

erc20Bridger

Classes

AdminErc20Bridger

Admin functionality for the token bridge

Extends

- [Erc20Bridger](#)

Constructors

new AdminErc20Bridger()

new

AdminErc20Bridger (l2Network : L2Network) : AdminErc20Bridger Bridger for moving ERC20 tokens back and forth between L1 to L2

Parameters

Parameter Type l2Network L2Network

Returns

[AdminErc20Bridger](#)

Inherited from

[Erc20Bridger .constructor](#)

Source

[assetBridger/erc20Bridger.ts:181](#)

Methods

approveToken()

approveToken (params : ApproveParamsOrTxRequest) :

Promise < ContractTransaction

Approve tokens for deposit to the bridge. The tokens will be approved for the relevant gateway.

Parameters

Parameter Type Description params ApproveParamsOrTxRequest

Returns

Promise <ContractTransaction

Inherited from

[Erc20Bridger .approveToken](#)

Source

[assetBridger/erc20Bridger.ts:269](#)

checkL1Network()

protected

checkL1Network (sop : SignerOrProvider) :

Promise < void

Check the signer/provider matches the l1Network, throws if not

Parameters

Parameter	Type	Description
sop	SignerOrProvider	

Returns

Promise <void

Inherited from

[Erc20Bridger](#) .[checkL1Network](#)

Source

[assetBridger/assetBridger.ts:48](#)

checkL2Network()

protected

checkL2Network (sop : SignerOrProvider) :

Promise < void

Check the signer/provider matches the l2Network, throws if not

Parameters

Parameter	Type	Description
sop	SignerOrProvider	

Returns

Promise <void

Inherited from

[Erc20Bridger](#) .[checkL2Network](#)

Source

[assetBridger/assetBridger.ts:56](#)

deposit()

deposit (params : Erc20DepositParams | L1ToL2TxReqAndSignerProvider) :

Promise < L1ContractCallTransaction

Execute a token deposit from L1 to L2

Parameters

Parameter	Type	Description
params	Erc20DepositParams L1ToL2TxReqAndSignerProvider	

Returns

Promise <L1ContractCallTransaction

Inherited from

[Erc20Bridger .deposit](#)

Source

[assetBridger/erc20Bridger.ts:609](#)

getApproveTokenRequest()

getApproveTokenRequest (params : ProviderTokenApproveParams) :

Promise < Required < Pick < TransactionRequest ,

"data"

|

"value"

|

"to"

Get a tx request to approve tokens for deposit to the bridge. The tokens will be approved for the relevant gateway.

Parameters

Parameter	Type	Description
params	ProviderTokenApproveParams	

Returns

Promise < Required < Pick < TransactionRequest , "data" | "value" | "to"

Inherited from

[Erc20Bridger .getApproveTokenRequest](#)

Source

[assetBridger/erc20Bridger.ts:236](#)

getDepositRequest()

getDepositRequest (params : DepositRequest) :

Promise < L1ToL2TransactionRequest

Get the arguments for calling the deposit function

Parameters

Parameter	Type	Description
params	DepositRequest	

Returns

Promise < [L1ToL2TransactionRequest](#)

Inherited from

[Erc20Bridger .getDepositRequest](#)

Source

[assetBridger/erc20Bridger.ts:511](#)

getL1ERC20Address()

getL1ERC20Address (erc20L2Address :

string , I2Provider : Provider) :

Promise < string

Get the corresponding L1 for the provided L2 token Validates the returned address against the I2 router to ensure it is correctly mapped to the provided erc20L2Address

Parameters

Parameter Type Description erc20L2Address string I2Provider Provider

Returns

Promise <string

Inherited from

[Erc20Bridger .getL1ERC20Address](#)

Source

[assetBridger/erc20Bridger.ts:439](#)

getL1GatewayAddress()

getL1GatewayAddress (erc20L1Address :

string , I1Provider : Provider) :

Promise < string

Get the address of the I1 gateway for this token

Parameters

Parameter Type Description erc20L1Address string I1Provider Provider

Returns

Promise <string

Inherited from

[Erc20Bridger .getL1GatewayAddress](#)

Source

[assetBridger/erc20Bridger.ts:200](#)

getL1GatewaySetEvents()

getL1GatewaySetEvents (I1Provider : Provider , filter : object) :

