

# eth namespace

## eth\_blockNumber

Returns current block number

- Request
- Response

```
curl localhost:8545 \ -X POST \ -H
```

```
"Content-Type: application/json"
```

```
\ --data
```

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_blockNumber", "params": [] } { "jsonrpc" :
```

```
"2.0" , "id" :
```

```
0 , "result" : result } result :string (hex integer)
```

## eth\_call

Executes a tx call (does not create a transaction)

- Parameters
- Request
- Response
- transactionCall
- :object
- - accessList
- - : array ofobject
- - - address
- - - :string
- - - (address)
- - - storageKeys
- - - : array ofstring
- - - (hex integer)
- - blobVersionedHashes
- - : array ofstring
- - (hex data)
- - blockHash
- - :string
- - (hash)
- - blockNumber

- - :string
- - (hex integer)
- - chainId
- - :string
- - (hex integer)
- - data
- - :string
- - (hex data)
- - from
- - :string
- - (address)
- - gas
- - :string
- - (hex integer)
- - gasPrice
- - :string
- - (hex integer)
- - hash
- - :string
- - (hash)
- - input
- - :string
- - (hex data)
- - isSystemTx
- - :boolean
- - maxFeePerBlobGas
- - :string
- - (hex integer)
- - maxFeePerGas
- - :string
- - (hex integer)
- - maxPriorityFeePerGas
- - :string
- - (hex integer)

- - mint
- - :string
- - (hex integer)
- - nonce
- - :string
- - (hex integer)
- - r
- - :string
- - (hex integer)
- - s
- - :string
- - (hex integer)
- - sourceHash
- - :string
- - (hash)
- - to
- - :string
- - (address)
- - transactionIndex
- - :string
- - (hex integer)
- - type
- - :integer
- - v
- - :string
- - (hex integer)
- - value
- - :string
- - (hex integer)
- - yParity
- - :string
- - (hex integer)
- blockParameter
- :string
- (block number or hash or either of earliest
- ,finalized

- ,latest
- ,pending
- , orsafe
- ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_call", "params": [transactionCall, blockParameter] } { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result :string

## eth\_chainId

Returns ChainID

- Request
- Response

curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_chainId", "params": [] } { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result :string (hex integer)

## eth\_createAccessList

Creates an [EIP2930](#) type AccessList for the given transaction

- Parameters
- Request
- Response
- transactionCall
- :object
- - accessList
- - : array ofobject
- - - address
- - - :string
- - - (address)
- - - storageKeys
- - - : array ofstring
- - - (hex integer)
- - blobVersionedHashes
-

- : array ofstring
- 
- (hex data)
- 
- blockHash
- 
- :string
- 
- (hash)
- 
- blockNumber
- 
- :string
- 
- (hex integer)
- 
- chainId
- 
- :string
- 
- (hex integer)
- 
- data
- 
- :string
- 
- (hex data)
- 
- from
- 
- :string
- 
- (address)
- 
- gas
- 
- :string
- 
- (hex integer)
- 
- gasPrice
- 
- :string
- 
- (hex integer)
- 
- hash
- 
- :string
- 
- (hash)
- 
- input
- 
- :string
- 
- (hex data)
- 
- isSystemTx
- 
- :boolean
- 
- maxFeePerBlobGas
- 
- :string
- 
- (hex integer)
-

- maxFeePerGas
- 
- :string
- 
- (hex integer)
- 
- maxPriorityFeePerGas
- 
- :string
- 
- (hex integer)
- 
- mint
- 
- :string
- 
- (hex integer)
- 
- nonce
- 
- :string
- 
- (hex integer)
- 
- r
- 
- :string
- 
- (hex integer)
- 
- s
- 
- :string
- 
- (hex integer)
- 
- sourceHash
- 
- :string
- 
- (hash)
- 
- to
- 
- :string
- 
- (address)
- 
- transactionIndex
- 
- :string
- 
- (hex integer)
- 
- type
- 
- :integer
- 
- v
- 
- :string
- 
- (hex integer)
- 
- value
- 
- :string
-

- (hex integer)
- 
- yParity
- 
- :string
- 
- (hex integer)
- blockParameter
- :string
- (block number or hash or either of earliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- )
- optimize
- :boolean curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_createAccessList", "params": [transactionCall, blockParameter, optimize] } {
"jsonrpc" :
```

"2.0" , "id" :

0 , "result" : result } result :object

- accessList
- : array ofobject
- 
- address
- 
- :string
- 
- (address)
- 
- storageKeys
- 
- : array ofstring
- 
- (hex integer)
- gasUsed
- :string
- (hex integer)

## eth\_estimateGas

Executes a tx call and returns gas used (does not create a transaction)

- Parameters
- Request
- Response
- transactionCall
- :object
- 
- accessList
- 
- : array ofobject
- 
- 
- address
- 
- 
- :string
-

