

# A.1.1 Block Class

## Basic Ethereum Data Store

The Block Class represents a block used by [Ethereum Blockchain](#). A block is a package of data that contains zero or more transactions.

See:

<https://docs.google.com/spreadsheets/d/1ehCIQxjSZcVLnddDWHBzhPb8h83mHWZxvyX9eckghbU/edit#gid=293649320>

Block	
PK	id:text (block-hash)
	number: numeric
	hash: text
	parent_hash: text
	nonce: text
	sha3_uncles: text
	logs_bloom: text
	transactions_root: text
	state_root: text
	receipts_root: text
	miner: text
	difficulty: numeric
	total_difficulty: numeric
	extra_data: text
	size: numeric
	gas_limit: numeric
	gas_used: numeric
	timestamp: timestamp with time zone
	uncles: text[]
	step: text
	signature: text
	seal_fields: text[]
	mix_hash: text

Figure 1: The Ethereum Block Class

## Id

[Return to Top](#)

<b>Description</b>	The unique id for the Block
<b>Datatype</b>	text (block-hash)
<b>Example</b>	0x000000708550f340a1297eefe721a3b0631d8dc4cc5a3462abaeef1a79726f6b

## Number

[Return to Top](#)

<b>Description</b>	<a href="#">Block height</a>
<b>Datatype</b>	numeric
<b>Example</b>	5537029

## Hash

[Return to Top](#)

<b>Description</b>	Hash of the Block Headwr
<b>Datatype</b>	text
<b>Example</b>	0x000000708550f340a1297eefe721a3b0631d8dc4cc5a3462abaeef1a79726f6b

## Parent Hash

[Return to Top](#)

<b>Description</b>	Hash of the preceding Block
<b>Datatype</b>	text
<b>Example</b>	0x3102ee1ed005d33fecb07105fb36d4b3113f6cf0c8a87316095bbc2fb15f717d

## Nonce

[Return to Top](#)

<b>Description</b>	Value in a block which can be adjusted in order to try to satisfy the proof of work <a href="#">condition</a> . Guard against replay attacks.
<b>Datatype</b>	text
<b>Example</b>	0x7cd714340ea379db

## Step

[Return to Top](#)

<b>Description</b>	
<b>Datatype</b>	text
<b>Example</b>	NULL

## Signature

[Return to Top](#)

<b>Description</b>	The identifier of the sender. This is generated when the sender's <a href="#">private key</a> signs the transaction and confirms the sender has authorised this transaction
<b>Datatype</b>	text
<b>Example</b>	NULL

## Sha3 Uncles

[Return to Top](#)

<b>Description</b>	SHA3 hash of the uncles data in the block
<b>Datatype</b>	text
<b>Example</b>	0x1dcc4de8dec75d7aab85b567b6ccd41ad312451b948a7413f0a142fd40d49347

## Logs Bloom

[Return to Top](#)

<b>Description</b>	A kind of index about the data contained in the block, used in native queries to the blockchain via the node
<b>Datatype</b>	text
<b>Example</b>	0x22293840281b28808259200ec8300080202058ac0a10094400002f01002a84680808027610e5cd202212068002310c4212536420008584840040220000e1280c024002412902149d5110490881048895540e410200a84140801343e40305109008200620024e401012484010000908010344a0044e2da0e44004101505b420203320900050010082942001010404d01413a0803152c802b4cc048000000ea0000204165e004961341750a0095d40980400008413000280020b32c040041c5003201a0702090c62120031000408002202280a200c900a808504000026200460090071011220e68c4c04008ce19423e9a4d26e6222008000810428100408004114

## Transaction Root

[Return to Top](#)

<b>Description</b>	A kind of index about the data contained in the block, used in native queries to the blockchain via the node
<b>Datatype</b>	text
<b>Example</b>	0x044c55caebe5fd0bc30584ee7d9f1ee2477ffde2ff4e5d7952b6af9fbc4a8f21

## State Root

[Return to Top](#)

<b>Description</b>	A kind of index about the data contained in the block, used in native queries to the blockchain via the node
<b>Datatype</b>	text
<b>Example</b>	0xbc7f1066555871619efdb379b00cbb6ff97fc54a27ba6ca7e7da579aa1f1f0c0

## Receipts Root

[Return to Top](#)

<b>Description</b>	A kind of index about the data contained in the block, used in native queries to the blockchain via the node
<b>Datatype</b>	text
<b>Example</b>	0x199d5e3930ce6e90e07a156cb23bf653f5edf5041d28cc56c6375d2fab004928

## Miner

[Return to Top](#)

<b>Description</b>	Miner address that solved the block
<b>Datatype</b>	text
<b>Example</b>	0x5a0b54d5dc17e0aad383d2db43b0a0d3e029c4c

## Difficulty

[Return to Top](#)

<b>Description</b>	Difficulty to solve the block
<b>Datatype</b>	numeric
<b>Example</b>	3.12393E+15

## Total Difficulty

[Return to Top](#)

<b>Description</b>	Total difficulty of the chain until this block
<b>Datatype</b>	numeric
<b>Example</b>	3.94E+21

## Extra Data

[Return to Top](#)

<b>Description</b>	Additional data to provide from the miner
<b>Datatype</b>	text
<b>Example</b>	0x7433

## Size

[Return to Top](#)

<b>Description</b>	Block size in byte
<b>Datatype</b>	numeric
<b>Example</b>	19739

## Gas Limit

[Return to Top](#)

<b>Description</b>	Maximum set gas limit
<b>Datatype</b>	numeric
<b>Example</b>	8000029

## Gas Used

[Return to Top](#)

<b>Description</b>	Used gas
<b>Datatype</b>	numeric
<b>Example</b>	7983637

## Timestamp

[Return to Top](#)

<b>Description</b>	Timestamp of the block
<b>Datatype</b>	timestamp with time zone
<b>Example</b>	2018-05-01 09:17:18+00

## Uncles

[Return to Top](#)

<b>Description</b>	Hashes / IDs of uncles (/ ommers)
<b>Datatype</b>	text
<b>Example</b>	{0xcc73f71a3244c4d2ac023850e827eca055bfa5945f4670a5bf947f51c68f029d}

## Seal Fields

[Return to Top](#)

<b>Description</b>	
<b>Datatype</b>	text
<b>Example</b>	{0xa06ba3d921ce91951e59aca3406eee2da806c2e6596d12cca02a2b88c0830104e9,0x887cd714340ea379db}

## Mix Hash

[Return to Top](#)

<b>Description</b>	A 256-bit hash which, combined with the nonce, proves that a sufficient amount of computation has been carried out on this block;
<b>Datatype</b>	text
<b>Example</b>	0x6ba3d921ce91951e59aca3406eee2da806c2e6596d12cca02a2b88c0830104e9

From: <https://www.omgwiki.org/dido/> - **DIDO Wiki**

Permanent link: [https://www.omgwiki.org/dido/doku.php?id=dido:public:s\\_cli:05\\_contents:03\\_prt:08\\_basic\\_dido\\_objects:01\\_block:start](https://www.omgwiki.org/dido/doku.php?id=dido:public:s_cli:05_contents:03_prt:08_basic_dido_objects:01_block:start)

Last update: 2021/08/13 13:00