Promise < object []

Get all the gateway set events on the L1 gateway router

Parameters

Parameter Type Description I1Provider Provider filter object - filter.fromBlock BlockTag - filter.toBlock BlockTag -

Returns

Promise

Source[(https://docs.arbitrum.io/welcome/get-started#source-9) [assetBridger/erc20Bridger.ts:869]
(https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L869) #####
getL1TokenContract()[(https://docs.arbitrum.io/welcome/get-started#getl1tokencontract) getL1TokenContract (I1Provider :
Provider , I1TokenAddr : string) : ERC20 Get the L1 token contract at the provided address Note: This function just returns
a typed ethers object for the provided address, it doesnt check the underlying form of the contract bytecode to see if it's an
erc20, and doesn't ensure the validity of any of the underlying functions on that contract. ##### Parameters[(
(https://docs.arbitrum.io/welcome/get-started#parameters-10) Parameter Type Description I1Provider Provider I1TokenAddr
string ##### Returns[(https://docs.arbitrum.io/welcome/get-started#returns-10) ERC20 ##### Inherited from[(
(https://docs.arbitrum.io/welcome/get-started#inherited-from-9) [Erc20Bridger](https://docs.arbitrum.io/sdk-
docs/assetBridger/erc20Bridger#erc20bridger) .[getL1TokenContract](https://docs.arbitrum.io/sdk-
docs/assetBridger/erc20Bridger#getl1tokencontract-1) ##### Source[(https://docs.arbitrum.io/welcome/get-
started#source-10) [assetBridger/erc20Bridger.ts:406](https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L406) #####
getL2ERC20Address()[(https://docs.arbitrum.io/welcome/get-started#getl2erc20address) getL2ERC20Address (
erc20L1Address : string , I1Provider : Provider) : Promise < string > Get the corresponding L2 for the provided L1 token
Parameters[(https://docs.arbitrum.io/welcome/get-started#parameters-11) Parameter Type Description
erc20L1Address string I1Provider Provider ##### Returns[(https://docs.arbitrum.io/welcome/get-started#returns-11)
Promise ##### Inherited from[(https://docs.arbitrum.io/welcome/get-started#inherited-from-10) [Erc20Bridger]
(https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#erc20bridger) .[getL2ERC20Address]
(https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#getl2erc20address-1) ##### Source[(
(https://docs.arbitrum.io/welcome/get-started#source-11) [assetBridger/erc20Bridger.ts:416]
(https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L416) #####
getL2GatewayAddress()[(https://docs.arbitrum.io/welcome/get-started#getl2gatewayaddress) getL2GatewayAddress (
erc20L1Address : string , I2Provider : Provider) : Promise < string > Get the address of the I2 gateway for this token #####
Parameters[(https://docs.arbitrum.io/welcome/get-started#parameters-12) Parameter Type Description erc20L1Address
string I2Provider Provider ##### Returns[(https://docs.arbitrum.io/welcome/get-started#returns-12) Promise #####
Inherited from[(https://docs.arbitrum.io/welcome/get-started#inherited-from-11) [Erc20Bridger](https://docs.arbitrum.io/sdk-
docs/assetBridger/erc20Bridger#erc20bridger) .[getL2GatewayAddress](https://docs.arbitrum.io/sdk-
docs/assetBridger/erc20Bridger#getl2gatewayaddress-1) ##### Source[(https://docs.arbitrum.io/welcome/get-
started#source-12) [assetBridger/erc20Bridger.ts:218](https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L218) #####
getL2GatewaySetEvents()[(https://docs.arbitrum.io/welcome/get-started#getl2gatewaysetevents) getL2GatewaySetEvents (
