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traceCall - SDK

Runs an eth call with the context of the provided block execution using the final state of the parent block as the base.

All CSS

/ dont have api sec start/.api key instruct ban{ background: #F5FCFF; border: 1px solid rgba(207, 217, 240, 0.2); border-radius: 12px; -webkit-border-radius: 12px; display: flex; flex-wrap; wrap; padding: 33px; } .markdown-body h3 { color: #00000 limportant; } .api_key_instruct_ban_lft h3{ font-size: 24px; line-height: 1.3; letter-spacing: -0.03em; font-weight: 700; font-family: 'Inter', sans-serif; margin-bottom: 7px; margin-top: 0px; color: #00000 !important; } .api key instruct ban Ift h3:last-child{ margin-bottom: 0; } .api key instruct ban Ift p{ font-size: 14px; line-height: 1.3; color: #000000; font-family: 'Inter', sans-serif; font-weight: 400; } .gt startd vbtn{ display: inline-block; color: #FFFFFF !important; background: lineargradient(126.33deg, #36BEFF 5.38%, #733FF1 108.32%); border-radius: 6px; font-size: 16px; line-height: 1.3; font-weight: 600; font-family: 'Inter', sans-serif; padding: 9px 16px; } .gt_startd_vbtn:hover{ background: #000; color: #fff; } .api key instruct ban lft{ flex-basis: 60%; max-width: 60%; padding-right: 15px; } .api key instruct ban rtt{ flex-basis: 40%; max-width: 40%; padding-left: 15px; align-self: center; \ / dont have api sec end/

```
/* ====== responsive css ====== */
@media(min-width:1025px) {}
@media(max-width:1199px) {
  .api_main {
    max-width: 100%;
  .api_main_cont ul li a {
    width: 100%;
  .left_icon .evm_part {
    width: 73%:
    margin: 22px auto auto auto;
  .api_main_cont ul li a {
    padding: 10px 18px:
    border-radius: 12px:
  .api_main_cont ul li a:hover::before {
    border-radius: 12px;
  .learn_box,
  .lear outer {
    height: 100%;
  .navbar-nav>li>a {
    font-size: 15px;
    padding: 8px 10px;
  .top_header_links ul li a{
```

```
font-size: 15px;
   .footer links box ul li a{
     font-size: 13px;
  /* dont_have_api_sec_start */
  .api_key_instruct_ban{
       display: block;
       text-align: center;
       background: linear-gradient(180deg, #EBF9FF 0%, #EEF3FE 100%);
     .api_key_instruct_ban_lft,.api_key_instruct_ban_rtt{
       max-width: 100%;
       padding: 0;
       flex-basis: 100%;
     .api key instruct ban lft{
       margin-bottom: 30px;
    dont_have_api_sec_end */
@media (max-width: 768px) {
     /* dont_have_api_sec_start */
     .api_key_instruct_ban_lft h3{
       font-size: 30px;
     .api_key_instruct_ban_lft p{
       font-size: 16px;
     .wrapper_body_cmn_out{
       max-width: 100%;
     .api_key_instruct_ban_lft h3 {
       font-size: 40px;
       margin-bottom: 16px;
     /* dont_have_api_sec_end */
}
@media (max-width: 350px){
  /* dont_have_api_sec_start */
  .api_key_instruct_ban_lft h3{
     font-size: 36px;
  .api_key_instruct_ban{
     padding: 30px;
    dont_have_api_sec_end */
```

whole_Section_wrapperdont_have_api_sec_start### Don't have an API key?

Start using this method in your app today. Get started for free dont_have_api_sec_end

Description

traceCall runs aneth call with the context of the provided block execution using the final state of the parent block as the base.

Parameters

Name Type Description Example transaction object The transaction to debug trace.

This is an object with the following optional properties:

- 1. to?: The address the transaction is directed to.
- 2. from?: The address the transaction is sent from.
- 3. gas?: The gas provided for the transaction execution, as a hex string.
- 4. gasPrice? : The gas price to use as a hex string.

5. value?: The value associated with the transaction as a hex string.

