

# AaveProtocolDataProvider

AaveProtocolDataProvider

Peripheral contract to collect and pre-process information from the Pool.

Code available on [github](#) .

Methods

getAllReservesTokens

function getAllReservesTokens() external view returns (TokenData[] memory)

Returns list of the existing reserves in the pool.

Return Value

Type Description string The symbol of the underlying reserve asset address The address of the underlying reserve asset

getAllATokens

function getAllATokens() external view returns (TokenData[] memory)

Returns list of the existing ATokens in the pool.

Return Value

Type Description string The symbol of aToken of the reserve address The address of aToken of the reserve

getReserveConfigurationData

function getReserveConfigurationData(address asset) external view returns (....)

Returns the configuration data of the reserve as described below:

Call Params

Name Type Description asset address The address of the underlying asset of the reserve Return Value

Type Description uint256 The number of decimals of the reserve uint256 The ltv of the reserve uint256 The liquidationThreshold of the reserve uint256 The liquidationBonus of the reserve uint256 The reserveFactor of the reserve bool True if the usage as collateral is enabled, false otherwise bool True if borrowing is enabled, false otherwise bool True if stable rate borrowing is enabled, false otherwise bool True if reserve is active, false otherwise bool True if reserve is frozen, false otherwise

getReserveEModeCategory

function getReserveEModeCategory(address asset) external view returns (uint256)

Returns reserve's efficiency mode category.

Call Params

Name Type Description asset address The address of the underlying asset of the reserve Return Value

Type Description uint256 The number of decimals of the reserve

getReserveCaps

function getReserveCaps(address asset) external view returns (uint256 borrowCap, uint256 supplyCap)

Returns the caps parameters of the reserve

Call Params

Name Type Description asset address The address of the underlying asset of the reserve Return Value

Type Description uint256 The borrow cap of the reserve uint256 The supply cap of the reserve

getPaused

function getPaused(address asset) external view returns (bool isPaused)

Returns true if the pool is paused.

Call Params

Name	Type	Description	asset address	The address of the underlying asset of the reserve	Return Value
------	------	-------------	---------------	--	--------------

Type	Description	bool	True if the pool is paused
------	-------------	------	----------------------------

getSiloedBorrowing

function getSiloedBorrowing(address asset) external view returns (bool)

Returns true if the asset is siloed for borrowing .

Call Params

Name	Type	Description	asset address	The address of the underlying asset of the reserve	Return Value
------	------	-------------	---------------	--	--------------

Type	Description	bool	True if the pool is paused
------	-------------	------	----------------------------

getLiquidationProtocolFee

function getLiquidationProtocolFee(address asset) external view returns (uint256)

Returns the protocol fee on the liquidation bonus.

Call Params

Name	Type	Description	asset address	The address of the underlying asset of the reserve	Return Value
------	------	-------------	---------------	--	--------------

Type	Description	uint256	The protocol fee on liquidation
------	-------------	---------	---------------------------------

getUnbackedMintCap

function getUnbackedMintCap(address asset) external view returns (uint256)

Returns the unbacked mint cap of the reserve

Call Params

Name	Type	Description	asset address	The address of the underlying asset of the reserve	Return Value
------	------	-------------	---------------	--	--------------

Type	Description	uint256	The unbacked mint cap of the reserve
------	-------------	---------	--------------------------------------

getDebtCeiling

function getDebtCeiling(address asset) external view returns (uint256)

Returns the debt ceiling of the reserve

Call Params

Name	Type	Description	asset address	The address of the underlying asset of the reserve	Return Value
------	------	-------------	---------------	--	--------------

Type	Description	uint256	The debt ceiling of the reserve
------	-------------	---------	---------------------------------

getDebtCeilingDecimals

function getDebtCeilingDecimals() external pure returns (uint256)

Returns the debt ceiling decimals

Return Value

Type	Description	uint256	The debt ceiling decimals
------	-------------	---------	---------------------------

getReserveData

function getReserveData(address asset) external view override returns(...)

Returns the following reserve data

## Call Params

Name	Type	Description	asset address	The address of the underlying asset of the reserve	Return Value
------	------	-------------	---------------	--	--------------

Type	Description	uint256	The amount of unbacked aTokens of the reserve	uint256	The scaled amount of tokens accrued to treasury that is to be minted	uint256	The total supply of the aToken	uint256	The total stable debt of the reserve	uint256	The total variable debt of the reserve	uint256	The liquidity rate of the reserve	uint256	The variable borrow rate of the reserve	uint256	The stable borrow rate of the reserve	uint256	The average stable borrow rate of the reserve	uint256	The liquidity index of the reserve	uint256	The variable borrow index of the reserve	uint40	The timestamp of the last update of the reserve
------	-------------	---------	---	---------	--	---------	--------------------------------	---------	--------------------------------------	---------	--	---------	-----------------------------------	---------	---	---------	---------------------------------------	---------	---	---------	------------------------------------	---------	--	--------	---

## getATokenTotalSupply

function getATokenTotalSupply(address asset) external view override returns (uint256)

Returns the total supply of aTokens for a given asset

## Call Params

Name	Type	Description	asset address	The address of the underlying asset of the reserve	Return Value
------	------	-------------	---------------	--	--------------

Type	Description	uint256	The total supply of the aToken
------	-------------	---------	--------------------------------

## getTotalDebt

function getTotalDebt(address asset) external view override returns (uint256)

Returns the total debt for a given asset

## Call Params

Name	Type	Description	asset address	The address of the underlying asset of the reserve	Return Value
------	------	-------------	---------------	--	--------------

Type	Description	uint256	The total debt (stable + variable) for an asset
------	-------------	---------	---

## getUserReserveData

function getUserReserveData(address asset, address user) external view returns (...)

