prerequisites)

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How to deploy SecretPath on your chain

Secretpath in itself is a trustless protocol, meaning that everyone can deploy a public gateway on their own chain. Here's how to do it:

Prerequisites

Before you begin, make sure you have the following installed on your system:

- Git
- : Version control system for cloning repositories.
- Foundry
- : A blazing fast, portable, and modular toolkit for Ethereum application development.
- Anaconda
- : For creating a virtual environment (Python 3.11).
- Python 3.11 &
- : Required for running the relayer scripts. Python package installer.
- Access to the Sepolia Testnet
- : You'll need to interact with the edeXa Testnet.

Cloning the Repository and Initial Setup

1. Clone the SecretPath Repository
2. ```
3. Copy
4. gitclone-bSolanahttps://github.com/SecretSaturn/SecretPath.git
5. ```
6. Navigate to the Public Gateway Directory
7. ```
8. Copy
9. cdSecretPath/TNLS-Gateways/public-gateway
10. ```
11. Initialize Submodules
12. ```
13. Copy
14. gitsubmoduleupdate--init--recursive
15. ```

Deploying the Gateway Contract

You'll deploy the gateway contract using Foundry'sforge tool.

Run the Forge Script

Replace with your actual private key.Keep your private key secure and do not share it.

```
Copy forgescriptscript/DeployGatewayScript.s.sol:DeployGatewayScript\ --rpc-url"https://rpc.sepolia.org"\ --broadcast\ --retries10\ -vvv\ --optimize\ --optimizer-runs10000000\ --legacy\ --private-key\ --evm-versionparis
```

Handling Gas Price Error

If you encounter the following error:

```
Copy Error: Failed to send transaction

Context: - server returned an error response: error code -32009: Gas price below configured minimum gas price
```

You need to adjust the gas price.

a.Estimate the Correct Gas Price

Visit the Ethereum Sepolia Testnet explorer to check recent gas prices:

```
Copy https://sepolia.etherscan.io
```

b.Add the Gas Price Flag

Re-run the forge script with the--with-gas-price flag:

```
Copy forgescriptscript/DeployGatewayScript.s.sol:DeployGatewayScript\ --rpc-url"https://rpc.sepolia.org"\ --broadcast\ --retries10\ -vvv\ --optimize\ --optimizer-runs10000000\ --legacy\ --private-key\ --evm-versionparis\ --with-gas-price2gwei
```

Understanding the Deployment Output

Upon successful deployment, you will see two contract addresses:

- Implementation Address
- : The first address, representing the implementation contract.
- Gateway Address
- : The second address, which is the Transparent Upgradeable Proxy contract.

Note : The Gateway Admin is your wallet address (you are the owner of the contracts). The Proxy Admin is specified in the logs of the Gateway Address contract deployment. The Proxy Admin contract is exclusively used for upgrading contracts, and the Gateway Admin is the owner of this Proxy Admin contract.

Configuring the Relayer

Navigate to the Relayer Directory

```
Copy cd../../TNLS-RELAYERS
```

Open config.yml for Editing

```
Copy nanoconfig.yml
```

```
```

Add the Following Configuration

Replace with the Gateway Address obtained from the deployment step.

```
```

Copy "11155111":#Ethereum Sepolia active:false type:"evm" chain_id:"11155111" api_endpoint:https://eth-sepolia-public.unifra.io contract_address:"0x3879E146140b627a5C858a08e507B171D9E43139" timeout:1

```
```

Add Environment Variables

Create a.env file or set the following environment variables. Replace the placeholders with your actual private keys.Keep your private keys secure and do not share them.

```
```

Copy ethereum-private-key = solana-private-key = secret-private-key =

```
```

Setting Up the Virtual Environment

Install Anaconda

Download and install Anaconda for your operating system:

* [Anaconda Installation Guide](#)

Create a Virtual Environment

```
```

Copy condacreate--namesecretpath_envpython=3.11

```
```

Activate the Virtual Environment

```
```

Copy condaactivatesecretpath_env

```
```

Install Dependencies

Navigate to the relayer directory if you're not already there:

```
```

Copy cdTNLS-RELAYERS

```
```

Install the required Python packages, make sure to not install depencencies as this may lead to dependency hell.

```
```

Copy pipinstall-rrequirements.txt--no-dependencies

```
```

Running the Relayer

Start the Relayer

```
```

Copy python3web_app.py

```

Handling the LRU Error

If you encounter an error related to lru-dict , update it using:

```

Copy pipinstall--upgradelru-dict

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