I2Provider : Provider , filter : object , customNetworkL2GatewayRouter ? : string) : Promise < object [] > Get all the gateway
set events on the L2 gateway router ##### Parameters[(https://docs.arbitrum.io/welcome/get-started#parameters-13)
Parameter Type I2Provider Provider filter object filter.fromBlock BlockTag filter.toBlock ? BlockTag
customNetworkL2GatewayRouter ? string ##### Returns[(https://docs.arbitrum.io/welcome/get-started#returns-13)
Promise ##### Source[(https://docs.arbitrum.io/welcome/get-started#source-13) [assetBridger/erc20Bridger.ts:892]
(https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L892) #####
getL2TokenContract()[(https://docs.arbitrum.io/welcome/get-started#getl2tokencontract) getL2TokenContract (I2Provider :
Provider , I2TokenAddr : string) : L2GatewayToken Get the L2 token contract at the provided address Note: This function
just returns a typed ethers object for the provided address, it doesnt check the underlying form of the contract bytecode to
see if it's an erc20, and doesn't ensure the validity of any of the underlying functions on that contract. ##### Parameters[(
(https://docs.arbitrum.io/welcome/get-started#parameters-14) Parameter Type Description I2Provider Provider I2TokenAddr
string ##### Returns[(https://docs.arbitrum.io/welcome/get-started#returns-14) L2GatewayToken ##### Inherited from[(
(https://docs.arbitrum.io/welcome/get-started#inherited-from-12) [Erc20Bridger](https://docs.arbitrum.io/sdk-
docs/assetBridger/erc20Bridger#erc20bridger) .[getL2TokenContract](https://docs.arbitrum.io/sdk-
docs/assetBridger/erc20Bridger#getl2tokencontract-1) ##### Source[(https://docs.arbitrum.io/welcome/get-
started#source-14) [assetBridger/erc20Bridger.ts:390](https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L390) #####
getL2WithdrawalEvents()[(https://docs.arbitrum.io/welcome/get-started#getl2withdrawalevents) getL2WithdrawalEvents (
I2Provider : Provider , gatewayAddress : string , filter : object , I1TokenAddress ? : string , fromAddress ? : string , toAddress
? : string) : Promise < object & object [] > Get the L2 events created by a withdrawal ##### Parameters[(
(https://docs.arbitrum.io/welcome/get-started#parameters-15) Parameter Type Description I2Provider Provider
gatewayAddress string filter object filter.fromBlock BlockTag - filter.toBlock ? BlockTag - I1TokenAddress ? string
fromAddress ? string toAddress ? string - ##### Returns[(https://docs.arbitrum.io/welcome/get-started#returns-15)
Promise ##### Inherited from[(https://docs.arbitrum.io/welcome/get-started#inherited-from-13) [Erc20Bridger]
(https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#erc20bridger) .[getL2WithdrawalEvents]
(https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#getl2withdrawalevents-1) ##### Source[(
(https://docs.arbitrum.io/welcome/get-started#source-15) [assetBridger/erc20Bridger.ts:295]
(https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L295) #####
getWithdrawalRequest()[(https://docs.arbitrum.io/welcome/get-started#getwithdrawalrequest) getWithdrawalRequest (
params : Erc20WithdrawParams) : Promise < L2ToL1TransactionRequest > Get the arguments for calling the token
withdrawal function ##### Parameters[(https://docs.arbitrum.io/welcome/get-started#parameters-16) Parameter Type
Description params Erc20WithdrawParams ##### Returns[(https://docs.arbitrum.io/welcome/get-started#returns-16)

