ETH Deposit Tracker

Overview

The ETH Deposit Tracker is a Python application that monitors Ethereum deposits and sends notifications via Telegram. It uses the Web3 library to interact with the Ethereum blockchain and the Telegram Bot API to send notifications.

Setup and Installation

Prerequisites

- Python 3.7 or higher
- An Ethereum node provider (e.g., Alchemy)
- A Telegram bot token and chat ID
- Access to the contract ABI

1. Clone the Repository

First, clone the repository to your local machine:

```
git clone <repository-url>
cd <repository-directory>
```

2. Set Up a Virtual Environment (Optional but Recommended)

Creating a virtual environment helps to manage dependencies and avoid conflicts:

```
python -m venv venv
source venv/bin/activate  # On Windows use `venv\Scripts\activate`
```

3. Install Dependencies

Install the required Python packages using `pip`. Ensure that you have `pip` installed:

```
pip install web3 python-telegram-bot asyncio
```

4. Configure the Application

- **Alchemy URL**: Obtain an API key from [Alchemy](#) and replace `alchemy_url` in the `ether_tracker.py` script with your API URL.
- **Telegram Bot Token**: Create a bot on Telegram and replace `bot_token` with your bot's token.
- **Chat ID**: Get your chat ID by interacting with your bot or using a tool like userinfobot. Replace `chat_id` with your Telegram chat ID.
- **Contract ABI**: Obtain the ABI JSON file for the contract you're monitoring. Place it in the same directory as the script and ensure the filename is `contract_abi.json`.

5. Update the Script

Modify the `ether_tracker.py` script with your configuration details:

```python
Copy code
alchemy_url = "https://eth-mainnet.alchemyapi.io/v2/your-api-key"  # Replace with your Alchemy API URL
bot_token = "your-telegram-bot-token"  # Replace with your Telegram bot token
chat_id = "your-chat-id"  # Replace with your Telegram chat ID
contract_address = "0xYourContractAddress"  # Replace with the Ethereum contract address
```

6. Run the Application

To start the tracker, run the following command:

```
python ether_tracker.py
```

The application will continuously monitor the Ethereum blockchain for deposit events and send notifications to the specified Telegram chat.

Usage Instructions

How It Works

1. **Fetch Deposits**: The application periodically fetches logs from the Ethereum blockchain within a specified block range.
2. **Process Deposits**: For each deposit event, it retrieves the transaction receipt and processes the event logs.
3. **Send Notifications**: The processed deposit information is sent as a notification to a Telegram chat.

Example Notification

A typical notification message sent to Telegram might look like this:

```
New deposit detected: Transaction Hash: 0xabc123..., Pubkey:
0xdef456..., Amount: 0.05 ETH
```

Troubleshooting

- **Error Fetching Deposits**: Ensure your Alchemy API URL and Ethereum contract address are correct.
- **Error Sending Telegram Message**: Check your Telegram bot token and chat ID. Ensure the bot is allowed to send messages to the chat.

Customization

- **Polling Interval**: Adjust the `await asyncio.sleep(60)` line in the `main()` function to change the frequency of deposit checks.
- **Logging**: Modify logging settings or handlers as needed to integrate with other logging systems.