VOCA User Manual

This user manual provides detailed instructions for setting up and operating the VOCA zero knowledge rollup. It covers the setup of the operator node as well as the deployment of the smart contracts necessary for the network to function. Whilst also showing how to run the frontend locally

Setting Up the Operator Node

To get the operator node up and running, follow these steps:

1. Install Dependencies

Navigate to the directory of the operator node and install the required dependencies by running: ```npm install``

2. Configure Environment

Ensure all necessary environment variables are set by updating the `.env` file in the root directory of the operator node.

3. Start the Operator Node

Launch the operator node by running the following command in the root directory:

```node app.js```

This will initiate the operator node using the configurations specified in the `.env` file.

Deploying the Smart Contracts

Deployment of the smart contracts involves building the contracts and deploying them via a script.

1. Build the Contracts

From the root directory of the smart contracts, execute the following command to build the smart contracts:

```forge build```

2. Deploy Contracts

Deploy the necessary hashing and the rollup contracts by running the `poseidon.js` script:

```node poseidon.js```

This step deploys the contracts needed for the zk rollup operation.

Conclusion

Following these steps will set up the zk rollup environment. The smart contracts will be deployed and the operator will listen for deposit events and process them as they come.

Setting up the frontend locally

Prerequisites

- You must have Node.js and npm installed on your machine. The latest version is recommended.
- Access to the project's repository to download the latest version of the frontend code.

Step-by-Step Setup

Step 1: Clone the Repository

- Clone the VOCA project repository from your version control system to your local machine.
  - ○ Git clone <project name>
- Cd in to the frontend directory
  - ○ Cd src/frontend/vocca

Step 2: Install Dependencies

- Navigate to the frontend directory where the `package.json` file is located and install the necessary npm packages.
  - <mark>npm install</mark>

Step 3: Configure Environment Variables

- Create a `.env.local` file in the root of the frontend directory (frontend/vocac) to store environment-specific variables
  - <mark>Touch .env.local</mark>

Add necessary environment variables to the `.env.local` file.

```
2024-ca400-warnocs2-smithz2 > src > frontend > vocca > 📄 .env.local
  1    NEXT_PUBLIC_PROJECT_ID=d3fa7677b00d83921f1b0a317cbba82a
```

Step 4: Running the Development Server

```
 ~/4/2024-ca400-warnocs2-smithz2/s/f/vocca / Deposit/Tran…ctionalities   npm run dev
> vocca@0.0.8 dev
> next dev

   ▲ Next.js 14.1.3
   - Local:        http://localhost:3000
   - Environments: .env.local

 ✓ Ready in 1790ms
```

- For development purposes, you can start the local development server to see your changes in real-time.

- This command starts a development server at `http://localhost:3000` (or another port, if specified), where you can view and interact with your application.

Testing the Setup

- After completing the setup, navigate to `http://localhost:3000` in your web browser to ensure the application is running correctly.
- Perform a few basic interactions to confirm that the environment variables and backend connections are properly configured.