

Building on the Madara Stack with Avail

The Madara stack, when integrated with Avail in a Validium setup, provides a seamless platform for scaling blockchain applications. This integration combines the customizability and Starknet compatibility of Madara with the robust data availability solutions of Avail.

Transaction Lifecycle

1. Transaction Submission
2.
 - Process
3.
 - : Users initiate transactions which are sent to the Madara-based Validium Sequencer.
4.
 - Role
5.
 - : The Sequencer, leveraging the flexibility of Madara, temporarily holds these transactions.
6. Batch Processing
7.
 - Component
8.
 - : Customized within Madara's framework.
9.
 - Function
10.
 - : Transactions are batched for efficient processing, leveraging Madara's modular design.
11. Data Availability with Avail
12.
 - Component
13.
 - : Custom integration within Madara's setup.
14.
 - Function
15.
 - : Batches are published to Avail for data availability, ensuring transparency and accessibility.
16. State Transition and Proof Generation
17.
 - Component
18.
 - : Utilizes Madara's Starknet compatibility.
19.
 - Function
20.
 - : State transitions are processed, and cryptographic proofs are generated within the Madara environment.
21. Commitment and Verification
22.
 - Action
23.
 - : Commitments, along with proofs, are anchored to a primary blockchain (e.g., Ethereum), ensuring security and finality.

Key Features

- Customizability
 - : Madara's Substrate-based framework allows for extensive customization to meet specific blockchain requirements.
- Starknet Compatibility
 - : Madara's compatibility with Starknet opens a wide array of tools and features for developers.
- Robust Data Availability
 - : Avail provides a decentralized solution for data availability, crucial for scalability and security in blockchain applications.
- Flexibility and Interoperability
 - : The combination of Madara and Avail supports a wide range of blockchain architectures and use cases.

Developer Resources

To leverage Madara with Avail, developers are encouraged to refer to the [tutorial](#) on creating an Avail-powered validium with Avail. For in-depth information on Madara's features, tools, and configurations, visit [Madara Documentation \(opens in a new](#)

[tab](#)) .

[Madara Starknet Avail-Powered Madara Validium](#)