AlgorandUnitySDK

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Here are the packages with brief descriptions (if available):

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Class Hierarchy

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Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Namespace Documentation

MHLab Namespace Reference

MHLab.Utilities Namespace Reference

Classes

class **BackgroundTasksProcessor**

Class Documentation

AESGCM Class Reference

Static Public Member Functions

static byte[] **IntToBytes** (int i)
Converts an int to byte array (big-endian)

static int **BytesToInt** (byte[] b)
Converts a byte array of size 4 (big-endian) to int

static byte[] **AesGenerateNonce** ()
Generate a 96 bit nonce for Aes encryption

static byte[] **AesGcmDecrypt** (byte[] payload, byte[] key)
Decrypt a message with AES-GCM cipher; The nonce is first 12 bytes of payload

static byte[] **AesGcmDecrypt** (byte[] payload, byte[] key, byte[] nonce)
Decrypt a message with AES-GCM cipher

static void **AesGcmDecrypt** (FileInfo input, FileInfo output, byte[] key)
*Reads and decrypts a file THAT IS ENCRYPTED WITH **AesGcmEncrypt(FileInfo,FileInfo,byte[],int)***

static byte[] **AesGcmEncrypt** (byte[] payload, byte[] key)
static byte[] **AesGcmEncrypt** (byte[] payload, byte[] key, byte[] nonce)
Encrypt a byte array with AES-GCM; Nonce is created randomly

static void **AesGcmEncrypt** (FileInfo input, FileInfo output, byte[] key)
Encrypts a file with AesGcm

static void **AesGcmEncrypt** (FileInfo input, FileInfo output, byte[] key, int bufferSize)
Encrypts a file with AesGcm

Member Function Documentation

static byte [] AESGCM.AesGcmDecrypt (byte[] *payload*, byte[] *key*) `[static]`

Decrypt a message with AES-GCM cipher; The nonce is first 12 bytes of payload

Parameters

payload	The message to decrypt
key	The key to decrypt it with it

Returns

Decrypted message

static byte [] AESGCM.AesGcmDecrypt (byte[] *payload*, byte[] *key*, byte[] *nonce*)
`[static]`

Decrypt a message with AES-GCM cipher

Parameters

payload	The message to decrypt
key	The key to decrypt it with it
nonce	The nonce (12 bytes)

Returns

Decrypted message

static void AESGCM.AesGcmDecrypt (FileInfo *input*, FileInfo *output*, byte[] *key*)
`[static]`

Reads and decrypts a file THAT IS ENCRYPTED WITH **AesGcmEncrypt(FileInfo,FileInfo,byte[],int)**

Parameters

input	The input file to decrypt it
output	The output file to write the decrypted data into it
key	Encryption key

static byte [] AESGCM.AesGcmEncrypt (byte[] *payload*, byte[] *key*, byte[] *nonce*)
`[static]`

Encrypt a byte array with AES-GCM; Nonce is created randomly

Parameters

payload	The array to encrypt
key	The key to encrypt it with
nonce	The nonce to encrypt it with (must be 12 bytes)

Returns

Encrypted bytes

static void AESGCM.AesGcmEncrypt (FileInfo *input*, FileInfo *output*, byte[] *key*)
`[static]`

Encrypts a file with AesGcm

Parameters

input	The input file to encrypt
output	Output file to write the encrypted file
key	The key to encrypt data with it

This function breaks file into 1MB chunks, and encrypts each one separately After each

full chunk the length of it becomes 1024 * 1024 + 28 (28 = 12 + 16) (nonce + hmac) This means that the file size increases about 0.002% Obviously the last block's size is not 1024 * 1024 + 28 First 4 bytes of file is the buffer size

static void AESGCM.AesGcmEncrypt (FileInfo *input*, FileInfo *output*, byte[] *key*, int *bufferSize*) `[static]`

