# eth\_getStorageAt

Returns the value from a storage position at a given address.

For Growth and Custom service plans This JSON-RPC method allows a request to be forwarded to a partner service provider if Infura should experience a service issue or outage. See<u>Failover protection</u> and<u>Enable API request forwarding</u> for complete details.

If you would like failover protection but don't qualify under your current plan, then either self-upgrade to the Growth plan or contact a sales representative to upgrade to a Custom plan.

## **Parameters**

- address
- : [Required
- ] A string representing the address (20 bytes) of the storage.
- storage position
- : [Required
- ] A hexadecimal code of the position in the storage.
- · block parameter
- · : [Required
- ] A hexadecimal block number, or one of the string tagslatest
- ,earliest
- ,pending
- ,safe
- · , orfinalized
- See thedefault block parameter
- •

### Returns

storage value: A hexadecimal equivalent of the integer indicating the value of the storage position at the provided address.

# **Example**

ReplaceYOUR-API-KEY with an API key from your dashboard.

# Request

- cURL
- WSS

 $"0x6661e9d6d8b923d5bbaab1b96e1dd51ff6ea2a93520fdc9eb75d059238b8c5e9", "0x65a8db"], "id":1\}' in the context of the context of$ 

#### Response

JSON

### Additional notes

Calculating the correct position depends on the storage to retrieve. Consider the following contract deployed at0x295a70b2de5e3953354a6a8344e616ed314d7251 by address0x391694e7e0b0cce554cb130d723a9d27458f9298,

contract

Storage

{ uint pos0 ; mapping ( address

```
uint) pos1;
function
Storage ()
\{ pos0 =
1234; pos1 [msg.sender]
5678;}} Retrieving the value of pos0 is straight forward:
curl https://mainnet.infura.io/v3/YOUR-API-KEY \ -X POST \ -H "Content-Type: application/json" \ -d '{"jsonrpc":"2.0",
"method": "eth_getStorageAt", "params": ["0x295a70b2de5e3953354a6a8344e616ed314d7251", "0x0", "0x65a8db"], "id":
Retrieving an element of the map is harder. The position of an element in the map is calculated with:
keccak (LeftPad32 (key,
0),
LeftPad32 (map position,
0) This means to retrieve the storage onpos1["0x391694e7e0b0cce554cb130d723a9d27458f9298"] we need to calculate
the position with:
with the web3 library can be used to make the calculation:
var key =
"000000000000000000000000391694e7e0b0cce554cb130d723a9d27458f9298"
web3 . sha3 (key,
{ "encoding" :
"hex" } ) "0x6661e9d6d8b923d5bbaab1b96e1dd51ff6ea2a93520fdc9eb75d059238b8c5e9" Now to fetch the storage:
curl https://mainnet.infura.io/v3/YOUR-PROJECT-ID \ -X POST \ -H "Content-Type: application/json" \ -d '{"jsonrpc":"2.0",
"method": "eth_getStorageAt", "params": ["0x295a70b2de5e3953354a6a8344e616ed314d7251",
"0x6661e9d6d8b923d5bbaab1b96e1dd51ff6ea2a93520fdc9eb75d059238b8c5e9", "0x65a8db"], "id": 1}' { "jsonrpc": "2.0",
Last updatedonApr 19, 2024 Previous eth getRootHash Next eth getTransactionByBlockHashAndIndex
```