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debug_traceCall

post <https://{network}.g.alchemy.com/v2/{apiKey}> Runs an eth_call within the context of the given block execution using the final state of parent block as the base.

Parameters

1. Object
2.
 - Transaction object with the following fields:* from
3.
 - - string, 20 Bytes - The address the transaction is sent from.
4.
 - to
5.
 - - string,[required]
6.
 - 20 Bytes - The address the transaction is directed to.
7.
 - gas
8.
 - - (optional) The gas provided for the transaction execution as a hex string.
9.
 - gasPrice
10.
 - - string, 20 Bytes - Integer formatted as a hex string representing the gas price used for each paid gas.
11.
 - value
12.
 - - string, 20 Bytes - Integer formatted as a hex string representing the value sent with the given transaction.
13.
 - data
14.
 - - string, 20 Bytes - Hash of the method signature and encoded parameters.
15. String
16.
 - One of the following options -1. block hash

17.
 1. block number
18.
 1. (in hex)
19.
 1. block tag
20.
 1. (one of the following):* pending
21.
 1.
 - A sample next block built by the client on top of latest and containing the set of transactions usually taken from local mempool. Intuitively, you can think of these as blocks that have not been mined yet.
22.
 1.
 - latest
23.
 1.
 - The most recent block in the canonical chain observed by the client, this block may be re-orged out of the canonical chain even under healthy/normal conditions.
24.
 1.
 - safe
25.
 1.
 - The most recent crypto-economically secure block, cannot be re-orged outside of manual intervention driven by community coordination. Intuitively, this block is “unlikely” to be re-orged. Only available on Ethereum Goerli
26.
 1.
 - .
27.
 1.
 - finalized
28.
 1.
 - The most recent crypto-economically secure block, that has been accepted by >2/3 of validators. Cannot be re-orged outside of manual intervention driven by community coordination. Intuitively, this block is very unlikely to be re-orged. Only available on Ethereum Goerli
29.
 1.
 - .
30.
 1.
 - earliest
31.
 1.
 - The lowest numbered block the client has available. Intuitively, you can think of this as the first block created.
32. Object
33.
 - tracer
34. tracer
35. -
36. string
37. to specify the type of tracer. Currently supports
38. callTracer
39. and
40. prestateTracer
41. (see below for definitions).
42. tracerConfig
43.
 - Object to specify configurations for the tracer* onlyTopCall

44.
 - -
45.
 - boolean
46.
 - Setting this to
47.
 - true
48.
 - will only trace the main (top-level) call and none of the sub-calls. This avoids extra processing for each call frame if only the top-level call info are required (useful for getting
49.
 - revertReason
50.
 -).

Returns

- Object
- - trace object

callTracer

The callTracer tracks all the call frames executed during a transaction, including depth 0. The result will be a nested list of call frames, resembling how EVM works. They form a tree with the top-level call at root and sub-calls as children of the higher levels. Each call frame has the following fields:

field type description type string CALL or CREATE from string address to string address value string hex-encoded amount of value transfer gas string hex-encoded gas provided for call gasUsed string hex-encoded gas used during call input string call data output string return data error string error, if any revertReason string Solidity revert reason, if any calls []callframe list of sub-calls

Request

cURL curl --request POST --url https://eth-mainnet.g.alchemy.com/v2/demo --header 'accept: application/json' --header 'content-type: application/json' --data ' { "id": 1, "jsonrpc": "2.0", "method": "debug_traceCall", "params": [{ "to": "0xd46e8dd67c5d32be8058bb8eb970870f07244567" }, "finalized", { "tracer": "callTracer" }] } '

Response

Response { "jsonrpc": "2.0", "id": 1, "result": { "type": "CALL", "from": "0x0000000000000000000000000000000000000000", "to": "0xd46e8dd67c5d32be8058bb8eb970870f07244567", "value": "0x0", "gas": "0x7fffffffadf7", "gasUsed": "0x0", "input": "0x", "output": "0x" } } Things to note about the call tracer:

- Calls to precompiles are also included in the result
- In case a frame reverts, the field
 - output
 - will contain the raw return data
- In case the top level frame reverts, its
 - revertReason
 - field will contain the parsed reason of revert as returned by the Solidity contract
- Setting the
 - tracerConfig
 - of
 - onlyTopCall
 - to
 - true
 - will only trace the main (top-level) call and none of the sub-calls

prestateTracer

Executing a transaction requires the prior state, including account of sender and recipient, contracts that are called during execution, etc. The prestateTracer replays the tx and tracks every part of state that is touched during that transaction. This is similar to the concept of a stateless witness, the difference being this tracer doesn't return any cryptographic proof, rather only the trie leaves. The result is an object. The keys are addresses of accounts. The value is an object with the following fields:

field type description balance string balance in wei nonce uint64 nonce code string hex-encoded bytecode storage map[string]string storage slots of the contract

Request

```
cURL curl --request POST --url https://eth-mainnet.g.alchemy.com/v2/demo --header 'accept: application/json' --header 'content-type: application/json' --data '{ "id": 1, "jsonrpc": "2.0", "method": "debug_traceCall", "params": [ { "to": "0xd46e8dd67c5d32be8058bb8eb970870f07244567", "finalized", { "tracer": "prestateTracer" } ] } '
```

Response

```
Response {"jsonrpc": "2.0", "id": 1, "result": [{"0x0000000000000000000000000000000000000000000000000000000000000000": {"balance": "0x270bc8e8a5208833a09", "nonce": 0, "code": "0x", "storage": {} }, "0xd46e8dd67c5d32be8058bb8eb970870f07244567": {"balance": "0x3944222033a71a", "nonce": 0, "code": "0x", "storage": {} } ] }
```

NOTE

You can test out this method live from your browser using our [composer tool](#) .

Path Params apiKey string required .custom-style { color: #048FF4; } For higher throughput, [create your own API key](#) Body Params id integer jsonrpc string method string params array 1. object 2. - Transaction Object 3. string 4. - Block Identifier: Block hash, block number (in hex), or block tag 5. tracer 6. - Object: Currently supports callTracer 7. and prestateTracer 8. (see above for definitions). params Transaction Object Block Identifier Tracer Transaction Object Block Identifier Tracer Transaction Object Block Identifier Tracer

Response

200

Returns - Array of block traces

Response body object id integer jsonrpc string result array of objects Array of block traces result object type string CALL or CREATE from string 20 Bytes - address of the sender to string 20 Bytes - address of the receiver. null when its a contract creation transaction value string amount of value for transfer (in hex) gas string amount of gas provided for the call (in hex) gasUsed string amount of gas used during the call (in hex) input string call data output string return data error string error, if any revertReason string solidity revert reason, if any calls array list of sub-calls calls

Updated 5 months ago

[Debug API Endpoints debug_traceTransaction](#) Did this page help you? Yes No