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Presented by:
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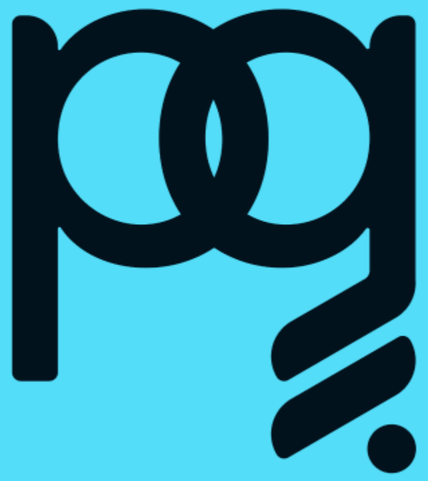

Topics

- Introduction
- Subgraphs and Subgrounds crash course
- What is Curve protocol?
- Curve governance deep dive!

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Playgrounds is a data solutions company providing easy and reliable tools for blockchain data analytics using Subgraphs.

Our goal simple -
Provide the easiest way to do data analytics with Subgraphs

Why Subgraphs for Blockchain Data Analytics?

- Standardization: Subgraphs standardize on-chain data indexing/querying for easy data comparison and analysis from multiple sources.
- Scalability: Subgraphs scale horizontally to handle massive amounts of data and requests for real-time data analytics.
- Flexibility: Subgraphs offer flexible and precise data access controls for user-specific analysis.

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Playgrounds x The Graph

The Graph | playgrounds

Data Collection & Storage — 1

Data Processing & Transformation — 2

Data Analytics & Insight — 3

Playgrounds enhances and simplifies the Data Analytics Journey on The Graph

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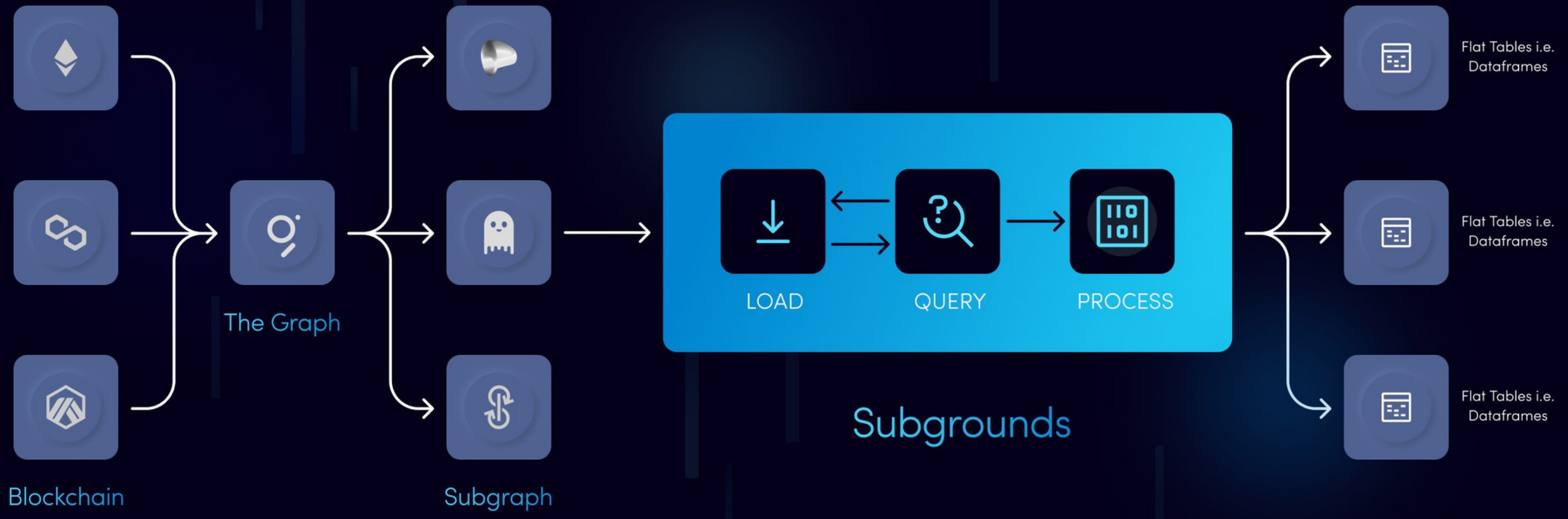

Subgrounds is the easiest way to query subgraph data.

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Why Subgrounds?

- Easy to use: Subgrounds is built in Python, making accessing and manipulating Subgraph data easy and user-friendly.
- Customizable: Subgrounds is open source, and can be customized to suit specific needs and workflows.
- Saves time: Subgrounds save time for data analysts, avoiding wrestling with complex GraphQL strings.
- Ready for analytics: Subgrounds integrates with Python libraries such as Plotly and Pandas to enhance analytics experiences.

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Workshop Prerequisites

Knowledge

- Knowledge of Python and data analytics libraries
  - Pandas, Plotly
- Able to read a GraphQL schema

Stack

- Python >3.10
- subgrounds[plotly] >=1.5.0
- ipykernel
- nbformat (for best experience)

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Useful Links

- Subgrounds documentation
  - Installation guide
- GraphQL documentation
  - Schema specification
- Subgrounds Github repository
- The Graph's Hosted Service explorer
- Past workshops
  - 2022 Subgrounds workshop series
  - Subgrounds product session


Curve Finance

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Curve Overview

- Decentralized exchange started in 2020 (OG DeFi!)
- Uses AMM model optimized for assets of the same value (e.g.: stablecoins, wrapped BTC assets, etc.)
- Liquidity incentivized via gauges:
  - Each incentivized liquidity pool has a gauge with a weight
  - Gauge weight determines how much of the CRV emissions liquidity providers get
- Governance:
  - Must "lock" CVR tokens to vote (veCRV)
  - On-chain (used to be off-chain via Snapshot platform)
  - Most proposals:
    - Modify protocol parameters (e.g.: fee percentage)
    - Create gauge for pool or change gauge weight

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Research Questions

- Curve voting behavior
  - What is the average participation rate?
  - Are proposals mostly one sided?
  - Which proposals gather the most participation?
  - What are the most controversial proposals?
- Proposals and protocol metrics
  - How does the outcome of proposal voting affect the protocol? (w.r.t. TVL, volume, fees, etc.)
- Voter activity history
  - Given a user, what did they vote on in the past? Did they create proposals? When did they lock CRV to be able to vote?
  - Are there proposals that prompted a user to lock more veCRV?
- Proposal vote breakdown
  - Given a proposal, how is voting distributed?
  - Who voted for a given proposal and how invested are they in the protocol?

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Let's get down to business!

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Thank you!

Tune in for our next workshop

May 30th


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