Returns the following user reserve data

## Call Params

Name	Type	Description	asset address	The address of the underlying asset of the reserve	user address	The address of the user	Return Value
------	------	-------------	---------------	--	--------------	-------------------------	--------------

Type	Description	uint256	The current AToken balance of the user	uint256	The current stable debt of the user	uint256	The current variable debt of the user	uint256	The principal stable debt of the user	uint256	The scaled variable debt of the user	uint256	The stable borrow rate of the user	uint256	The liquidity rate of the reserve	uint40	The timestamp of the last update of the user stable rate	bool	True if the user is using the asset as collateral, else false
------	-------------	---------	--	---------	-------------------------------------	---------	---------------------------------------	---------	---------------------------------------	---------	--------------------------------------	---------	------------------------------------	---------	-----------------------------------	--------	--	------	---

## getReserveTokensAddresses

function getReserveTokensAddresses(address asset) external view returns (address aTokenAddress, address stableDebtTokenAddress, address variableDebtTokenAddress)

Returns the addresses of aToken, stableDebtToken and variableDebtToken of the reserve

## Call Params

Name	Type	Description	asset address	The address of the underlying asset of the reserve	Return Value
------	------	-------------	---------------	--	--------------

Type	Description	address	The AToken address of the reserve	address	The StableDebtToken address of the reserve	address	The VariableDebtToken address of the reserve
------	-------------	---------	-----------------------------------	---------	--	---------	--

## getInterestRateStrategyAddress

function getInterestRateStrategyAddress(address asset) external view returns (address irStrategyAddress)

Returns the address of the Interest Rate strategy

## Call Params

Name Type Description asset address The address of the underlying asset of the reserve Return Value

