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# debug\_traceBlockByHash

post https://{network}.g.alchemy.com/v2/{apiKey} Replays the block that is already present in the database.

#### **Parameters**

Transaction parameters with the following field:\* blockHash
2.

string - This describes the block hash of the transaction that needs to be traced.

```
3. Object - trace
 4. trace
    string
 6.
    to specify the type of tracer. Currently supports
 8.
    callTracer
prestateTracer
    (see below for definitions).
12.
    tracerConfig
13

    Object to specify configurations for the tracer* onlyTopCall

14
15.

    boolean

16

    Setting this to

17.
18
        • 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 is required (useful for getting
19
20
```

#### Returns

Object

。).

trace object

#### Request

cURL curl https://eth-mainnet.g.alchemy.com/v2/demo -X POST -H "Content-Type: application/json" --data '{"method":"debug\_traceBlockByHash","params": ["0x97b49e43632ac70c46b4003434058b18db0ad809617bd29f3448d46ca9085576", {"tracer": "callTracer";},"id":1,"jsonrpc":"2.0"}

```
Response
"ox70526cc7a6d6320b44122ea9d2d07670accc85a1","to":"0x000000000007f150bd6f54c40a34d7c3d5e9f56","value":"0x70526cc7a6d6320b44122ea9d2d07670accc85a1","to":"0x000000000007f150bd6f54c40a34d7c3d5e9f56","value":"0x0","gas":"0x7b2a2,"gasUsed":"0x34064","input"
. •\(\text{value}\) | \(\text{value}\) | \(\text{va
 "gasUsed" :"0x2b11" ,"input" (10x2b110 | 10x2b110 | 10x2b120 | 10x
```

 $\frac{1}{2}$ 

```
"output" :"0x" ,"calls" : [ {"type" :"CALL" ,"from" :"0x8c1c499b1796d7f3c2521ac37186b52de024e58c" ,"to" :"0x31c8eacbffdd875c74b94b077895bd78cf1e64a3" ,"value" :"0x0" ,"gas" :"0x1078e" ,"gasUsed" :"0x477d" ,"input"
"oxtput" :"0x" ,"calls" : [ {"type" :"CALL" ,"from" :"0xdef171fe48cf0115b1d80b88dc8eab59176fee57" ,"to" :"0x216b4b4ba9f3e719726886d34a177484278bfcae" ,"value" :"0x0" ,"gas" :"0x303bl ,"gasUsed" :"0x5671" ,"input"
, gas/sed : 0x.507 | miput | 10x.507 | miput | 1
 "output" :"0x" ,"calls" : [ {"type" :"CALL" ,"from" :"0x20e95253e54490d8d30ea41574b24f741ee70201" ,"to" :"0xc02aaa39b223fe8d0a0e5c4f27ead9083c756cc2" ,"value" :"0x0" ,"gas" :"0x2550b" ,"gasUsed" :"0x750a" ,"input"
"output" "'0x" ,"calls" : [ {"type" :"CALL" ,"from" :"0x881d40237659c251811cec9c364ef91dc08d300c" ,"to" :"0xf4d2888d29d722226fafa5d9b24f9164c092421e" ,"value" :"0x0" ,"gasUsed" :"0x910f" ,"input"
, output ... which is a first a first
```

```
"input", "C3d210": "gasUsed", "0x180au"; "gas", "0x1111111254fb6c44bac0bed2854e76f90643097d", "value"
 output": "0x", "calls": [ {"type": "DELEGATECALL", "from": "0xfa103c21ea2df71dfb92b0652f8b1d795e51cdef", "to": 0x813ffae25b9b8c909ecc9e2f9747006e0b43d16, "gas": "0x23edc", "gasUsed"; "to": 0x813ffae25b9b8c909ecc9e2f9747006e0b43d16, "gas": 0x23edc", "gasUsed" ("gasUsed"); 0x10e1 ("gasUs
 "0x1dd43" ."input"
 "ox220c7, "output" :"0x1, "calls" : [ {"type" :"CALL" ,"from" :"0xfa103c21ea2df71dfb92b0652f8b1d795e51cdef" ,"to" :"0x5a98fcbea516cf06857215779fd812ca3bef1b32" ,"value" :"0x0" ,"gas" :"0x220c7, "gasUsed" :"0x1c6b6" ,"input"
```

#### 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 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
- tracerConfid of
- onlyTopCall
- to
- 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 field output will contain the raw return

- . In case the top level frame reverts, its
- field will contain the parsed reason of revert as returned by the Solidity contract.

### NOTE

You can test out this method live from your browser using oucomposer 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. string 2. -Block hash for the block to be traced 3. tracer 4. Object - Currently supportscallTracer 5. andprestateTracer 6. (see above for definitions). params Block hash Tracer

Response

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 4 months ago

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