- - (address)
- 
- - storageKeys
- 
- - : array ofstring
- 
- - (hex integer)
- 
- blobVersionedHashes
- 
- : array ofstring
- 
- (hex data)
- 
- blockHash
- 
- :string
- 
- (hash)
- 
- blockNumber
- 
- :string
- 
- (hex integer)
- 
- chainId
- 
- :string
- 
- (hex integer)
- 
- data
- 
- :string
- 
- (hex data)
- 
- from
- 
- :string
- 
- (address)
- 
- gas
- 
- :string
- 
- (hex integer)
- 
- gasPrice
- 
- :string
- 
- (hex integer)
- 
- hash
- 
- :string
- 
- (hash)
- 
- input
-



- :string
- 
- (hex data)
- 
- isSystemTx
- 
- :boolean
- 
- maxFeePerBlobGas
- 
- :string
- 
- (hex integer)
- 
- maxFeePerGas
- 
- :string
- 
- (hex integer)
- 
- maxPriorityFeePerGas
- 
- :string
- 
- (hex integer)
- 
- mint
- 
- :string
- 
- (hex integer)
- 
- nonce
- 
- :string
- 
- (hex integer)
- 
- r
- 
- :string
- 
- (hex integer)
- 
- s
- 
- :string
- 
- (hex integer)
- 
- sourceHash
- 
- :string
- 
- (hash)
- 
- to
- 
- :string
- 
- (address)
- 
- transactionIndex
- 
- :string
- 
- (hex integer)
-

- type
- 
- :integer
- 
- v
- 
- :string
- 
- (hex integer)
- 
- value
- 
- :string
- 
- (hex integer)
- 
- yParity
- 
- :string
- 
- (hex integer)
- blockParameter
- :string
- (block number or hash or either ofearliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_estimateGas", "params": [transactionCall, blockParameter] } { "jsonrpc" :

"2.0" , "id" :

0 , "result" : result } result :string (hex integer)

## eth\_feeHistory

Returns block fee history.

- Parameters
- Request
- Response
- blockCount
- :string
- (hex integer)
- newestBlock
- :string
- (block number or hash or either ofearliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- )
- rewardPercentiles
- : array ofobject curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_feeHistory", "params": [blockCount, newestBlock, rewardPercentiles] } { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result :object

- baseFeePerGas
- : array ofstring
- (hex integer)
- gasUsedRatio
- : array ofobject
- oldestBlock
- :string
- (hex integer)
- reward
- : array of array ofstring
- (hex integer)

## eth\_getAccount

Retrieves Accounts via Address and Blocknumber

- Parameters
- Request
- Response
- accountAddress
- :string
- (address)
- blockParameter
- :string
- (block number or hash or either ofearliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getAccount", "params": [accountAddress, blockParameter] } { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result :object

- balance
- :string
- (hex integer)
- codeHash
- :string
- (hash)
- nonce
- :string
- (hex integer)
- storageRoot
- :string
- (hash)

## eth\_getBalance

Returns account balance

- Parameters
- Request
- Response
- address

- :string
- (address)
- blockParameter
- :string
- (block number or hash or either of earliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getBalance", "params": [address, blockParameter] } { "jsonrpc" :

"2.0" , "id" :

0 , "result" : result } result :string (hex integer)

## eth\_getBlockByHash

Retrieves a block by hash

- Parameters
- Request
- Response
- blockHash
- :string
- (hash)
- returnFullTransactionObjects
- :boolean curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getBlockByHash", "params": [blockHash, returnFullTransactionObjects] } { "jsonrpc" :

"2.0" , "id" :

0 , "result" : result } result :object

- author
- :string
- (address)
- baseFeePerGas
- :string
- (hex integer)
- blobGasUsed
- :string
- (hex integer)
- difficulty
- :string
- (hex integer)
- excessBlobGas
- :string
- (hex integer)
- extraData
- :string
- (hex data)
- gasLimit
- :string
- (hex integer)
- gasUsed
- :string

- (hex integer)
- hash
- :string
- (hash)
- logsBloom
- :string
- (hex data)
- miner
- :string
- (address)
- mixHash
- :string
- (hash)
- nonce
- :string
- (hex data)
- number
- :string
- (hex integer)
- parentBeaconBlockRoot
- :string
- (hash)
- parentHash
- :string
- (hash)
- receiptsRoot
- :string
- (hash)
- sha3Uncles
- :string
- (hash)
- signature
- :string
- (hex data)
- size
- :string
- (hex integer)
- stateRoot
- :string
- (hash)
- step
- :string
- (hex integer)
- timestamp
- :string
- (hex integer)
- totalDifficulty
- :string
- (hex integer)
- transactions
- : array ofobject
- transactionsRoot
- :string
- (hash)
- uncles
- : array ofstring
- (hash)
- withdrawals
- : array ofobject
- - address
- - :string
- - (address)
- - amountInGwei
-

- :string
- 
- (hex integer)
- 
- amountInWei
- 
- :string
- 
- (hex integer)
- 
- index
- 
- :string
- 
- (hex integer)
- 
- validatorIndex
- 
- :string
- 
- (hex integer)
- withdrawalsRoot
- :string
- (hash)

## eth\_getBlockByNumber

Retrieves a block by number

- Parameters
- Request
- Response
- blockParameter
- :string
- (block number or hash or either of earliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- )
- returnFullTransactionObjects
- :boolean curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_getBlockByNumber", "params": [blockParameter, returnFullTransactionObjects] } {
"jsonrpc" :
```

