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# **eth-typing Documentation**

*Release 2.2.2*

**The Ethereum Foundation**

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Common type annotations for ethereum python packages.



## 1.1 Types

The following types are available from the `eth_typing` module.

i.e.

```
from eth_typing import TypeStr
```

### 1.1.1 ABI

#### TypeStr

String representation of a data type.

```
TypeStr = str
```

#### Decodable

Binary data to be decoded.

```
Decodable = Union[bytes, bytearray]
```

### 1.1.2 Enumerables

#### ForkName

Class that contains the different names used to represent hard forks on the Ethereum network.

```
class ForkName:
    Frontier = 'Frontier'
    Homestead = 'Homestead'
    EIP150 = 'EIP150'
    EIP158 = 'EIP158'
    Byzantium = 'Byzantium'
    Constantinople = 'Constantinople'
    Metropolis = 'Metropolis'
```

### 1.1.3 Discovery

#### NodeID

A 32-byte identifier for a node in the Discovery DHT

```
NodeID = NewType('NodeID', bytes)
```

### 1.1.4 EthPM

#### ContractName

Any string conforming to the regular expression `[a-zA-Z][a-zA-Z0-9_]{0,255}`.

```
ContractName = NewType('ContractName', str)
```

#### URI

Any string that represents a URI.

```
URI = NewType('URI', str)
```

### 1.1.5 EVM

#### Address

Any bytestring representing a canonical address.

```
Address = NewType('Address', bytes)
```

#### HexAddress

Any *HexStr* representing a hex encoded address.

```
HexAddress = NewType('HexAddress', HexStr)
```



## ChecksumAddress

Any *HexAddress* that is formatted according to [ERC55](#).

```
ChecksumAddress = NewType('ChecksumAddress', HexAddress)
```

## AnyAddress

Any of *Address*, *HexAddress*, *ChecksumAddress*.

```
AnyAddress = TypeVar('AnyAddress', Address, HexAddress, ChecksumAddress)
```

## Hash32

Any 32 byte hash.

```
Hash32 = NewType('Hash32', bytes)
```

## BlockNumber

Any integer that represents a valid block number on a chain.

```
BlockNumber = NewType('BlockNumber', int)
```

## BlockIdentifier

Either a 32 byte hash or an integer block number

```
BlockIdentifier = Union[Hash32, BlockNumber]
```

## 1.1.6 Encodings

### HexStr

Any string that is hex encoded.

```
HexStr = NewType('HexStr', str)
```

### Primitives

Any of *bytes*, *int*, or *bool* used as the *Primitive* arg for conversion utils in [ETH-Utils](#).

```
Primitives = Union[bytes, int, bool]
```

## 1.2 Release Notes

### 1.2.1 v2.2.0

- Update `ForkName` enum to include `ConstantinopleFix` and `Istanbul`

### 1.2.2 v2.1.0

- Add BLS types

### 1.2.3 v2.0.0

- Expose Type Hints as per PEP 561

### 1.2.4 v1.0.0

- Added annotations from `py-evm`.

### 1.2.5 v0.3.1

- Removed `eth-utils` requirement.

### 1.2.6 v0.3.0

- Updated `eth-utils` requirement.

### 1.2.7 v0.2.0

- Launched repository, claimed names for pip, RTD, github, etc.

## CHAPTER 2

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### Indices and tables

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- genindex
- modindex