# eth getStorageAt

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

## **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 Infura dashboard .

## Request

- cURL
- WSS

"0x6661e9d6d8b923d5bbaab1b96e1dd51ff6ea2a93520fdc9eb75d059238b8c5e9", "0x65a8db"],"id":1}'

### 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:
keccak (decodeHex ("000000000000000000000000391694e7e0b0cce554cb130d723a9d27458f9298"
with the web3 library can be used to make the calculation:
var key =
"0000000000000000000000000391694e7e0b0cce554cb130d723a9d27458f9298"
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",
```

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