Promise <[L2ToL1TransactionRequest](https://docs.arbitrum.io/sdk-docs/dataEntities/transactionRequest#l2tol1transactionrequest) > ##### Inherited from[]
(https://docs.arbitrum.io/welcome/get-started#inherited-from-14) [Erc20Bridger](https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#erc20bridger) .[getWithdrawalRequest](https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#getwithdrawalrequest-1) ##### Source[](https://docs.arbitrum.io/welcome/get-started#source-16) [assetBridger/erc20Bridger.ts:645](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L645) #####
l1TokenIsDisabled()[](https://docs.arbitrum.io/welcome/get-started#l1tokenisdisabled) l1TokenIsDisabled (l1TokenAddress : string , l1Provider : Provider) : Promise < boolean > Whether the token has been disabled on the router #####
Parameters[](https://docs.arbitrum.io/welcome/get-started#parameters-17) Parameter Type Description l1TokenAddress string l1Provider Provider ##### Returns[](https://docs.arbitrum.io/welcome/get-started#returns-17) Promise #####
Inherited from[](https://docs.arbitrum.io/welcome/get-started#inherited-from-15) [Erc20Bridger](https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#erc20bridger) .[l1TokenIsDisabled](https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#l1tokenisdisabled-1) ##### Source[](https://docs.arbitrum.io/welcome/get-started#source-17) [assetBridger/erc20Bridger.ts:478](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L478) #####
registerCustomToken()[](https://docs.arbitrum.io/welcome/get-started#registercustomtoken) registerCustomToken (l1TokenAddress : string , l2TokenAddress : string , l1Signer : Signer , l2Provider : Provider) : Promise < L1ContractTransaction < L1TransactionReceipt >> Register a custom token on the Arbitrum bridge
Seehttps://developer.offchainlabs.com/docs/bridging_assets#the-arbitrum-generic-custom-gateway for more details #####
Parameters[](https://docs.arbitrum.io/welcome/get-started#parameters-18) Parameter Type Description l1TokenAddress string Address of the already deployed l1 token. Must inherit
fromhttps://developer.offchainlabs.com/docs/sol_contract_docs/md_docs/arb-bridge-peripherals/tokenbridge/ethereum/icustomtoken . l2TokenAddress string Address of the already deployed l2 token. Must inherit fromhttps://developer.offchainlabs.com/docs/sol_contract_docs/md_docs/arb-bridge-peripherals/tokenbridge/arbitrum/iarbtoken . l1Signer Signer The signer with the rights to call registerTokenOnL2 on the l1 token l2Provider Provider Arbitrum rpc provider ##### Returns[](https://docs.arbitrum.io/welcome/get-started#returns-18) Promise > ##### Source[](https://docs.arbitrum.io/welcome/get-started#source-18) [assetBridger/erc20Bridger.ts:747](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L747) ##### setGateways()[]
(https://docs.arbitrum.io/welcome/get-started#setgateways) setGateways (l1Signer : Signer , l2Provider : Provider , tokenGateways : TokenAndGateway [] , options ? : GasOverrides) : Promise < L1ContractCallTransaction > Register the provided token addresses against the provided gateways ##### Parameters[](https://docs.arbitrum.io/welcome/get-started#parameters-19) Parameter Type Description l1Signer Signer l2Provider Provider tokenGateways TokenAndGateway [] options ? GasOverrides - ##### Returns[](https://docs.arbitrum.io/welcome/get-started#returns-19) Promise ##### Source[](https://docs.arbitrum.io/welcome/get-started#source-19) [assetBridger/erc20Bridger.ts:924](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L924) ##### withdraw()[]
(https://docs.arbitrum.io/welcome/get-started#withdraw) withdraw (params : L2ToL1TxReqAndSigner | OmitTyped < Erc20WithdrawParams , "from" > & object) : Promise < L2ContractTransaction > Withdraw tokens from L2 to L1 #####
Parameters[](https://docs.arbitrum.io/welcome/get-started#parameters-20) Parameter Type Description params L2ToL1TxReqAndSigner [OmitTyped](https://docs.arbitrum.io/sdk-docs/utils/types#omittypedtk) &object ##### Returns[]
(https://docs.arbitrum.io/welcome/get-started#returns-20) Promise ##### Inherited from[]
(https://docs.arbitrum.io/welcome/get-started#inherited-from-16) [Erc20Bridger](https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#erc20bridger) .[withdraw](https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#withdraw-1) ##### Source[](https://docs.arbitrum.io/welcome/get-started#source-20) [assetBridger/erc20Bridger.ts:699](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L699) ##### fromProvider()[]
(https://docs.arbitrum.io/welcome/get-started#fromprovider) static fromProvider (l2Provider : Provider) : Promise < Erc20Bridger > Instantiates a new Erc20Bridger from an L2 Provider ##### Parameters[]
(https://docs.arbitrum.io/welcome/get-started#parameters-21) Parameter Type Description l2Provider Provider ##### Returns[](https://docs.arbitrum.io/welcome/get-started#returns-21) Promise <[Erc20Bridger](https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#erc20bridger) > ##### Inherited from[](https://docs.arbitrum.io/welcome/get-started#inherited-from-17) [Erc20Bridger](https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#erc20bridger) .
[fromProvider](https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#fromprovider-1) ##### Source[]
(https://docs.arbitrum.io/welcome/get-started#source-21) [assetBridger/erc20Bridger.ts:190](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L190) ### Erc20Bridger[]
(https://docs.arbitrum.io/welcome/get-started#erc20bridger) Bridger for moving ERC20 tokens back and forth between L1 to L2 ##### Extends[](https://docs.arbitrum.io/welcome/get-started#extends-1) * [AssetBridger](https://docs.arbitrum.io/sdk-docs/assetBridger/#assetbridgerdepositparamswithdrawparams) * [L2ToL1TransactionRequest](https://docs.arbitrum.io/sdk-docs/dataEntities/transactionRequest#l2tol1transactionrequest) * > ##### Extended by[]
(https://docs.arbitrum.io/welcome/get-started#extended-by) * [AdminErc20Bridger](https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#adminerc20bridger) ##### Constructors[](https://docs.arbitrum.io/welcome/get-started#constructors-1) ##### new Erc20Bridger()[](https://docs.arbitrum.io/welcome/get-started#new-erc20bridger) new

