# eth\_getBlockByHash

Returns information about a block whose hash is in the request

### **Parameters**

- hash
- : (string) [Required
- ] A string representing the hash (32 bytes) of a block transaction details flag
- : (boolean) [Required
- 1 If set totrue
- returns the full transaction objects, iffalse
- returns only the hashes of the transactions.

A block object matching the hash in the request, or null when no block was found. The matched block contains the following keys and their values:

- difficulty
- : A hexadecimal of the difficulty for this block
- extraData
- : The "extra data" field of this block
- gasLimit: Maximum gas allowed in this block.
- gasUsed
- Total used gas by all transactions in this block

- : 32 bytes. The hash of the block. Null when the returned block is the pending block
- : 256 bytes. The bloom filter for the logs of the block. Null when the returned block is the pending block.

- : 20 bytes. The address of the beneficiary to whom the mining rewards were given
- : 8 bytes. The hash of the generated proof-of-work. Null when the returned block is the pending block.
- : The block number. Null when the returned block is the pending block
- parentHash
- : 32 bytes. The hash of the parent block receiptsRoot
- : 32 bytes. The root of the receipts trie of the block.
- sha3Uncles
- : 32 bytes. The SHA3 of the uncles data in the block.
- : A hexadecimal of the size of this block in bytes
- stateRoot
- : 32 bytes. The root of the final state trie of the block.
- timestamp : Unix timestamp for when the block was collated
- totalDifficulty : A hexadecimal of the total difficulty of the chain until this block.
- : [Array] An array of transaction objects, or 32 bytes transaction hashes depending on the last given parameter.
- : 32 bytes. The root of the transaction trie of the block
- : [Array] An Array of uncle hashes.

## Example

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

### Request

- cURL

 $curl \ https://optimism-mainnet.infura.io/v3/YOUR-API-KEY \-x \ POST \ -H "Content-Type: application/json" \ -d '("jsonrpc":"2.0", "method":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35",false], "id":1}' wscat -c wss://optimism-mainnet.infura.io/ws/v3/YOUR-API-KEY -x '("jsonrpc":"2.0", "method":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35",false], "id":1}' \ '("jsonrpc":"2.0", "method":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35",false], "id":1}' \ '("jsonrpc":"2.0", "method":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35", false], "id":1]' \ '("jsonrpc":"2.0", "method":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35", false], "id":1]' \ '("jsonrpc":"2.0", "method":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35", false], \ '("id":1)' \ '("jsonrpc":"2.0", "method":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35", false], \ '("id":1)' \ '("jsonrpc":"2.0", "method":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35", false], \ '("id":1)' \ '("jsonrpc":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35", false], \ '("id":1)' \ '("jsonrpc":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35", false], \ '("id":1)' \ '("jsonrpc":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35", false], \ '("jsonrpc":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d7d6a5a35", false], \ '("jsonrpc":"eth_getBlockByHash", "params": ["0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d7d6a5a35", false], \ '("jsonrpc"$ 

# Response

• JSON

{ "jsonrpc": "2.0", "id": 1, "result": { "difficulty": "0xbfabcdbd93dda", "extraData": "0x737061726b706f6f6c2d636e2d6e6f64652d3132", "gasLimit": "0x79f39e", "gasUsed": "0x79ccd3", "hash": "0xb3b20624f8f0f86eb50dd04688409e5cea4bd02d700bf6e79e9384d47d6a5a35", "logsBloom": "0x4848112002a2020aaa0812180045840210020005281600c8010426430008000800491220144461026015300100000128005018401002090a824a4150015410020140400d808440106689b29d0280b "miner": "0x5a0b54d5dc17e0aadc383d2db43b0a0d3e029c4c", "mixHash": "0x3d1fdd16f15aeab72e7db1013b9f034ee33641d92f71c0736beab4e67d34c7a7", "nonce": "0x4db7a1c01d8a8072",

"miner": "0x5a0b54d5dc17e0aadc383d2db43b0a0d3e029c4c", "mixHash": "0x3d1fdd16f15aeab72e7db1013b9f034ee33641d92f71c0736beab4e67d34c7a7", "nonce": "0x4db7a1c01d8a8072", "number": "0x5bad55", "parentHash": "0x61a8ad530a8a43e3583f8ec163f773ad37032b92375d66433eb82f005e1d6202", "receiptsRoot": "0x5b2d547d32dbc714f5fd51d98a941b28182b6efe6df3a0fe90004b", "sha3Uncles": "0x8a562e7634774d3e3a36698ac4915e37fc84a2cd0044cb84fa5d80263d2af4f6", "size": "0x41c7", "stateRoot": "0xf5208fffa2ba5a3f3a2f64ebd5ca3d098978bedd75f335f56b705d8715ee2305", "timestamp": "0x5b541449", "totalDifficulty": "0x12ac11391a2f3872fcd", "transactions": [
"0x8784d99762bccd03b2086eabccee0d77f14d05463281e121a62abfebcf0d2d5f", "0x311be6a9b58748717ac0f70eb801d29973661aaf1365960d159e4ec4f4aa2d7f",
"0xe42b0256058b7cad8a14b136a0364acda0b4c36f5b02dea7e69bfd82ced252a2", "0x4eb05376055c6456ed883fc843bc43df1dcf739c321ba431d518aecd7f98ca11",
"0x994d99e72b212b7dc5fd0466ab75adf7d391cf4f206a65b7ad2a1fd032bb66d7", "0xf6feecbb9ab0ac58591a4bc287059b1133089c499517e91a274e6a1f5e7dce53",
"0x7e537d687a5525259480440c6ea2e1a8469cd98906eaff8597f3d2a44422ff97", "0xa762220e92bed6d77a2c19ffc60dad77d7lbd5028c5230c896ab4b9552a39b50",
"0xf1fa677edda7e5add8e794732c7554cd5459a5c12781dc71de73c7937dfb27775", "0x241d89f7888fbcfadfd415ee967882fec6fdd67c07ca8a00f2ca4c910a84c7dd"], "transactionsRoot": "0xf98631e290e88f58a46b7032f025969039aa9b5696498efc76baf436fa69b262", "uncles": ["0x824cce7c7c2ec6874b9fa9a9a8988eb5127cbaf3991dfa81084c3af60d1db618c"]}}

Last updatedonApr 19, 2024 Previous eth\_getBalance Next eth\_getBlockByNumber