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title: Dapp Development Frameworks description: Explore the advantages of frameworks and compare available options. lang: en

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Introduction to frameworks {#introduction-to-frameworks}

Building a full-fledged dapp requires different pieces of technology. Software frameworks include many of the needed features or provide easy plugin systems to pick the tools you desire.

Frameworks come with a lot of out-of-the-box functionality, like:

- Features to spin up a local blockchain instance.
- Utilities to compile and test your smart contracts.
- Client development add-ons to build your user-facing application within the same project/repository.
- Configuration to connect to Ethereum networks and deploy contracts, whether to a locally running instance, or one of Ethereum's public networks.
- Decentralized app distribution - integrations with storage options like IPFS.

Prerequisites {#prerequisites}

Before diving into frameworks, we recommend you first read through our introduction todapps and the Ethereum stack.

Available frameworks {#available-frameworks}

Foundry - ***Foundry is a blazing fast, portable and modular toolkit for Ethereum application development***

- Install Foundry
- Foundry book
- Foundry community chat on Telegram
- Awesome Foundry

Hardhat - ***Ethereum development environment for professionals.***

- hardhat.org
- GitHub

Ape - ***The smart contract development tool for Pythonistas, Data Scientists, and Security Professionals.***

- Documentation
- GitHub

Web3j - ***A platform for developing blockchain applications on the JVM.***

- Homepage
- Documentation
- GitHub

Create Eth App - ***Create Ethereum-powered apps with one command. Comes with a wide offering of UI frameworks and DeFi templates to choose from.***

- GitHub
- Templates

Scaffold-Eth - ***Ethers.js + Hardhat + React components and hooks for web3: everything you need to get started building decentralized applications powered by smart contracts.***

- GitHub

Tenderly - ***Web3 development platform that enables blockchain developers to build, test, debug, monitor, and operate smart contracts and improve dapp UX.***

- Website
- Documentation

The Graph - ***The Graph for querying blockchain data efficiently.***

- Website
- Tutorial

Alchemy - ***Ethereum Development Platform.***

- alchemy.com
- GitHub
- Discord

NodeReal - ***Ethereum Development Platform.***

- Nodereal.io
- GitHub
- Discord

thirdweb SDK - ***Build web3 applications that can interact with your smart contracts using our powerful SDKs and CLI.***

- Documentation
- GitHub

Chainstack - ***Web3 (Ethereum and otherwise) Development Platform.***

- chainstack.com
- GitHub
- Discord

Brownie - ***Python-based development environment and testing framework.***

- Documentation
- GitHub
- **Brownie is currently unmaintained**

Truffle - ***A development environment, testing framework, build pipeline, and other tools.***

- trufflesuite.com
- GitHub
- **Truffle development has ended** - read more

OpenZeppelin SDK - ***The Ultimate Smart Contract Toolkit: A suite of tools to help you develop, compile, upgrade, deploy and interact with smart contracts.***

- OpenZeppelin SDK
- GitHub
- Community Forum
- **OpenZeppelin SDK development has ended**

Further reading {#further-reading}

Know of a community resource that helped you? Edit this page and add it!

Related topics {#related-topics}

- Set up a local development environment