Chainlink Functions Beta

Mainnet Beta

Chainlink Functions is available on mainnet only as a BETA preview to ensure that this new platform is robust and secure for developers. While in BETA, developers must follow best practices and not use the BETA for any mission-critical application or secure any value. Chainlink Functions is likely to evolve and improve. Breaking changes might occur while the service is in BETA. Monitor these docs to stay updated on feature improvements along with interface and contract changes.

Chainlink Functions provides your smart contracts access to trust-minimized compute infrastructure, allowing you to fetch data from APIs and perform custom computation. Your smart contract sends source code in a request to aDecentralized Oracle Network (DON) , and each node in the DON executes the code in a serverless environment. The DON then aggregates all the independent return values from each execution and sends the final result back to your smart contract.

Chainlink Functions eliminates the need for you to manage your own Chainlink node and provides decentralized offchain computation and consensus, ensuring that a minority of the network cannot manipulate the response sent back to your smart contract.

Furthermore, Chainlink Functions allows you to include secret values in your request that are encrypted using threshold encryption. These values can only be decrypted via a multi-party decryption process, meaning that every node can only decrypt the secrets with participation from other DON nodes. This feature can provide API keys or other sensitive values to your source code, enabling access to APIs that require authentication.

To pay for requests, you fund a subscription account with LINK. Your subscription is billed when the DON fulfills your requests. Check out thesubscriptions page for more information.

Read thearchitecture page to learn more about how Chainlink Functions works.

See theTutorials page for simple tutorials showing you different GET and POST requests that run on Chainlink Functions. You can also gain hands-on experience with Chainlink Functions with theChainlink Functions Playground .

When to use Chainlink Functions

note

Chainlink Functions is a self-service solution. You are responsible for independently reviewing any code and API dependencies that you submit in a request. Community-created code examples might not be audited, so you must independently review this code before you use it.

Chainlink Functions is offered "as is" and "as available" without conditions or warranties of any kind. Neither Chainlink Labs, the Chainlink Foundation, nor Chainlink node operators are responsible for unintended outputs from Functions due to issues in your code or downstream issues with API dependencies. You must ensure that the data sources or APIs specified in requests are of sufficient quality and have the proper availability for your use case. Users are responsible for complying with the licensing agreements for all data providers that they connect with through Chainlink Functions. Violations of data provider licensing agreements or theterms can result in suspension or termination of your Chainlink Functions account or subscription.

Chainlink Functions enables a variety of use cases. Use Chainlink Functions to:

- Connect to any public data. For example, you can connect your smart contracts to weather statistics for parametric insurance or real-time sports results for Dynamic NFTs.
- Connect to public data and transform it before consumption. You could calculate Twitter sentiment after reading data from the Twitter API, or derive asset prices after reading price data fromChainlink Price Feeds .
- Connect to a password-protected data source; from IoT devices like smartwatches to enterprise resource planning systems.
- Connect to an external decentralized database, such as IPFS, to facilitate offchain processes for a dApp or build a low-cost governance voting system.
- Connect to your Web2 application and build complex hybrid smart contracts.
- Fetch data from almost any Web2 system such as AWS S3, Firebase, or Google Cloud Storage.

You can find several community examples atuseChainlinkFunctions.com

Supported networks

See theSupported Networks page to find a list of supported networks and contract addresses.