```
"2.0" , "id" :
```

```
0 , "result" : result } result :object
```

- author
- :string
- (address)
- baseFeePerGas
- :string
- (hex integer)
- blobGasUsed
- :string
- (hex integer)
- difficulty
- :string
- (hex integer)
- excessBlobGas

- :string
- (hex integer)
- extraData
- :string
- (hex data)
- gasLimit
- :string
- (hex integer)
- gasUsed
- :string
- (hex integer)
- hash
- :string
- (hash)
- logsBloom
- :string
- (hex data)
- miner
- :string
- (address)
- mixHash
- :string
- (hash)
- nonce
- :string
- (hex data)
- number
- :string
- (hex integer)
- parentBeaconBlockRoot
- :string
- (hash)
- parentHash
- :string
- (hash)
- receiptsRoot
- :string
- (hash)
- sha3Uncles
- :string
- (hash)
- signature
- :string
- (hex data)
- size
- :string
- (hex integer)
- stateRoot
- :string
- (hash)
- step
- :string
- (hex integer)
- timestamp
- :string
- (hex integer)
- totalDifficulty
- :string
- (hex integer)
- transactions
- : array ofobject
- transactionsRoot
- :string
- (hash)
- uncles
- : array ofstring
- (hash)
- withdrawals

- : array of object
- - address
- - :string
- - (address)
- - amountInGwei
- - :string
- - (hex integer)
- - amountInWei
- - :string
- - (hex integer)
- - index
- - :string
- - (hex integer)
- - validatorIndex
- - :string
- - (hex integer)
- withdrawalsRoot
- :string
- (hash)

## eth\_getBlockReceipts

Get receipts from all transactions from particular block, more efficient than fetching the receipts one-by-one.

- Parameters
- Request
- Response
- blockParameter
  - :string
  - (block number or hash or either of earliest
  - , finalized
  - , latest
  - , pending
  - , or safe
  - ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getBlockReceipts", "params": [blockParameter] } { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result : array of object

- blobGasPrice
- :string
- (hex integer)
- blobGasUsed
- :string
- (hex integer)



- blockHash
- :string
- (hash)
- blockNumber
- :string
- (hex integer)
- contractAddress
- :string
- (address)
- cumulativeGasUsed
- :string
- (hex integer)
- effectiveGasPrice
- :string
- (hex integer)
- error
- :string
- from
- :string
- (address)
- gasUsed
- :string
- (hex integer)
- logs
- : array ofobject
- - address
- - :string
- - (address)
- - blockHash
- - :string
- - (hash)
- - blockNumber
- - :string
- - (hex integer)
- - data
- - :string
- - (hex data)
- - logIndex
- - :string
- - (hex integer)
- - removed
- - :boolean
- - topics
- - : array ofstring
- - (hash)
- - transactionHash
-

- :string
- 
- (hash)
- 
- transactionIndex
- 
- :string
- 
- (hex integer)
- logsBloom
- :string
- (hex data)
- root
- :string
- (hash)
- status
- :string
- (hex integer)
- to
- :string
- (address)
- transactionHash
- :string
- (hash)
- transactionIndex
- :string
- (hex integer)
- type
- :integer

## eth\_getBlockTransactionCountByHash

Returns number of transactions in the block block hash

- Parameters
- Request
- Response
- blockHash
- :string
- (hash) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getBlockTransactionCountByHash", "params": [blockHash] } { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result :string (hex integer)

## eth\_getBlockTransactionCountByNumber

Returns number of transactions in the block by block number

- Parameters
- Request
- Response
- blockParameter
- :string
- (block number or hash or either ofearliest
- ,finalized
- ,latest
- ,pending

- , orsafe
- ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getBlockTransactionCountByNumber", "params": [blockParameter] } { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result :string (hex integer)

## **eth\_getCode**

Returns account code at given address and block

- Parameters
- Request
- Response
- address
- :string
- (address)
- blockParameter
- :string
- (block number or hash or either ofearliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getCode", "params": [address, blockParameter] } { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result :string (hex data)

## **eth\_getFilterChanges**

Reads filter changes

- Parameters
- Request
- Response
- filterId
- :string
- (hex integer) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getFilterChanges", "params": [filterId] } { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result : array ofobject

## **eth\_getFilterLogs**

Reads filter changes

- Parameters
- Request
- Response
- filterId
- :string
- (hex integer) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

'{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getFilterLogs", "params": [filterId] }' { "jsonrpc" :

"2.0" , "id" :