6. data?: The data associated with the transaction. { "from": "0x6f1FB6EFDf50F34bFA3F2bC0E5576EdD71631638", "to": "0x6b175474e89094c44da98b954eedeac495271d0f", "value": "0x0", "data":

There are the following commitment levels:

- 1. pending: Sample next block inferred by Alchemy built on top of the latest block.
- 2. latest: The most recent block in the canonical chain observed by Alchemy.
- 3. safe: The most recent crypto-economically secure block that cannot be re-orged outside of manual intervention driven by community coordination. This is only available on Goerli testent.
- 4. finalized: The most recent secure block that has been accepted by >2/3 of validators. This block is very unlikely to be reorged. This is only available on Goerli testnet.
- 5. earliest: The lowest numbered block available that is usually the first block created. 0x5568A, latest, 0x04e19fc95ec33e65c667d26a69d66d024732891c13742a345f5001ff900bd60a etc. tracer object Tracer type and configuration.

This tracer tracks all call frames executed during a transaction, including depth 0. The returned result is a nested list of call frames executed as part of the call.

It is an object with the following options:

- 1. type: The type of tracer to use during the execution. The options areallTracer and prestateTracer
- 2. onlyTopCall? : Whether to only trace the main (top-level) calls and ignore sub-calls. It is a boolean and defaults to false . { type: callTracer, onlyTopCall: true }

Response

The traceCall method returns a Promise response object with the following properties.

Property Type Description type string The type of call: CALL or CREATE for the top-level call. from string From address of the transaction. to string To address of the transaction. value string Amount of value transfer as a hex string. gas string Gas provided for call as a hex string. gasUsed string Gas used during the call as a hex string. input string Call data. output string Return data. error? string Optional error field. revertReason? string Solidity revert reason, if the call reverted. calls? array of response object Array of sub-calls executed as part of the original call.

Example Request and Response

Prerequisite: You will need to install the Alchemy SDK before making requests with it.

The commands for installing it usingnpm oryarn are given below:

npm yarn npm install alchemy-sdk@latest yarn add alchemy-sdk@latest

Request

Here is an example of how to make a traceCall request using the Alchemy SDK:

 $traceCall\ response\ //\ Imports\ the\ Alchemy\ SDK\ const\ \{Alchemy\ ,Network\ \}=\ require\ ("alchemy-sdk"\);//\ Configures\ the\ Alchemy\ SDK\ const\ config\ =\ \{apiKey\ :"demo"\ ,//\ Replace\ with\ your\ API\ key\ network\ :Network\ .ETH_MAINNET\ ,//\ Replace\ with\ your\ network\ \};//\ Creates\ an\ Alchemy\ object\ instance\ with\ the\ config\ to\ use\ for\ making\ requests\ const\ alchemy\ =\ new\ Alchemy\ (config\);//\ Example\ of\ using\ the\ traceCall\ method\ const\ main\ =\ async\ ()=>\ \{//\ The\ transaction\ to\ debug\ trace.\ let\ transaction\ =\ \{from\ :"0x6f1FB6EFDf50F34bFA3F2bC0E5576EdD71631638"\ ,to$

:"0x6b175474e89094c44da98b954eedeac495271d0f", value: "0x0", data

Response

And here is an example of what a successful response to this request might look like:

Code Sandbox

You can test the traceCall method using the code sandbox below:

Use Cases

Some of the use cases for traceCall are:

- · Debugging Contract Issues
- : Developers can use the
- traceCall
- method to diagnose and fix issues with smart contract execution by tracing the flow of execution and the state changes made by the contract.
- Optimizing Contract Performance
- : Developers can use the
- traceCall
- method to identify and optimize slow or inefficient sections of code by tracing the execution and gas consumption of smart contract calls.
- · Verifying Contract Security
- · : Security auditors can use the
- traceCall
- method to verify the security of smart contracts by tracing the execution of malicious inputs and evaluating the contract's response.
- · Improving Contract User Experience
- : Developers can use the
- traceCall
- method to improve the user experience of smart contract interactions by tracing the execution of user inputs and evaluating the contract's response.

Related Methods

Here are the methods related to traceCall:

- traceTransaction
- : Attempts to run the transaction in the exact same manner as it was executed on the network. It will replay any transaction that may have been executed prior to this one before it and will then attempt to execute the transaction that corresponds to the given hash.
- traceBlock
- : Replays a block that has already been mined.

Updated 5 months ago

SDK Debug Methods traceTransaction - SDK Did this page help you?Yes No