

Testing the RPC Endpoint: <https://mainnet.ethernitychain.io>

Summary

The RPC endpoint was tested for basic, advanced, regression, and batch request functionalities. The tests evaluated the endpoint's performance and accuracy in handling Ethereum JSON-RPC methods. While most functionalities worked as expected, a few discrepancies were observed in the regression tests and contract interaction results.

Basic Test Results

1. **Latest Block Number:** Successfully retrieved.
 - **Block Number:** 6311155
 2. **Latest Block Hash:** Successfully retrieved.
 - **Block Hash:**
0x50cceafcfcdbeb51aae53f4954e970376bda7f8b09be29250591e38cbaf885d2
 3. **Account Balance:** Successfully retrieved for the address 0xC7694D6c3132c5dcb5573AadbA527D43480fb53f.
 - **Balance:** 0.00028028225429964 ETH

Advanced Test Results

Regression Test Results

1. **Latest Block Number Regression:**
 - o **Actual Block Number:** 6311158
 - o **Expected Block Number:** 6311140
 - o **Status:** Failed
 - The latest block number did not match the expected value. This may indicate an issue with the test configuration or rapid changes in the blockchain state.
 2. **Balance of Address Regression:**
 - o **Balance:** 0.00028028225429964 ETH
 - o **Expected Balance:** 0.00028028225429964 ETH
 - o **Status:** Passed
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Batch Request Results

The batch request successfully executed multiple RPC calls, with the following results:

1. **Latest Block Number:** 0x604cf7 (Hexadecimal representation of block number).
 2. **Balance of Address:** 0xfeeaa4c3451f8 (Hexadecimal representation of the balance).
 3. **Contract Logs:** [] (No logs returned).
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Observations and Recommendations

1. **Transaction Receipt:** The receipt was fetched successfully. However, further testing is recommended with additional transactions to validate consistency across various scenarios.
 2. **Contract Call (Name):** The result returned None. Verify the ABI and function signature used for this test to ensure it matches the deployed contract's implementation.
 3. **Regression Test (Block Number):** The actual block number was higher than the expected value, which may be due to blockchain updates happening during the test. Consider fetching the expected value dynamically for future tests to account for this variability.
 4. **Logs Retrieval:** No logs were returned for the specified contract. Confirm the contract's activity and events to ensure relevant data is available for testing.
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Conclusion

The RPC endpoint is functional and handles requests effectively. However, minor discrepancies, such as the failed regression test for the block number and the contract call returning None, should be investigated further to ensure complete reliability. Additional edge case testing and validation of expected results are recommended.