0 , "result" : result } result : array ofobject

- address
- :string
- (address)
- blockHash
- :string
- (hash)
- blockNumber
- :string
- (hex integer)
- data
- :string
- (hex data)
- logIndex
- :string
- (hex integer)
- removed
- :boolean
- topics
- : array ofstring
- (hash)
- transactionHash
- :string
- (hash)
- transactionIndex
- :string
- (hex integer)
- transactionLogIndex
- :string
- (hex integer)

## eth\_getLogs

Reads logs

- Parameters
- Request
- Response
- filter
- :object
- - address
- - :object
- - fromBlock
- - :string

- - (block number or hash or either of earliest
- - ,finalized
- - ,latest
- - ,pending
- - , orsafe
- - )
- - toBlock
- - :string
- - (block number or hash or either of earliest
- - ,finalized
- - ,latest
- - ,pending
- - , orsafe
- - )
- - topics
- - : array of object curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

'{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getLogs", "params": [filter] }' { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result : array of object

- address
- :string
- (address)
- blockHash
- :string
- (hash)
- blockNumber
- :string
- (hex integer)
- data
- :string
- (hex data)
- logIndex
- :string
- (hex integer)
- removed
- :boolean
- topics
- : array of string
- (hash)
- transactionHash
- :string
- (hash)
- transactionIndex
- :string
- (hex integer)

- transactionLogIndex
- :string
- (hex integer)

## eth\_getProof

<https://github.com/ethereum/EIPs/issues/1186>

- Parameters
- Request
- Response
- accountAddress
- :string
- (address)
- hashRate
- : array ofstring
- (hex integer)
- blockParameter
- :string
- (block number or hash or either ofearliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getProof", "params": [accountAddress, hashRate, blockParameter] } { "jsonrpc" :

"2.0" , "id" :

0 , "result" : result } result :object

- address
- :string
- (address)
- balance
- :string
- (hex integer)
- codeHash
- :string
- (hash)
- nonce
- :string
- (hex integer)
- proof
- : array ofstring
- (hex data)
- storageProofs
- : array ofobject
- - key
- - :string
- - (hex data)
- - proof
- - : array ofstring
- - (hex data)
- - value

- - :string
- - (hex data)
- storageRoot
- :string
- (hash)

## eth\_getStorageAt

Returns storage data at address. storage\_index

- Parameters
- Request
- Response
- address
- :string
- (address)
- positionIndex
- :string
- (hex integer)
- blockParameter
- :string
- (block number or hash or either of earliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

'{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getStorageAt", "params": [address, positionIndex, blockParameter] }' { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result :string (hex data)

## eth\_getTransactionByBlockHashAndIndex

Retrieves a transaction by block hash and index

- Parameters
- Request
- Response
- blockHash
- :string
- (hash)
- positionIndex
- :string
- (hex integer) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

'{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getTransactionByBlockHashAndIndex", "params": [blockHash, positionIndex] }' { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result :object

- accessList
- : array of object
- - address
- - :string
- - (address)
- - storageKeys
- - : array of string
- - (hex integer)
- blobVersionedHashes
- : array of string
- (hex data)
- blockHash
- :string
- (hash)
- blockNumber
- :string
- (hex integer)
- chainId
- :string
- (hex integer)
- data
- :string
- (hex data)
- from
- :string
- (address)
- gas
- :string
- (hex integer)
- gasPrice
- :string
- (hex integer)
- hash
- :string
- (hash)
- input
- :string
- (hex data)
- isSystemTx
- :boolean
- maxFeePerBlobGas
- :string
- (hex integer)
- maxFeePerGas
- :string
- (hex integer)
- maxPriorityFeePerGas
- :string
- (hex integer)
- mint
- :string
- (hex integer)
- nonce
- :string
- (hex integer)
- r
- :string
- (hex integer)
- s
- :string
- (hex integer)
- sourceHash



- :string
- (hash)
- to
- :string
- (address)
- transactionIndex
- :string
- (hex integer)
- type
- :integer
- v
- :string
- (hex integer)
- value
- :string
- (hex integer)
- yParity
- :string
- (hex integer)

## eth\_getTransactionByBlockNumberAndIndex

Retrieves a transaction by block number and index

- Parameters
- Request
- Response
- blockParameter
  - :string
  - (block number or hash or either of earliest
  - , finalized
  - , latest
  - , pending
  - , or safe
  - )
  - positionIndex
  - :string
  - (hex integer) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_getTransactionByBlockNumberAndIndex", "params": [blockParameter, positionIndex] } { "jsonrpc" :
```

