

# networks

## Interfaces

### ArbitrumNetwork

Represents an Arbitrum chain, e.g. Arbitrum One, Arbitrum Sepolia, or an L3 chain.

#### Properties

Property	Type	Description
chainId	number	Id of the chain.
confirmPeriodBlocks	number	The time allowed for validators to dispute or challenge state assertions. Measured in L1 blocks.
ethBridge	EthBridge	The core contracts
isBold?	boolean	Has the network been upgraded to bold. True if yes, otherwise undefined. This is a temporary property and will be removed in future if Bold is widely adopted and the legacy challenge protocol is deprecated
isCustom	boolean	Whether or not the chain was registered by the user.
name	string	Name of the chain.
nativeToken?	string	In case of a chain that uses ETH as its native/gas token, this is either undefined or the zero address

In case of a chain that uses an ERC-20 token from the parent chain as its native/gas token, this is the address of said token on the parent chain

Property	Type	Description
parentChainId	number	Chain id of the parent chain, i.e. the chain on which this chain settles to.
retryableLifetimeSeconds?	number	Represents how long a retryable ticket lasts for before it expires (in seconds). Defaults to 7 days.
teleporter?	Teleporter	The teleporter contracts.
tokenBridge?	TokenBridge	The token bridge contracts.

### L2NetworkTokenBridge

This type is only here for when you want to achieve backwards compatibility between SDK v3 and v4.

Please see [TokenBridge](#) for the latest type.

#### Deprecated

since v4

## Type Aliases

### L2Network

type

L2Network : Prettify < Omit < ArbitrumNetwork ,

"chainId"

|

"parentChainId"

|

"tokenBridge"

& object

; This type is only here for when you want to achieve backwards compatibility between SDK v3 and v4.

Please see [ArbitrumNetwork](#) for the latest type.

#### Deprecated

since v4

#### Source

[dataEntities/networks.ts:88](#)

# Functions

## assertArbitrumNetworkHasTokenBridge()

function

assertArbitrumNetworkHasTokenBridge < T

( network :

T ) :

asserts network is

T

& Object Asserts that the given object has a token bridge. This is useful because not all Arbitrum network operations require a token bridge.

### Type parameters

Type parameter T extends [ArbitrumNetwork](#)

### Parameters

Parameter Type Description network T [ArbitrumNetwork](#) object

### Returns

asserts network is T & Object

### Throws

ArbSdkError if the object does not have a token bridge

### Source

[dataEntities/networks.ts:533](#)

## getArbitrumNetwork()

function

getArbitrumNetwork ( chainId :

number ) : ArbitrumNetwork Returns the Arbitrum chain associated with the given signer, provider or chain id.

### Parameters

Parameter Type chainId number

### Returns

[ArbitrumNetwork](#)

### Note

Throws if the chain is not an Arbitrum chain.

### Source

[dataEntities/networks.ts:307](#)

## getArbitrumNetworkInformationFromRollup()

function

getArbitrumNetworkInformationFromRollup ( rollupAddress :

string , parentProvider : Provider ) :

Promise < ArbitrumNetworkInformationFromRollup

Returns all the information about an Arbitrum network that can be fetched from its Rollup contract.

### Parameters

Parameter	Type	Description
rollupAddress	string	Address of the Rollup contract on the parent chain
parentProvider	Provider	Provider for the parent chain

### Returns

Promise <ArbitrumNetworkInformationFromRollup

An ArbitrumNetworkInformationFromRollup object

### Source

[dataEntities/networks.ts:356](#)

## getArbitrumNetworks()

function

getArbitrumNetworks ( ) : ArbitrumNetwork [ ] Returns all Arbitrum networks registered in the SDK, both default and custom.

### Returns

[ArbitrumNetwork](#) []

### Source

[dataEntities/networks.ts:339](#)

## getChildrenForNetwork()

function

getChildrenForNetwork ( parentChainOrChainId :

number

| ArbitrumNetwork ) : ArbitrumNetwork [ ] Returns a list of children chains for the given chain or chain id.

### Parameters

Parameter	Type	Description
parentChainOrChainId	number	<a href="#">ArbitrumNetwork</a>

### Returns

[ArbitrumNetwork](#) []

### Source

[dataEntities/networks.ts:289](#)

## isParentNetwork()

function

isParentNetwork ( parentChainOrChainId :

number

| ArbitrumNetwork ) :

boolean Determines if a chain is a parent of any other chain. Could be an L1 or an L2 chain.

### Parameters

Parameter Type parentChainOrChainId number [ArbitrumNetwork](#)

### Returns

boolean

### Source

[dataEntities/networks.ts:274](#)

## mapL2NetworkToArbitrumNetwork()

function

mapL2NetworkToArbitrumNetwork ( I2Network : object ) : ArbitrumNetwork Maps the old [L2Network](#) (from SDK v3) to [ArbitrumNetwork](#) (from SDK v4).

### Parameters

Parameter Type Description I2Network object - I2Network.chainID number - I2Network.confirmPeriodBlocks number The time allowed for validators to dispute or challenge state assertions. Measured in L1 blocks. I2Network.ethBridge EthBridge The core contracts I2Network.isBold ? boolean Has the network been upgraded to bold. True if yes, otherwise undefined This is a temporary property and will be removed in future if Bold is widely adopted and the legacy challenge protocol is deprecated I2Network.isCustom boolean Whether or not the chain was registered by the user. I2Network.name string Name of the chain. I2Network.nativeToken ? string In case of a chain that uses ETH as its native/gas token, this is either undefined or the zero address

In case of a chain that uses an ERC-20 token from the parent chain as its native/gas token, this is the address of said token on the parent chain I2Network.partnerChainID number - I2Network.retryableLifetimeSeconds ? number Represents how long a retryable ticket lasts for before it expires (in seconds). Defaults to 7 days. I2Network.teleporter ? Teleporter The teleporter contracts. I2Network.tokenBridge [L2NetworkTokenBridge](#) -

### Returns

[ArbitrumNetwork](#)

### Source

[dataEntities/networks.ts:513](#)

## mapL2NetworkTokenBridgeToTokenBridge()

function

mapL2NetworkTokenBridgeToTokenBridge ( input : L2NetworkTokenBridge ) : TokenBridge Maps the old L2Network.tokenBridge (from SDK v3) to [ArbitrumNetwork.tokenBridge](#) (from SDK v4).

### Parameters

Parameter Type input [L2NetworkTokenBridge](#)

### Returns

TokenBridge

### Source

[dataEntities/networks.ts:489](#)

## registerCustomArbitrumNetwork()

function

registerCustomArbitrumNetwork ( network : ArbitrumNetwork , options ? : object ) : ArbitrumNetwork Registers a custom Arbitrum network.

### Parameters

Parameter Type Description network [ArbitrumNetwork](#) [ArbitrumNetwork](#) to be registered options ? object Additional options options.throwIfAlreadyRegistered ? boolean Whether or not the function should throw if the network is already registered, defaults to false

### Returns

[ArbitrumNetwork](#)

### Source

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