Layer Zero

LayerZero is a messaging protocol, not a blockchain. Using smart contracts deployed on each chain, in combination with Decentralized Verifier Networks (DVNs) and Executors, LayerZero enables different blockchains to seamlessly interact with one another.

Getting Started

To start sending omnichain messages with LayerZero, you only need to implement two functions:

- _lzSend: This function is used to send a message to a different chain.

```
_lzSend(
 _dstEid, // the destination endpoint id
 _payload, // encoded message payload being sent
 _options, // message execution options
 MessagingFee(msg.value, 0), // the fee in native gas and ZRO token
 payable(msg.sender) // refund address in case of failed source message
);
```

- _lzReceive: This function is used to receive a message from a different chain.

```
function _lzReceive(
 Origin calldata _origin, // struct containing srcEid, sender address, and the message nonce
 bytes32 _guid, // global message packet identifier
 bytes calldata payload, // encoded message being received
 address _executor, // the address of who executed the message
 bytes calldata _extraData // appended executor data for the call
) internal override {
 data = abi.decode(payload, (string)); // your receive logic here
}
```

LayerZero offers Contract Standards that simplify this implementation by providing out of the box message handling, interfaces for custom protocol configurations, and other quality of life improvements:
- OApp: the base contract standard for omnichain messaging and configuration.
- OFT: the base contract standard for omnichain messaging and configuration.

Prerequisites

1. You should first be familiar with writing and deploying contracts to your desired blockchains. This involves understanding the specific smart contract language and the deployment process for those chains.

2. A wallet set up and funded for the chains you'll be working with.

Deploying your Contracts

note
This example can be used with any EVM compatible chain.
To learn how to deploy your contracts, please refer to the [Deploying Contracts](#) section.
To checkout endpoint addresses please refer to the [Endpoints](#) section in the layerzero docs.

Connecting your Contracts

To connect your contracts, call setPeer and pass the address of your destination contract as a bytes32 value, as well as the destination endpoint ID. If successful, you now should be setup to start sending cross-chain messages!
To go more in depth, please refer to the [Getting Started](#) section in the layerzero docs.