"2.0", "id" :

0 , "result" : result } result :object

- accessList
- : array of object
  - - address
  - - :string
  - - (address)
  - - storageKeys
  - - : array of string
  - - (hex integer)
- blobVersionedHashes
- : array of string
- (hex data)

- blockHash
- :string
- (hash)
- blockNumber
- :string
- (hex integer)
- chainId
- :string
- (hex integer)
- data
- :string
- (hex data)
- from
- :string
- (address)
- gas
- :string
- (hex integer)
- gasPrice
- :string
- (hex integer)
- hash
- :string
- (hash)
- input
- :string
- (hex data)
- isSystemTx
- :boolean
- maxFeePerBlobGas
- :string
- (hex integer)
- maxFeePerGas
- :string
- (hex integer)
- maxPriorityFeePerGas
- :string
- (hex integer)
- mint
- :string
- (hex integer)
- nonce
- :string
- (hex integer)
- r
- :string
- (hex integer)
- s
- :string
- (hex integer)
- sourceHash
- :string
- (hash)
- to
- :string
- (address)
- transactionIndex
- :string
- (hex integer)
- type
- :integer
- v
- :string
- (hex integer)
- value
- :string
- (hex integer)
- yParity

- :string
- (hex integer)

## eth\_getTransactionByHash

Retrieves a transaction by hash

- Parameters
- Request
- Response
- transactionHash
- :string
- (hash) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

'{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getTransactionByHash", "params": [transactionHash] }' { "jsonrpc" :

"2.0", "id" :

0 , "result" : result } result :object

- accessList
- : array ofobject
- - address
- - :string
- - (address)
- - storageKeys
- - : array ofstring
- - (hex integer)
- blobVersionedHashes
- : array ofstring
- (hex data)
- blockHash
- :string
- (hash)
- blockNumber
- :string
- (hex integer)
- chainId
- :string
- (hex integer)
- data
- :string
- (hex data)
- from
- :string
- (address)
- gas
- :string
- (hex integer)
- gasPrice
- :string
- (hex integer)
- hash
- :string
- (hash)
- input
- :string

- (hex data)
- isSystemTx
- :boolean
- maxFeePerBlobGas
- :string
- (hex integer)
- maxFeePerGas
- :string
- (hex integer)
- maxPriorityFeePerGas
- :string
- (hex integer)
- mint
- :string
- (hex integer)
- nonce
- :string
- (hex integer)
- r
- :string
- (hex integer)
- s
- :string
- (hex integer)
- sourceHash
- :string
- (hash)
- to
- :string
- (address)
- transactionIndex
- :string
- (hex integer)
- type
- :integer
- v
- :string
- (hex integer)
- value
- :string
- (hex integer)
- yParity
- :string
- (hex integer)

## **eth\_getTransactionCount**

Returns account nonce (number of trnsactions from the account since genesis) at the given block number

- Parameters
- Request
- Response
- address
- :string
- (address)
- blockParameter
- :string
- (block number or hash or either ofearliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_getTransactionCount", "params": [address, blockParameter] } { "jsonrpc" :  
"2.0" , "id" :  
0 , "result" : result } result :string (hex integer)
```

## **eth\_getTransactionReceipt**

Retrieves a transaction receipt by tx hash

- Parameters
- Request
- Response
- txHashData
- :string
- (hash) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_getTransactionReceipt", "params": [txHashData] } { "jsonrpc" :  
"2.0" , "id" :  
0 , "result" : result } result :object
```

- blobGasPrice
- :string
- (hex integer)
- blobGasUsed
- :string
- (hex integer)
- blockHash
- :string
- (hash)
- blockNumber
- :string
- (hex integer)
- contractAddress
- :string
- (address)
- cumulativeGasUsed
- :string
- (hex integer)
- effectiveGasPrice
- :string
- (hex integer)
- error
- :string
- from
- :string
- (address)
- gasUsed
- :string
- (hex integer)
- logs
- : array ofobject
- - address
- - :string
- - (address)
-

- blockHash
- 
- :string
- 
- (hash)
- 
- blockNumber
- 
- :string
- 
- (hex integer)
- 
- data
- 
- :string
- 
- (hex data)
- 
- logIndex
- 
- :string
- 
- (hex integer)
- 
- removed
- 
- :boolean
- 
- topics
- 
- : array ofstring
- 
- (hash)
- 
- transactionHash
- 
- :string
- 
- (hash)
- 
- transactionIndex
- 
- :string
- 
- (hex integer)
- logsBloom
- :string
- (hex data)
- root
- :string
- (hash)
- status
- :string
- (hex integer)
- to
- :string
- (address)
- transactionHash
- :string
- (hash)
- transactionIndex
- :string
- (hex integer)
- type
- :integer

**eth\_getUncleByBlockHashAndIndex**

Retrieves an uncle block header by block hash and uncle index

- Parameters
- Request
- Response
- blockHashData
- :string
- (hash)
- positionIndex
- :string
- (hex integer) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_getUncleByBlockHashAndIndex", "params": [blockHashData, positionIndex] } {  
"jsonrpc" :
```

```
"2.0" , "id" :
```

```
0 , "result" : result } result :object
```

- author
- :string
- (address)
- baseFeePerGas
- :string
- (hex integer)
- blobGasUsed
- :string
- (hex integer)
- difficulty
- :string
- (hex integer)
- excessBlobGas
- :string
- (hex integer)
- extraData
- :string
- (hex data)
- gasLimit
- :string
- (hex integer)
- gasUsed
- :string
- (hex integer)
- hash
- :string
- (hash)
- logsBloom
- :string
- (hex data)
- miner
- :string
- (address)
- mixHash
- :string
- (hash)
- nonce
- :string
- (hex data)
- number
- :string
- (hex integer)
- parentBeaconBlockRoot
- :string

- (hash)
- parentHash
- :string
- (hash)
- receiptsRoot
- :string
- (hash)
- sha3Uncles
- :string
- (hash)
- signature
- :string
- (hex data)
- size
- :string
- (hex integer)
- stateRoot
- :string
- (hash)
- step
- :string
- (hex integer)
- timestamp
- :string
- (hex integer)
- totalDifficulty
- :string
- (hex integer)
- transactions
- : array ofobject
- transactionsRoot
- :string
- (hash)
- uncles
- : array ofstring
- (hash)
- withdrawals
- : array ofobject
- - address
- - :string
- - (address)
- - amountInGwei
- - :string
- - (hex integer)
- - amountInWei
- - :string
- - (hex integer)
- - index
- - :string
- - (hex integer)
- - validatorIndex
- - :string
- - (hex integer)



- withdrawalsRoot
- :string
- (hash)

## eth\_getUncleByBlockNumberAndIndex

Retrieves an uncle block header by block number and uncle index

- Parameters
- Request
- Response
- blockParameter
- :string
- (block number or hash or either of earliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- )
- positionIndex
- :string
- (hex integer) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_getUncleByBlockNumberAndIndex", "params": [blockParameter, positionIndex] } {
"jsonrpc" :
```

