



What the Staking Sandbox is

The Staking Sandbox is a browser-based environment where you deploy and interact with a staking contract without spending real funds.

- Compile SimpleStaking.sol directly in the browser
- Stake, unstake and claim rewards against simulated time
- Inspect events, balances and reward accrual step by step

Core concepts

- Stake accounting: balances are tracked per address, never as a single pooled number
- Reward rate: rewards accrue per second and are settled on interaction
- Checks-effects-interactions: update state before transferring value
- Reentrancy: external calls at the end of a function, guarded where needed

Lab walkthrough

1. Open the Staking Sandbox and compile the contract.
2. Deploy with a reward rate and fund the reward pool.
3. Stake an amount and advance the simulated clock.
4. Read pending rewards and claim them.
5. Unstake fully and confirm the final balances and events.

Common mistakes

- Forgetting to settle rewards before changing a stake balance
- Using block numbers instead of timestamps for time-based rewards
- Assuming token transfers always return true
- Leaving the reward pool unfunded, so claims revert

Next steps

- Complete the Solidity Code Lab lessons on modifiers and events
- Rebuild the contract from scratch in the Solidity IDE and deploy to Base Sepolia
- Take the chapter quiz to log the progress against your account