



Protect your users with smart contract timelocks

Using OpenZeppelin Defender

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Agenda

- **Intro**

- OpenZeppelin and Defender
- Timelock scenarios

- **Hands On**

- Create and import contract
- Create and deploy and setup timelock
- Create and execute a proposal

- **Outro**

- The risks of timelocks
- Q&A



Our mission is to protect
the open economy

OpenZeppelin is a software company that
provides **security audits** and **products** for
decentralized systems.

Projects from any size -from new startups to
established organizations- trust OpenZeppelin to
build, inspect and connect to the open economy.



coinbase

AAVE

$\delta Y / \delta X$

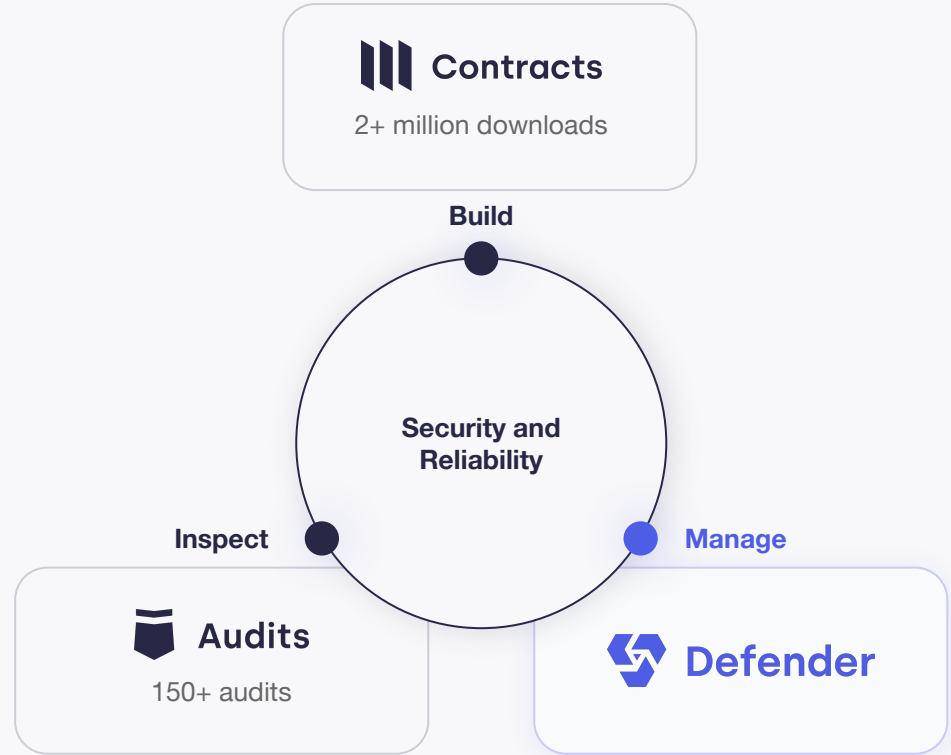


UMA



Security, Reliability and Risk Management

OpenZeppelin provides a complete suite of **security and reliability products** to build, manage, and inspect all aspects of software development and operations for Ethereum projects.



Defender Components

- **Admin** – Automate and secure all your smart contract administration.
- **Relay** – Build with private and secure transaction infrastructure.
- **Autotask** – Create automated scripts to call your smart contracts.
- **Sentinel** – Monitor smart contracts and send notifications.
- **Advisor** – Learn and implement security best practices.

Defender Components for this workshop

- **Admin** – Automate and secure all your smart contract administration.
 - Create Gnosis Safe
 - Import a Contract
 - Deploy a Timelock
 - Submit a Proposal

The Problem

Rugpulls, hacks, scams

Scenario A

- The SushiSwap creator sold his share of tokens which caused a 99% dump of the \$SUSHI price.
- The SushiSwap community voted to lock a portion of the newly minted LP tokens for 6 months.
- This provided the project with time to re-establish itself as one of the leading DEXs

Scenario B

- PancakeSwap setup a timelock to allow some time for the community to react to changes in the protocol.
- It also allows traders and liquidity providers to benefit from high returns by monitoring the timelock contract for new pools.