"2.0" , "id" :

0 , "result" : result } result :object

- author
- :string
- (address)
- baseFeePerGas
- :string
- (hex integer)
- blobGasUsed
- :string
- (hex integer)
- difficulty
- :string
- (hex integer)
- excessBlobGas
- :string
- (hex integer)
- extraData
- :string
- (hex data)
- gasLimit
- :string
- (hex integer)
- gasUsed
- :string
- (hex integer)
- hash
- :string
- (hash)
- logsBloom
- :string
- (hex data)
- miner
- :string
- (address)

- mixHash
- :string
- (hash)
- nonce
- :string
- (hex data)
- number
- :string
- (hex integer)
- parentBeaconBlockRoot
- :string
- (hash)
- parentHash
- :string
- (hash)
- receiptsRoot
- :string
- (hash)
- sha3Uncles
- :string
- (hash)
- signature
- :string
- (hex data)
- size
- :string
- (hex integer)
- stateRoot
- :string
- (hash)
- step
- :string
- (hex integer)
- timestamp
- :string
- (hex integer)
- totalDifficulty
- :string
- (hex integer)
- transactions
- : array ofobject
- transactionsRoot
- :string
- (hash)
- uncles
- : array ofstring
- (hash)
- withdrawals
- : array ofobject
- - address
- - :string
- - (address)
- - amountInGwei
- - :string
- - (hex integer)
- - amountInWei
- - :string
- - (hex integer)
-

- index
- 
- :string
- 
- (hex integer)
- 
- validatorIndex
- 
- :string
- 
- (hex integer)
- withdrawalsRoot
- :string
- (hash)

## eth\_getUncleCountByBlockHash

Returns number of uncles in the block by block hash

- Parameters
- Request
- Response
- blockHash
- :string
- (hash) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getUncleCountByBlockHash", "params": [blockHash] } { "jsonrpc" :

"2.0" , "id" :

0 , "result" : result } result :string (hex integer)

## eth\_getUncleCountByBlockNumber

Returns number of uncles in the block by block number

- Parameters
- Request
- Response
- blockParameter
- :string
- (block number or hash or either of earliest
- ,finalized
- ,latest
- ,pending
- , orsafe
- ) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_getUncleCountByBlockNumber", "params": [blockParameter] } { "jsonrpc" :

"2.0" , "id" :

0 , "result" : result } result :string (hex integer)

## eth\_newBlockFilter

Creates an update filter

- Request
- Response

curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

'{ "jsonrpc": "2.0", "id": 0, "method": "eth\_newBlockFilter", "params": [] }' { "jsonrpc" :

"2.0" , "id" :

0 , "result" : result } result :string (hex integer)

## eth\_newFilter

Creates an update filter

- Parameters
- Request
- Response
- filter
- :object
  - - address
  - - :object
  - - fromBlock
  - - :string
  - - (block number or hash or either ofearliest
  - - ,finalized
  - - ,latest
  - - ,pending
  - - , orsafe
  - - )
  - - toBlock
  - - :string
  - - (block number or hash or either ofearliest
  - - ,finalized
  - - ,latest
  - - ,pending
  - - , orsafe
  - - )
  - - topics
  - - : array ofobject curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_newFilter", "params": [filter] } { "jsonrpc" :
```

```
"2.0" , "id" :
```

```
0 , "result" : result } result :string (hex integer)
```

## **eth\_newPendingTransactionFilter**

Creates an update filter

- Request
- Response

```
curl localhost:8545 \ -X POST \ -H
```

```
"Content-Type: application/json"
```

\ --data

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_newPendingTransactionFilter", "params": [] } { "jsonrpc" :
```

```
"2.0" , "id" :
```

```
0 , "result" : result } result :string (hex integer)
```

## **eth\_pendingTransactions**

Returns the pending transactions list

- Request
- Response

```
curl localhost:8545 \ -X POST \ -H
```

```
"Content-Type: application/json"
```

\ --data

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_pendingTransactions", "params": [] } { "jsonrpc" :
```