Type Description address The address of the Interest Rate strategy

## ABI

AaveProtocolDataProvider ``

```
Copy [ { "inputs": [ { "internalType": "contract IPoolAddressesProvider", "name": "addressesProvider", "type": "address" } ],
"stateMutability": "nonpayable", "type": "constructor" }, { "inputs": [], "name": "ADDRESSES_PROVIDER", "outputs": [ {
"internalType": "contract IPoolAddressesProvider", "name": "", "type": "address" } ], "stateMutability": "view", "type": "function"
}, { "inputs": [ { "internalType": "address", "name": "asset", "type": "address" } ], "name": "getATokenTotalSupply", "outputs": [
{ "internalType": "uint256", "name": "", "type": "uint256" } ], "stateMutability": "view", "type": "function" }, { "inputs": [], "name":
"getAllATokens", "outputs": [ { "components": [ { "internalType": "string", "name": "symbol", "type": "string" }, { "internalType":
"address", "name": "tokenAddress", "type": "address" } ], "internalType": "struct AaveProtocolDataProvider.TokenData[]",
"name": "", "type": "tuple[]" } ], "stateMutability": "view", "type": "function" }, { "inputs": [], "name": "getAllReservesTokens",
"outputs": [ { "components": [ { "internalType": "string", "name": "symbol", "type": "string" }, { "internalType": "address",
"name": "tokenAddress", "type": "address" } ], "internalType": "struct AaveProtocolDataProvider.TokenData[]", "name": "",
"type": "tuple[]" } ], "stateMutability": "view", "type": "function" }, { "inputs": [ { "internalType": "address", "name": "asset",
"type": "address" } ], "name": "getDebtCeiling", "outputs": [ { "internalType": "uint256", "name": "", "type": "uint256" } ],
"stateMutability": "view", "type": "function" }, { "inputs": [], "name": "getDebtCeilingDecimals", "outputs": [ { "internalType":
"uint256", "name": "", "type": "uint256" } ], "stateMutability": "pure", "type": "function" }, { "inputs": [ { "internalType": "address",
"name": "asset", "type": "address" } ], "name": "getInterestRateStrategyAddress", "outputs": [ { "internalType": "address",
"name": "irStrategyAddress", "type": "address" } ], "stateMutability": "view", "type": "function" }, { "inputs": [ { "internalType":
"address", "name": "asset", "type": "address" } ], "name": "getLiquidationProtocolFee", "outputs": [ { "internalType": "uint256",
"name": "", "type": "uint256" } ], "stateMutability": "view", "type": "function" }, { "inputs": [ { "internalType": "address", "name":
"asset", "type": "address" } ], "name": "getPaused", "outputs": [ { "internalType": "bool", "name": "isPaused", "type": "bool" } ],
"stateMutability": "view", "type": "function" }, { "inputs": [ { "internalType": "address", "name": "asset", "type": "address" } ],
"name": "getReserveCaps", "outputs": [ { "internalType": "uint256", "name": "borrowCap", "type": "uint256" }, { "internalType":
"uint256", "name": "supplyCap", "type": "uint256" } ], "stateMutability": "view", "type": "function" }, { "inputs": [ { "internalType":
"address", "name": "asset", "type": "address" } ], "name": "getReserveConfigurationData", "outputs": [ { "internalType":
"uint256", "name": "decimals", "type": "uint256" }, { "internalType": "uint256", "name": "ltv", "type": "uint256" }, { "internalType":
"uint256", "name": "liquidationThreshold", "type": "uint256" }, { "internalType": "uint256", "name": "liquidationBonus", "type":
"uint256" }, { "internalType": "uint256", "name": "reserveFactor", "type": "uint256" }, { "internalType": "bool", "name":
"usageAsCollateralEnabled", "type": "bool" }, { "internalType": "bool", "name": "borrowingEnabled", "type": "bool" }, {
"internalType": "bool", "name": "stableBorrowRateEnabled", "type": "bool" }, { "internalType": "bool", "name": "isActive",
"type": "bool" }, { "internalType": "bool", "name": "isFrozen", "type": "bool" } ], "stateMutability": "view", "type": "function" }, {
"inputs": [ { "internalType": "address", "name": "asset", "type": "address" } ], "name": "getReserveData", "outputs": [ {
"internalType": "uint256", "name": "unbacked", "type": "uint256" }, { "internalType": "uint256", "name":
"accruedToTreasuryScaled", "type": "uint256" }, { "internalType": "uint256", "name": "totalAToken", "type": "uint256" }, {
"internalType": "uint256", "name": "totalStableDebt", "type": "uint256" }, { "internalType": "uint256", "name":
"totalVariableDebt", "type": "uint256" }, { "internalType": "uint256", "name": "liquidityRate", "type": "uint256" }, { "internalType":
"uint256", "name": "variableBorrowRate", "type": "uint256" }, { "internalType": "uint256", "name": "stableBorrowRate", "type":
"uint256" }, { "internalType": "uint256", "name": "averageStableBorrowRate", "type": "uint256" }, { "internalType": "uint256",
"name": "liquidityIndex", "type": "uint256" }, { "internalType": "uint256", "name": "variableBorrowIndex", "type": "uint256" }, {
"internalType": "uint40", "name": "lastUpdateTimestamp", "type": "uint40" } ], "stateMutability": "view", "type": "function" }, {
"inputs": [ { "internalType": "address", "name": "asset", "type": "address" } ], "name": "getReserveEModeCategory", "outputs": [
{ "internalType": "uint256", "name": "", "type": "uint256" } ], "stateMutability": "view", "type": "function" }, { "inputs": [ {
"internalType": "address", "name": "asset", "type": "address" } ], "name": "getReserveTokensAddresses", "outputs": [ {
"internalType": "address", "name": "aTokenAddress", "type": "address" }, { "internalType": "address", "name":
"stableDebtTokenAddress", "type": "address" }, { "internalType": "address", "name": "variableDebtTokenAddress", "type":
"address" } ], "stateMutability": "view", "type": "function" }, { "inputs": [ { "internalType": "address", "name": "asset", "type":
"address" } ], "name": "getSiloedBorrowing", "outputs": [ { "internalType": "bool", "name": "", "type": "bool" } ],
"stateMutability": "view", "type": "function" }, { "inputs": [ { "internalType": "address", "name": "asset", "type": "address" } ],
"name": "getTotalDebt", "outputs": [ { "internalType": "uint256", "name": "", "type": "uint256" } ], "stateMutability": "view",
"type": "function" }, { "inputs": [ { "internalType": "address", "name": "asset", "type": "address" } ], "name":
"getUnbackedMintCap", "outputs": [ { "internalType": "uint256", "name": "", "type": "uint256" } ], "stateMutability": "view",
"type": "function" }, { "inputs": [ { "internalType": "address", "name": "asset", "type": "address" }, { "internalType": "address",
"name": "user", "type": "address" } ], "name": "getUserReserveData", "outputs": [ { "internalType": "uint256", "name":
"currentATokenBalance", "type": "uint256" }, { "internalType": "uint256", "name": "currentStableDebt", "type": "uint256" }, {
"internalType": "uint256", "name": "currentVariableDebt", "type": "uint256" }, { "internalType": "uint256", "name":
"principalStableDebt", "type": "uint256" }, { "internalType": "uint256", "name": "scaledVariableDebt", "type": "uint256" }, {
"internalType": "uint256", "name": "stableBorrowRate", "type": "uint256" }, { "internalType": "uint256", "name": "liquidityRate",
"type": "uint256" }, { "internalType": "uint40", "name": "stableRateLastUpdated", "type": "uint40" }, { "internalType": "bool",
"name": "usageAsCollateralEnabled", "type": "bool" } ], "stateMutability": "view", "type": "function" } ] }
```

...

[Methods](#) \* [ABI](#)

Was this helpful?