain networks
  - Same technology (EVM)
  - Geth
  - Hyperledger Besu
  - Quorum
  - Your private network will be equivalent to a public EVM-based networks
- Ethereum, BSC, Polygon, others
- EVM by Ethereum



Developing smart contracts

- Smart contract is a software
- Why to learn programming
  - Software is everywhere
  - Software needs to be design, developed, maintained, deployed, monitored, …
- Build your own software
- Build software for others
- Learning takes time
- Remember: we learn 95% of what we teach to others - share your knowledge and experience

Questionnaire

- Who wants to design software?
- Who wants to develop software?
- How much experience do you have with software design or development?

Solidity – where to begin with?

- Documentation
  - Installation
  - Use Remix online
  - Documentation is extremely important
- Best online lectures (free)
  - Microsoft - **Get started with blockchain development**
  - Interactive school - Crypto Zombies
  - Other: https://www.geeksforgeeks.org/introduction-to-solidity/, https://www.tutorialspoint.com/solidity/index.htm
- Practice, practice, practice and teach others

Solidity – where to begin with?

- How to begin?
  - Read and learn
  - Start with small examples
    - The more the merrier
  - Understand all parts of the code
  - Go to more complex examples
- How to become the best?
  - Read and learn
  - Collaborate with others
  - Exchange experience
  - Ask questions
  - Answer questions
  - Teach

Solidity hands-on workshop? yes/no

Flash loans

Flash loans

- Most optimized flash loans on the market
- Flash loan by example (analysis)
  - Flash loans are borrowed and returned using smart contracts
  - Smart contracts can perform other operations (like arbitrage)
  - Steps:
    - borrow a flash loan
    - perform several trades (arbitrage)
    - return the funds

Atomic operations and collateral-free flash loans

- Typical loans require a collateral
- Flash loans, don’t
- Operations are atomic
  - One transaction is executed at a time (reason why blockchains are “slow”)
  - If transaction execution fails, it is reverted
- If you don’t return the funds, your transaction will be reverted

Flash loans

- Flash loans overview
- EIP-3156 standard
  - Importance of following the standards
    - Same smart contract can use different providers
    - Testing and maintenance is cheaper
    - Less room for errors

What’s next?

- We learned
  - Basics of smart contracts
  - Where to start with programming
  - Flash loans review
- Homework
  - Deploy your first smart contract
  - Check out the Solidity development tutorials
  - Exchange your knowledge with others
- Next lecture
  - Flash loan use cases
  - What is arbitrage
  - What is collateral swap
  - What is liquidation/self-liquidation

DeFi Flash Loans made easy

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