```
"2.0" , "id" :
```

```
0 , "result" : result } result : array ofobject
```

- accessList
- : array ofobject
- - address
- - :string
- - (address)
- - storageKeys
- - : array ofstring
- - (hex integer)
- blobVersionedHashes
- : array ofstring
- (hex data)
- blockHash
- :string
- (hash)
- blockNumber
- :string
- (hex integer)
- chainId
- :string

- (hex integer)
- data
- :string
- (hex data)
- from
- :string
- (address)
- gas
- :string
- (hex integer)
- gasPrice
- :string
- (hex integer)
- hash
- :string
- (hash)
- input
- :string
- (hex data)
- isSystemTx
- :boolean
- maxFeePerBlobGas
- :string
- (hex integer)
- maxFeePerGas
- :string
- (hex integer)
- maxPriorityFeePerGas
- :string
- (hex integer)
- mint
- :string
- (hex integer)
- nonce
- :string
- (hex integer)
- r
- :string
- (hex integer)
- s
- :string
- (hex integer)
- sourceHash
- :string
- (hash)
- to
- :string
- (address)
- transactionIndex
- :string
- (hex integer)
- type
- :integer
- v
- :string
- (hex integer)
- value
- :string
- (hex integer)
- yParity
- :string
- (hex integer)

## **eth\_protocolVersion**

Returns ETH protocol version

- Request

- Response

```
curl localhost:8545 \ -X POST \ -H
```

```
"Content-Type: application/json"
```

```
\ --data
```

```
'{ "jsonrpc": "2.0", "id": 0, "method": "eth_protocolVersion", "params": [] }' { "jsonrpc" :
```

```
"2.0", "id" :
```

```
0 , "result" : result } result :string
```

## **eth\_sendRawTransaction**

Send a raw transaction to the tx pool and broadcasting

- Parameters
- Request
- Response
- transaction
- :string
- (hex data) curl localhost:8545 \ -X POST \ -H

```
"Content-Type: application/json"
```

```
\ --data
```

```
'{ "jsonrpc": "2.0", "id": 0, "method": "eth_sendRawTransaction", "params": [transaction] }' { "jsonrpc" :
```