Erc20Bridger (I2Network : L2Network) : Erc20Bridger Bridger for moving ERC20 tokens back and forth between L1 to L2
Parameters[](<https://docs.arbitrum.io/welcome/get-started#parameters-22>) Parameter Type I2Network L2Network
Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-22>) [Erc20Bridger](<https://docs.arbitrum.io/sdk-docs/assetBridger/erc20Bridger#erc20bridger>) ##### Overrides[](<https://docs.arbitrum.io/welcome/get-started#overrides>)
AssetBridger< Erc20DepositParams | L1ToL2TxReqAndSignerProvider, OmitTyped | L2ToL1TransactionRequest
>.constructor ##### Source[](<https://docs.arbitrum.io/welcome/get-started#source-22>) [assetBridger/erc20Bridger.ts:181]
(<https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L181>) ##### Methods[]
(<https://docs.arbitrum.io/welcome/get-started#methods-1>) ##### approveToken()(<https://docs.arbitrum.io/welcome/get-started#approvetoken-1>) approveToken (params : ApproveParamsOrTxRequest) : Promise < ContractTransaction >
Approve tokens for deposit to the bridge. The tokens will be approved for the relevant gateway. ##### Parameters[]
(<https://docs.arbitrum.io/welcome/get-started#parameters-23>) Parameter Type Description params
ApproveParamsOrTxRequest ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-23>) Promise #####
Source[](<https://docs.arbitrum.io/welcome/get-started#source-23>) [assetBridger/erc20Bridger.ts:269]
(<https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L269>) #####
checkL1Network()(<https://docs.arbitrum.io/welcome/get-started#checkl1network-1>) protected checkL1Network (sop :
SignerOrProvider) : Promise < void > Check the signer/provider matches the l1Network, throws if not ##### Parameters[]
(<https://docs.arbitrum.io/welcome/get-started#parameters-24>) Parameter Type Description sop SignerOrProvider #####
Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-24>) Promise ##### Inherited from[]
(<https://docs.arbitrum.io/welcome/get-started#inherited-from-18>) [AssetBridger](<https://docs.arbitrum.io/sdk-docs/assetBridger/#assetbridgerdepositparamswithdrawparams>) .[checkL1Network](<https://docs.arbitrum.io/sdk-docs/assetBridger/#checkl1network>) ##### Source[](<https://docs.arbitrum.io/welcome/get-started#source-24>)
[assetBridger/assetBridger.ts:48](<https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/assetBridger.ts#L48>) #####
checkL2Network()(<https://docs.arbitrum.io/welcome/get-started#checkl2network-1>) protected checkL2Network (sop :
SignerOrProvider) : Promise < void > Check the signer/provider matches the l2Network, throws if not ##### Parameters[]
(<https://docs.arbitrum.io/welcome/get-started#parameters-25>) Parameter Type Description sop SignerOrProvider #####
Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-25>) Promise ##### Inherited from[]
(<https://docs.arbitrum.io/welcome/get-started#inherited-from-19>) [AssetBridger](<https://docs.arbitrum.io/sdk-docs/assetBridger/#assetbridgerdepositparamswithdrawparams>) .[checkL2Network](<https://docs.arbitrum.io/sdk-docs/assetBridger/#checkl2network>) ##### Source[](<https://docs.arbitrum.io/welcome/get-started#source-25>)
[assetBridger/assetBridger.ts:56](<https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/assetBridger.ts#L56>) ##### deposit()(
