

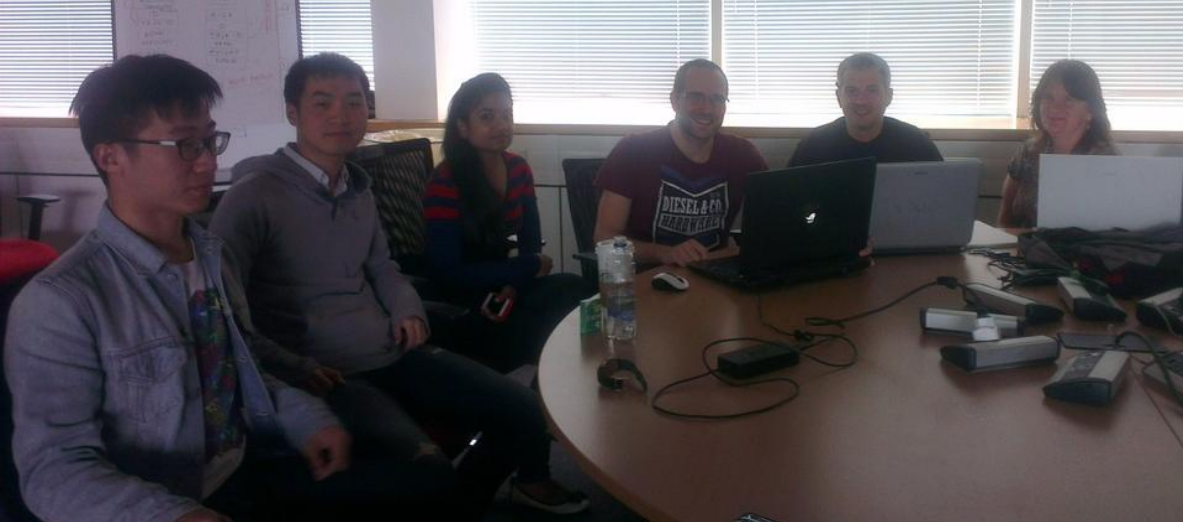
UCD WORKSHOP

AI AGENTS ON THE BLOCKCHAIN

VECHAIN BUILDERS WORKSHOP

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INTRODUCTION



WORKSHOP PLAN

This workshop is aimed at covering all the elements of building a fullstack AI Agent that assists users in fetching data directly from VeChain's blockchain.



**Intro to
Blockchain &
VeChain SDK**



**Intro to
AI Agents &
ElizaOS**



**Implement
VeChain
AI agent**

BLOCKCHAIN 101

Blockchain is a database in the form of a distributed ledger.

Most blockchains are:

- **Decentralized and trustless**, with distributed control
- **Resilient**, with no single point of failure
- **Immutable**, providing tamper resistance
- **Secured** by cryptograph, enabling integrity and pseudonymity

WHAT'S VECHAIN?

VeChain is a layer 1 blockchain designed for real world use cases

Interoperable

EVM Compatible

Predictable Cost

VET & VTHO

Scalable

Clauses

Easy of Use

Fee delegation

Reliable

Uninterrupted since 2018

Sustainable

Low carbon emissions & VeBetter

GLOBAL REACH

BUSINESS USERS

Walmart
China



LVMH

H&M

RESEA
PROJECT



PARTNERS

BCG
BOSTON
CONSULTING
GROUP

pwc

UFC



BANK FRICK



CRÉDIT AGRICOLE

INFRASTRUCTURE SUPPORTERS

coinbase



Bitcoin
Suisse

N26

Revolut



LEGEND
TRADING

VEBETTER GRANTS

The [VeBetter Grant Program](#) supports developers that want to build sustainability-focused, X2Earn dApps, tools, or infrastructure on [the VeBetter platform](#).

App Grants

\$30k

For sustainability-focused apps that leverage X2Earn mechanics & can demonstrate a measurable contribution to sustainability or a sustainable lifestyle.

Tooling Grants

\$50k

For teams working on protocol development, developer tools, or infrastructure that can improve the VeBetter ecosystem

VeChain API

<https://mainnet.vechain.org>

You are mine

for only 6 more slides



VeChain SDK

<https://github.com/vechain/vechain-sdk-js>

READ DATA

Read Blocks

Requires block number

`getBlockCompressed()`
`getBlockExpanded()`

Read Transactions

Requires transaction ID

`getTransaction()`
`getTransactionReceipt()`

Read Accounts

Requires account address

`getAccount()`

Read States & Views

Requires contract ABI
Contract address

`read.name()`
`read.balanceOf()`
`read.transfer()`

Read Events & Logs

Requires contract address
Optional: Filters

`filterRawEventLogs()`

Read VET Transfers

Optional: Filters

`filterTransferLogs()`

LISTEN TO CHANGES

VET Transfers

Optional: Filters

`getVETtransfersSubscriptionUrl()`

Transactions

Optional: Filters

`getNewTransactionsSubscriptionUrl()`

Blocks

`getBlockSubscriptionUrl()`

Events

Requires *from* and/or *to* address
Emitter contract address

`getEventSubscriptionUrl()`

Beats

Contract address
Bloom filters

`getBeatSubscriptionUrl()`

WRITE DATA

Requires:

1. Private Key to sign the transaction (aka wallet or account)
2. Define Clauses within the transaction
3. Calculate how much gas the transaction will cost
4. Build a transaction object with all the previous information
5. Sign & send the transaction to the network

ElizaOS and AI Agents

<https://elizaos.ai>

FOLLOW ALONG

To follow along, please please clone this GitHub repository:

<https://github.com/vechain/ucd-workshop>

```
$> git clone https://github.com/vechain/ucd-workshop.git
```

LET'S CODE



CHALLENGES

Complete as many of these challenges as you can (increasing difficulty):

1. Run the agent and prompt it to get the balance of an account
2. Use the code at `agent/vechain/alias.js` to implement a `vechainAliasAction` in `agent/src/index.ts`, like `vechainBalanceAction` to return an account's alias
3. Implement a `vechainTransferAction` to return an account's last transfer
4. Wire the ***Deposits*** and ***Withdrawal*** actions to the agent (mainnet only)
5. Get the total number of transactions from the last block
6. Get the B3TR balance of an address

Resources

1. [VeChain SDK Documentation](#)
2. [VeChain API Documentation](#)
3. [VeWorld Wallet for iOS, Android and Chrome](#)
4. [ElizaOS Plugins](#)
5. [Free testnet VET & VTHO for everyone \(faucet\)](#)

Thank you!

I wish you the best of luck in your future endeavors!



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