```
"2.0", "id" :
```

```
0 , "result" : result } result :string (hash)
```

## **eth\_sendTransaction**

Send a transaction to the tx pool and broadcasting

- Parameters
- Request
- Response
- rpcTx
- :object
- - accessList
- - : array ofobject
- - - address
- - - :string
- - - (address)
- - - storageKeys
- - - : array ofstring
- -

- (hex integer)
- 
- blobVersionedHashes
- 
- :array ofstring
- 
- (hex data)
- 
- blockHash
- 
- :string
- 
- (hash)
- 
- blockNumber
- 
- :string
- 
- (hex integer)
- 
- chainId
- 
- :string
- 
- (hex integer)
- 
- data
- 
- :string
- 
- (hex data)
- 
- from
- 
- :string
- 
- (address)
- 
- gas
- 
- :string
- 
- (hex integer)
- 
- gasPrice
- 
- :string
- 
- (hex integer)
- 
- hash
- 
- :string
- 
- (hash)
- 
- input
- 
- :string
- 
- (hex data)
- 
- isSystemTx
- 
- :boolean
- 
- maxFeePerBlobGas
-



- :string
- 
- (hex integer)
- 
- maxFeePerGas
- 
- :string
- 
- (hex integer)
- 
- maxPriorityFeePerGas
- 
- :string
- 
- (hex integer)
- 
- mint
- 
- :string
- 
- (hex integer)
- 
- nonce
- 
- :string
- 
- (hex integer)
- 
- r
- 
- :string
- 
- (hex integer)
- 
- s
- 
- :string
- 
- (hex integer)
- 
- sourceHash
- 
- :string
- 
- (hash)
- 
- to
- 
- :string
- 
- (address)
- 
- transactionIndex
- 
- :string
- 
- (hex integer)
- 
- type
- 
- :integer
- 
- v
- 
- :string
- 
- (hex integer)
-

- value
- 
- :string
- 
- (hex integer)
- 
- yParity
- 
- :string
- 
- (hex integer) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

{ "jsonrpc": "2.0", "id": 0, "method": "eth\_sendTransaction", "params": [rpcTx] } { "jsonrpc" :

"2.0", "id" :

0, "result" : result } result :string (hash)

## eth\_subscribe

Starts a subscription to a particular event over WebSockets. A JSON-RPC notification with event payload and subscription id is sent to a client for every event matching the subscription topic.

info This method is enabled by adding subscribe to [--JsonRpc.EnabledModules](#) . \* Parameters \* Request \* Response \* Notification

1. subscriptionName
2. :string
3. filter
4. :object
5.
  - address
6.
  - :string
7.
  - (address)
8.
  - fromBlock
9.
  - :string
10.
  - (block number or hash or either of earliest
11.
  - ,finalized
12.
  - ,latest
13.
  - ,pending
14.
  - , orsafe
15.
  - )
16.
  - toBlock
17.
  - :string
18.
  - (block number or hash or either of earliest
19.
  - ,finalized
20.
  - ,latest
21.
  - ,pending
- 22.

- , orsafe
- 23.
  - )
- 24.
  - topics
- 25.
  - : array of string
- 26.
  - (hex data) wscat -c ws://localhost:8545 { "jsonrpc" :

"2.0", "id" :

0 , "method" :

"eth\_subscribe" , "params" :

[ subscriptionName , args ] } { "jsonrpc" :

"2.0", "id" :

0 , "result" :

"0x..."

// subscription id } result :string { "jsonrpc" :

"2.0", "method" :

"eth\_subscription" , "params" :

{ "subscription" :

"0x..." ,

// subscription id "result" : payload } } See specific subscription topic below for payload details.

## Subscription topics

### newHeads

Subscribes to incoming block headers. Fires a notification each time a new header is appended to the chain, including chain reorganizations.

Notification payload :object

- author
- :string
- (address)
- baseFeePerGas
- :string
- (hex integer)
- blobGasUsed
- :string
- (hex integer)
- difficulty
- :string
- (hex integer)
- excessBlobGas
- :string
- (hex integer)
- extraData
- :string
- (hex data)
- gasLimit
- :string
- (hex integer)
- gasUsed
- :string
- (hex integer)
- hash
- :string

- (hash)
- logsBloom
- :string
- (hex data)
- miner
- :string
- (address)
- mixHash
- :string
- (hash)
- nonce
- :string
- (hex data)
- number
- :string
- (hex integer)
- parentBeaconBlockRoot
- :string
- (hash)
- parentHash
- :string
- (hash)
- receiptsRoot
- :string
- (hash)
- sha3Uncles
- :string
- (hash)
- signature
- :string
- (hex data)
- size
- :string
- (hex integer)
- stateRoot
- :string
- (hash)
- step
- :string
- (hex integer)
- timestamp
- :string
- (hex integer)
- totalDifficulty
- :string
- (hex integer)
- transactions
- : array ofobject
- transactionsRoot
- :string
- (hash)
- uncles
- : array ofstring
- (hash)
- withdrawals
- : array ofobject
- - address
- - :string
- - (address)
- - amount
- - :string
- - (hex integer)

- - index
- - :string
- - (hex integer)
- - validatorIndex
- - :string
- - (hex integer)
- withdrawalsRoot
- :string
- (hash)

## logs

Subscribes to incoming logs filtered by the given options. In case of a chain reorganization, previously sent logs on the old chain will be re-sent with the removed field set to true .

Notificationpayload :object

- address
- :string
- (address)
- blockHash
- :string
- (hash)
- blockNumber
- :string
- (hex integer)
- data
- :string
- (hex data)
- logIndex
- :string
- (hex integer)
- removed
- :boolean
- topics
- : array ofstring
- (hash)
- transactionHash
- :string
- (hash)
- transactionIndex
- :string
- (hex integer)
- transactionLogIndex
- :string
- (hex integer)

## newPendingTransactions

Subscribes to incoming pending transactions. Returns the transaction hash.

Notificationpayload :string (hash)

## droppedPendingTransactions

Subscribes to transactions evicted from the transaction pool. Returns the transaction hash.

Notificationpayload :string (hash)

## syncing

Subscribes to syncing events. Returns false (once) if the node is synced or an object with statistics (once) when the node

starts syncing.

Notificationpayload :

- if synced:boolean
- if syncing:object
  - - currentBlock
  - - :string
  - - (hex integer)
  - - highestBlock
  - - :string
  - - (hex integer)
  - - isSyncing
  - - :boolean
  - - startingBlock
  - - :string
  - - (hex integer)

## eth\_syncing

Returns syncing status

- Request
- Response

```
curl localhost:8545 \ -X POST \ -H
```

```
"Content-Type: application/json"
```

```
\ --data
```

```
{ "jsonrpc": "2.0", "id": 0, "method": "eth_syncing", "params": [] } { "jsonrpc" :
```

```
"2.0" , "id" :
```

```
0 , "result" : result } result :object
```

- currentBlock
- :string
- (hex integer)
- highestBlock
- :string
- (hex integer)
- isSyncing
- :boolean
- startingBlock
- :string
- (hex integer)
- syncMode
- :integer

## eth\_uninstallFilter

Creates an update filter

- Parameters
- Request
- Response

- filterId
- :string
- (hex integer) curl localhost:8545 \ -X POST \ -H

"Content-Type: application/json"

\ --data

'{ "jsonrpc": "2.0", "id": 0, "method": "eth\_uninstallFilter", "params": [filterId] }' { "jsonrpc" :

"2.0" , "id" :

0 , "result" : result } result :boolean

## eth\_unsubscribe

Unsubscribes from a subscription.

info This method is enabled by adding subscribe to [JsonRpc.EnabledModules](#) . \* Parameters \* Request \* Response

1. subscriptionId
2. :string wscat -c ws://localhost:8545 { "jsonrpc" :

"2.0" , "id" :

0 , "method" :

"eth\_unsubscribe" , "params" :

[ subscriptionId ] } { "jsonrpc" :

"2.0" , "id" :

0 , "result" : result } result :boolean (true if unsubscribed successfully; otherwise, false [Edit this page](#) Last updated on Feb 17, 2024 [Previous debug](#) [Next net](#)