(<https://docs.arbitrum.io/welcome/get-started#deposit-1>) deposit (params : Erc20DepositParams |
L1ToL2TxReqAndSignerProvider) : Promise < L1ContractCallTransaction > Execute a token deposit from L1 to L2 #####
Parameters[](<https://docs.arbitrum.io/welcome/get-started#parameters-26>) Parameter Type Description params
Erc20DepositParams | L1ToL2TxReqAndSignerProvider ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-26>) Promise ##### Overrides[](<https://docs.arbitrum.io/welcome/get-started#overrides-1>) [AssetBridger]
(<https://docs.arbitrum.io/sdk-docs/assetBridger/#assetbridgerdepositparamswithdrawparams>) .[deposit]
(<https://docs.arbitrum.io/sdk-docs/assetBridger/#deposit>) ##### Source[](<https://docs.arbitrum.io/welcome/get-started#source-26>) [assetBridger/erc20Bridger.ts:609](<https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L609>) #####
getApproveTokenRequest()(<https://docs.arbitrum.io/welcome/get-started#getapprovetokenrequest-1>)
getApproveTokenRequest (params : ProviderTokenApproveParams) : Promise < Required < Pick < TransactionRequest ,
"data" | "value" | "to" >>> Get a tx request to approve tokens for deposit to the bridge. The tokens will be approved for the
relevant gateway. ##### Parameters[](<https://docs.arbitrum.io/welcome/get-started#parameters-27>) Parameter Type
Description params ProviderTokenApproveParams ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-27>) Promise >> ##### Source[](<https://docs.arbitrum.io/welcome/get-started#source-27>) [assetBridger/erc20Bridger.ts:236]
(<https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L236>) #####
getDepositRequest()(<https://docs.arbitrum.io/welcome/get-started#getdepositrequest-1>) getDepositRequest (params :
DepositRequest) : Promise < L1ToL2TransactionRequest > Get the arguments for calling the deposit function #####
Parameters[](<https://docs.arbitrum.io/welcome/get-started#parameters-28>) Parameter Type Description params
DepositRequest ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-28>) Promise
<[L1ToL2TransactionRequest](<https://docs.arbitrum.io/sdk-docs/dataEntities/transactionRequest#l1tol2transactionrequest>) >
Source[](<https://docs.arbitrum.io/welcome/get-started#source-28>) [assetBridger/erc20Bridger.ts:511]
(<https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L511>) #####
getL1ERC20Address()(<https://docs.arbitrum.io/welcome/get-started#getl1erc20address-1>) getL1ERC20Address (
erc20L2Address : string , I2Provider : Provider) : Promise < string > Get the corresponding L1 for the provided L2 token
Validates the returned address against the I2 router to ensure it is correctly mapped to the provided erc20L2Address #####
Parameters[](<https://docs.arbitrum.io/welcome/get-started#parameters-29>) Parameter Type Description erc20L2Address
string I2Provider Provider ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-29>) Promise #####
Source[](<https://docs.arbitrum.io/welcome/get-started#source-29>) [assetBridger/erc20Bridger.ts:439]
(<https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L439>) #####
getL1GatewayAddress()(<https://docs.arbitrum.io/welcome/get-started#getl1gatewayaddress-1>) getL1GatewayAddress (