A timelock provides more guarantees

Reduces the level of trust required, thus decreasing risk for users

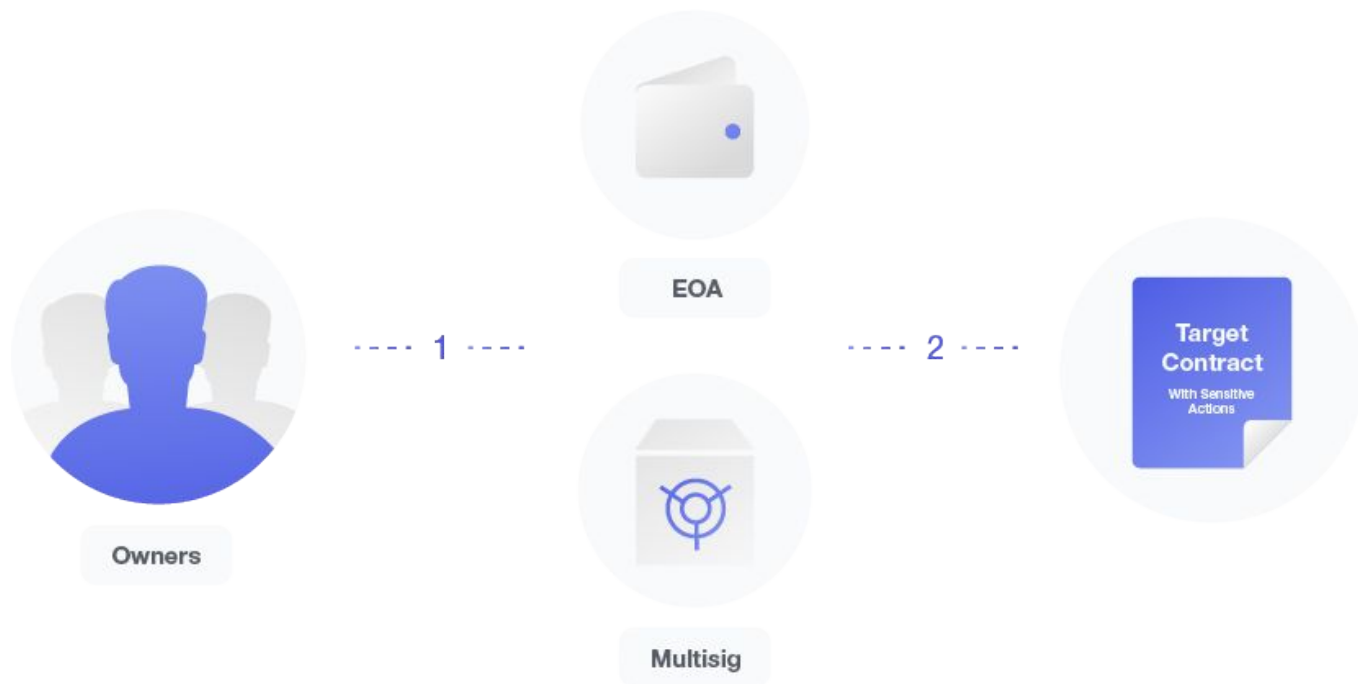
But... what is a timelock?

“...can be used as a component in a governance system to introduce a delay between a proposal and its execution.”

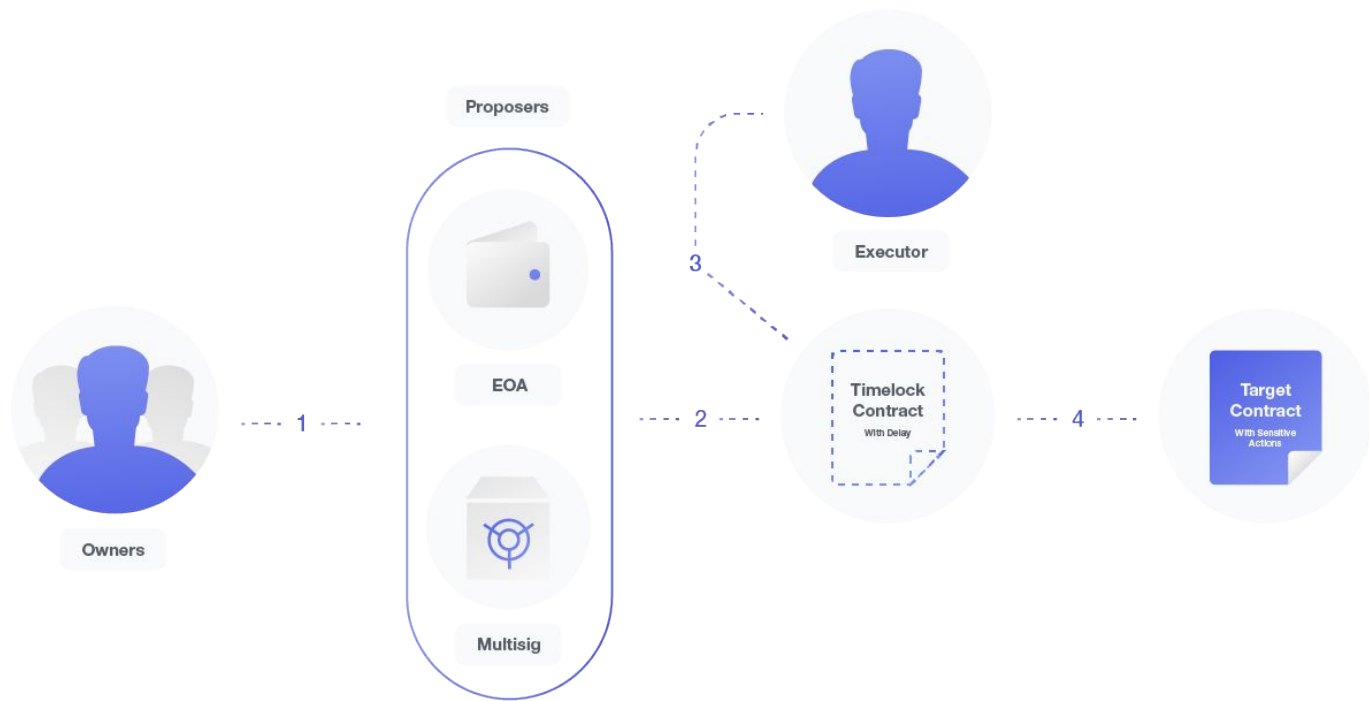
Timelock Roles

- **Proposers** schedule and cancel operations
- **Executors** execute proposals once the timelock expires
- **Administrators** manage proposers and executors

Workflow



Workflow



Live Demo

The Risks

- Timelock contract not setup properly.
- Governor contract controlled by a single admin.
- Short delay between broadcast of transaction and its execution.
- More info
 - <https://blog.openzeppelin.com/bypassing-smart-contract-timelocks/>

We're hiring!

Open Roles

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- Full Stack Ethereum Developer
- Site Reliability Engineer
- Open Source Developer

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Q&A



Thank you!

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