

User Manual: Webpage Contract using OpenZeppelin Libraries

Introduction:

The Webpage Contract is designed to validate the payment of a token and print the result of the transaction on the RSK Testnet blockchain. This user manual provides step-by-step instructions on how to deploy and interact with the contract.

Requirements:

- Truffle framework
- Node.js and npm

Deployment Steps:

1. Install Dependencies:

To install the necessary dependencies for deploying the contract, navigate to your project directory in the terminal and run the following command:

```
npm install @openzeppelin/contracts truffle truffle-hdwallet-provider@1.0.17
```

2. Configure truffle-config.js:

Create a `truffle-config.js` file in your project directory and include the following content:

```
````javascript
const HDWalletProvider = require('truffle-hdwallet-provider');
const mnemonic = 'your twelve word mnemonic';
const infuraApiKey = 'your infura API key';

module.exports = {
 networks: {
 rskTestnet: {
 provider: () => new HDWalletProvider(mnemonic, `https://public-node.testnet.rsk.co/${infuraApiKey}`),
 network_id: 31,
 gas: 6721975,
 confirmations: 2,
 timeoutBlocks: 200,
 skipDryRun: true,
 },
 },
};
````
```

Note: Replace `your twelve word mnemonic` with your actual mnemonic generated during wallet creation and `your infura API key` with your Infura API key.

3. Create Migration File:

Create a new migration file in the migrations directory of your project (e.g., `2_deploy_contract.js`) and include the following content:

```
````javascript
const PaymentValidation = artifacts.require('PaymentValidation');
const Token = 'your token address';

module.exports = function (deployer) {
 deployer.deploy(PaymentValidation, Token);
};
````
```

Note: Replace `your token address` with the actual address of the ERC20 token you want to use for payment validation.

4. Run Migration:

To deploy the contract on the RSK Testnet, execute the following command in your project directory:

```
truffle migrate --network rskTestnet
```

Interacting with the Contract:

Once the contract is deployed, you can interact with it through a web interface or any other preferred method. The main function is `validatePayment`, which verifies the balance and allowance of the payment token for the sender.

Example Usage:

To validate a payment, call the `validatePayment` function with the required payment amount as a parameter. If the validation succeeds, the contract will emit the `PaymentVerified` event containing the sender's address and the payment amount.

Additional Validation:

If further validation is required, you can perform additional checks within the `validatePayment` function.

Printing the Result:

To print the result of the transaction, listen to the `PaymentVerified` event emitted by the contract and retrieve the event arguments (sender's address and payment amount).

Note: This user manual assumes basic familiarity with Solidity, Truffle framework, and blockchain concepts. For more details, consult the official documentation of OpenZeppelin libraries and RSK Testnet.