erc20L1Address : string , I1Provider : Provider) : Promise < string > Get the address of the I1 gateway for this token #####
Parameters[](<https://docs.arbitrum.io/welcome/get-started#parameters-30>) Parameter Type Description erc20L1Address
string I1Provider Provider ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-30>) Promise #####
Source[](<https://docs.arbitrum.io/welcome/get-started#source-30>) [assetBridger/erc20Bridger.ts:200]
([https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L200](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L200)) #####
getL1TokenContract()[](<https://docs.arbitrum.io/welcome/get-started#getl1tokencontract-1>) getL1TokenContract (I1Provider
: Provider , I1TokenAddr : string) : ERC20 Get the L1 token contract at the provided address Note: This function just returns
a typed ethers object for the provided address, it doesnt check the underlying form of the contract bytecode to see if it's an
erc20, and doesn't ensure the validity of any of the underlying functions on that contract. ##### Parameters[]
(<https://docs.arbitrum.io/welcome/get-started#parameters-31>) Parameter Type Description I1Provider Provider I1TokenAddr
string ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-31>) ERC20 ##### Source[]
(<https://docs.arbitrum.io/welcome/get-started#source-31>) [assetBridger/erc20Bridger.ts:406]
([https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L406](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L406)) #####
getL2ERC20Address()[](<https://docs.arbitrum.io/welcome/get-started#getl2erc20address-1>) getL2ERC20Address (
erc20L1Address : string , I1Provider : Provider) : Promise < string > Get the corresponding L2 for the provided L1 token
Parameters[](<https://docs.arbitrum.io/welcome/get-started#parameters-32>) Parameter Type Description
erc20L1Address string I1Provider Provider ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-32>)
Promise ##### Source[](<https://docs.arbitrum.io/welcome/get-started#source-32>) [assetBridger/erc20Bridger.ts:416]
([https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L416](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L416)) #####
getL2GatewayAddress()[](<https://docs.arbitrum.io/welcome/get-started#getl2gatewayaddress-1>) getL2GatewayAddress (
erc20L1Address : string , I2Provider : Provider) : Promise < string > Get the address of the I2 gateway for this token #####
Parameters[](<https://docs.arbitrum.io/welcome/get-started#parameters-33>) Parameter Type Description erc20L1Address
string I2Provider Provider ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-33>) Promise #####
Source[](<https://docs.arbitrum.io/welcome/get-started#source-33>) [assetBridger/erc20Bridger.ts:218]
([https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L218](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L218)) #####
getL2TokenContract()[](<https://docs.arbitrum.io/welcome/get-started#getl2tokencontract-1>) getL2TokenContract (I2Provider
: Provider , I2TokenAddr : string) : L2GatewayToken Get the L2 token contract at the provided address Note: This function
just returns a typed ethers object for the provided address, it doesnt check the underlying form of the contract bytecode to
see if it's an erc20, and doesn't ensure the validity of any of the underlying functions on that contract. ##### Parameters[]
(<https://docs.arbitrum.io/welcome/get-started#parameters-34>) Parameter Type Description I2Provider Provider I2TokenAddr
string ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-34>) L2GatewayToken ##### Source[]
(<https://docs.arbitrum.io/welcome/get-started#source-34>) [assetBridger/erc20Bridger.ts:390]
([https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L390](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L390)) #####
getL2WithdrawalEvents()[](<https://docs.arbitrum.io/welcome/get-started#getl2withdrawalevents-1>) getL2WithdrawalEvents (
I2Provider : Provider , gatewayAddress : string , filter : object , I1TokenAddress ? : string , fromAddress ? : string , toAddress
? : string) : Promise < object & object [] > Get the L2 events created by a withdrawal ##### Parameters[]
(<https://docs.arbitrum.io/welcome/get-started#parameters-35>) Parameter Type Description I2Provider Provider
gatewayAddress string filter object filter.fromBlock BlockTag - filter.toBlock ? BlockTag - I1TokenAddress ? string
fromAddress ? string toAddress ? string - ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-35>)
Promise ##### Source[](<https://docs.arbitrum.io/welcome/get-started#source-35>) [assetBridger/erc20Bridger.ts:295]
([https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L295](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L295)) #####
getWithdrawalRequest()[](<https://docs.arbitrum.io/welcome/get-started#getwithdrawalrequest-1>) getWithdrawalRequest (
params : Erc20WithdrawParams) : Promise < L2ToL1TransactionRequest > Get the arguments for calling the token
withdrawal function ##### Parameters[](<https://docs.arbitrum.io/welcome/get-started#parameters-36>) Parameter Type
Description params Erc20WithdrawParams ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-36>)
Promise < [L2ToL1TransactionRequest] ([https://docs.arbitrum.io/sdk-
docs/dataEntities/transactionRequest#l2tol1transactionrequest](https://docs.arbitrum.io/sdk-docs/dataEntities/transactionRequest#l2tol1transactionrequest)) > ##### Source[]([https://docs.arbitrum.io/welcome/get-
started#source-36](https://docs.arbitrum.io/welcome/get-started#source-36)) [assetBridger/erc20Bridger.ts:645] ([https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L645](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L645)) #####
isWethGateway()[](<https://docs.arbitrum.io/welcome/get-started#iswethgateway>) private isWethGateway (gatewayAddress :
string , I1Provider : Provider) : Promise < boolean > Is this a known or unknown WETH gateway ##### Parameters[]
(<https://docs.arbitrum.io/welcome/get-started#parameters-37>) Parameter Type Description gatewayAddress string I1Provider
Provider ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-37>) Promise ##### Source[]
(<https://docs.arbitrum.io/welcome/get-started#source-37>) [assetBridger/erc20Bridger.ts:364]
([https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L364](https://github.com/OffchainLabs/arbitrum-sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L364)) #####
I1TokenIsDisabled()[](<https://docs.arbitrum.io/welcome/get-started#i1tokenisdisabled-1>) I1TokenIsDisabled (
I1TokenAddress : string , I1Provider : Provider) : Promise < boolean > Whether the token has been disabled on the router
Parameters[](<https://docs.arbitrum.io/welcome/get-started#parameters-38>) Parameter Type Description
I1TokenAddress string I1Provider Provider ##### Returns[](<https://docs.arbitrum.io/welcome/get-started#returns-38>)
Promise ##### Source[](<https://docs.arbitrum.io/welcome/get-started#source-38>) [assetBridger/erc20Bridger.ts:478]
(

sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L478) #####
looksLikeWethGateway()[(https://docs.arbitrum.io/welcome/get-started#lookslikewethgateway) private
looksLikeWethGateway (potentialWethGatewayAddress : string , l1Provider : Provider) : Promise < boolean > Does the
provided address look like a weth gateway ##### Parameters[(https://docs.arbitrum.io/welcome/get-started#parameters-
39) Parameter Type Description potentialWethGatewayAddress string l1Provider Provider ##### Returns[(
(https://docs.arbitrum.io/welcome/get-started#returns-39) Promise ##### Source[(https://docs.arbitrum.io/welcome/get-
started#source-39) [assetBridger/erc20Bridger.ts:334](https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L334) ##### withdraw()[(
(https://docs.arbitrum.io/welcome/get-started#withdraw-1) withdraw (params : L2ToL1TxReqAndSigner | OmitTyped <
Erc20WithdrawParams , "from" > & object) : Promise < L2ContractTransaction > Withdraw tokens from L2 to L1 #####
Parameters[(https://docs.arbitrum.io/welcome/get-started#parameters-40) Parameter Type Description params
L2ToL1TxReqAndSigner [OmitTyped](https://docs.arbitrum.io/sdk-docs/utils/types#omittypedtk) &object ##### Returns[(
(https://docs.arbitrum.io/welcome/get-started#returns-40) Promise ##### Overrides[(https://docs.arbitrum.io/welcome/get-
started#overrides-2) [AssetBridger](https://docs.arbitrum.io/sdk-
docs/assetBridger/#assetbridgerdepositparamswithdrawparams) .[withdraw](https://docs.arbitrum.io/sdk-
docs/assetBridger/#withdraw) ##### Source[(https://docs.arbitrum.io/welcome/get-started#source-40)
[assetBridger/erc20Bridger.ts:699](https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L699) ##### fromProvider()[(
(https://docs.arbitrum.io/welcome/get-started#fromprovider-1) static fromProvider (l2Provider : Provider) : Promise <
Erc20Bridger > Instantiates a new Erc20Bridger from an L2 Provider ##### Parameters[(
(https://docs.arbitrum.io/welcome/get-started#parameters-41) Parameter Type Description l2Provider Provider #####
Returns[(https://docs.arbitrum.io/welcome/get-started#returns-41) Promise < [Erc20Bridger](https://docs.arbitrum.io/sdk-
docs/assetBridger/erc20Bridger#erc20bridger) > ##### Source[(https://docs.arbitrum.io/welcome/get-started#source-41)
[assetBridger/erc20Bridger.ts:190](https://github.com/OffchainLabs/arbitrum-
sdk/blob/c8aa61ee10c7bb2f622c2603f3d2a81287390d4b/src/lib/assetBridger/erc20Bridger.ts#L190) [Edit this page]
(https://github.com/OffchainLabs/arbitrum-docs/edit/master/arbitrum-docs/sdk-docs/assetBridger/erc20Bridger.md) [Previous
AssetBridger](https://docs.arbitrum.io/sdk-docs/assetBridger/) [Next EthBridger](https://docs.arbitrum.io/sdk-
docs/assetBridger/ethBridger)