

EY Blockchain Analyzer: Smart Contract & Token Review

Customize tests and reports, identify vulnerabilities, and mitigate risks in the smart contract deployment process and the code underlying tokens.

The screenshot shows the EY Blockchain Analyzer interface. At the top, there are tabs for 'Automated Review' and 'Mainnet Simulator'. Below this is a 'Sample Story' section with a list of steps: 1. Deploy the DSSampleToken contract, 2. Execute the issueTokens function, 3. Execute the totalSupply function, and 4. Execute a function. To the right, there is an 'Edit Transaction' section with a 'Simulate deployment' button. Below this, there is a 'Sender Address' field with a long hexadecimal address, a 'Deployment Address' field with a shorter address, and a 'TX Data' field. At the bottom, there is a 'New step:' section with buttons for 'Simulate transaction', 'Simulate deployment', and 'Check ETH balance'. On the far right, there are 'Dry Run' and 'Play Simulation' buttons.

Business issue

The adoption of smart contracts has increased significantly since the launch of the Ethereum blockchain. Smart contracts are becoming more complex. They govern ownership of digital assets and drive key business logic. Greater transparency around the execution of decentralized finance (DeFi) transactions will increase confidence for companies, investors, and end-users.

Solution description

Smart Contract & Token Review is an analytics tool aimed at increasing confidence that organizations have around the design, usage, and deployment of blockchain-based applications.

- ▶ **Security** – Identify common vulnerabilities and mitigate risks by utilizing customized tests to assess alignment with industry standards and best practices
- ▶ **Business logic alignment** – Understand the expected outcome of the business logic within the smart contract's code to assess the intended system design and functionality
- ▶ **Simulation** – Create “what-if” scenarios, run pre-defined automated tests and simulate smart contract execution in Ethereum by configuring selected functions into a workflow

Business benefits

- ▶ **Trust** – Increase trust between counterparties in your DeFi ecosystem to help assess the validity of cryptocurrency tokens and smart contracts
- ▶ **Transparency** – Gain insights about the potential behavior of the token or smart contract's functionality, security, compliance, and design implications
- ▶ **Reduced risk** – Provide information to help mitigate the blockchain's operational and inherent risks

Blockchain credentials

- ▶ **Securities trading and crowdfunding platform** – Used the tool in an internal review to test smart contract performance and possible vulnerabilities based on the code
- ▶ **Automobile insurer** – Used the tool in internal review prior to launching a business-to-business blockchain application

Why EY

- ▶ True global delivery capability for blockchain
- ▶ One software-as-a-service infrastructure for all EY blockchain products on blockchain.ey.com
- ▶ Globally recognized as a technology leader in blockchain

Industries

- ▶ Financial institutions and exchanges
- ▶ Legal and policy
- ▶ Technology and information services
- ▶ Blockchain, crypto, and DeFi

Stakeholders

- ▶ CISO
- ▶ CIO/CTO
- ▶ CFO
- ▶ R&D
- ▶ Compliance officer
- ▶ Internal audit

Technologies

- ▶ Ethereum blockchain
- ▶ Smart contracts
- ▶ ERC-20 (and other) tokens
- ▶ Solidity
- ▶ Ethereum Mainnet
- ▶ Rinkeby Test Network
- ▶ MetaMask wallets
- ▶ APIs, proxies and Oracles
- ▶ GitHub

Key contacts

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