Encrypts a file with AesGcm

Parameters

input	The input file to encrypt
output	Output file to write the encrypted file
key	The key to encrypt data with it
bufferSize	The buffer size that the input is read and encrypted

static byte [] AESGCM.AesGenerateNonce () `[static]`

Generate a 96 bit nonce for Aes encryption

Returns

nonce

static int AESGCM.BytesToInt (byte[] *b*) `[static]`

Converts a byte array of size 4 (big-endian) to int

Parameters

b	The byte array

Returns

The number

static byte [] AESGCM.IntToBytes (int *i*) `[static]`

Converts an int to byte array (big-endian)

Parameters

i	The number to convert

Returns

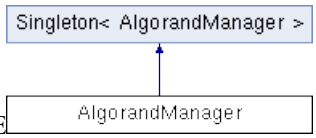
A array of 4 bytes

The documentation for this class was generated from the following file:

C:/Users/enric/Desktop/UnityAlgorandSDK/UnityAlgorandSDK/Assets/AlgorandUnitySDK/Scripts/AESGCM.cs

AlgorandManager Class Reference

Inheritance diagram for AlgorandManager:

IMAGE 

Public Member Functions

string **Version** ()

Get AlgorandSDK Version

string **GetPlayerName** ()

Get Actual Player Name

string **GenerateAccount** ()

Generate new Algorand Account but not saved in Playprefs

string **LoadAccountFromPassphrase** (string Passphrase)

Load Algorand Account from Mnemonic Passphrase

string **GenerateAccountAndSave** ()

*Generate a new Algorand Account, save crypted in PlayerPrefs and in **AlgorandManager** instance*

string **GenerateAccountAndSave** (string Password)

*Generate a new Algorand Account, save crypted in PlayerPrefs and in **AlgorandManager** instance crypted with Password by User*

Boolean **SaveAccountInPlayerPrefs** (string Passphrase)

Save Algorand Account in encrypted PlayPrefs

Boolean **SaveAccountInPlayerPrefs** (byte[] PrivateKey, string Password)

Save Algorand Account in encrypted PlayPrefs crypted with Password by User

string **LoadAccountFromPlayerPrefs** ()

Load Account from PlayPrefs and use in Algorand Manager instance

string **LoadAccountFromPlayerPrefs** (string Password)

Load Account from PlayPrefs and use in Algorand Manager instance decrypted with Password by User

bool **DeleteAccountFromPlayerPrefs** ()

Delete actual Algorand Account from PlayerPrefs WARNING: this method will irrevocably delete your account from PlayerPrefs!

string **GetAddressAccount** ()

*Get Actual Account Address initialized in **AlgorandManager***

byte[] **GetPrivateKey** ()
Return Private Key of Algorand Account

string **GetMnemonicPassphrase** ()
*Get Actual Mnemonic Passphrase initialized in **AlgorandManager***

bool **AddressIsValid** (string AddressPassed)
Verify if Algorand Address is well formated

void **ConnectToNode** (string AlgodURLEndpoint, string AlgodToken)
Connect to ALGOD / Purestack Node

long? **GetWalletAmount** (string AlgodURLEndpoint, string AlgodToken, string AccountAddress)
Get Wallet Amount in MicroAlgos

string **MakePaymentTransaction** (string AlgodURLEndpoint, string AlgodToken, string ToAccountAddress, double AlgoAmount, string Note)
Create and send a payment Algorand Transaction

string **GetHealth** (string AlgodURLEndpointIndexer, string AlgodToken)
Get `https://developer.algorand.org/docs/reference/rest-apis/indexer/#get-health`

string **GetAccount** (string AlgodURLEndpointIndexer, string AlgodToken, string AlgorandAccount, bool JsonOrString=true)
Get `https://developer.algorand.org/docs/reference/rest-apis/indexer/#get-v2accountsaccount-id`

string **GetAsset** (string AlgodURLEndpointIndexer, string AlgodToken, long? AssetID, bool JsonOrString=true)
Get `https://developer.algorand.org/docs/reference/rest-apis/indexer/#get-v2assetsasset-id`

string **SearchTransactions** (string AlgodURLEndpointIndexer, string AlgodToken, string AlgorandAccount)
Get `https://developer.algorand.org/docs/reference/rest-apis/indexer/#get-v2accountsaccount-idtransactions`

string **CreateAsset** (string AlgodURLEndpoint, string AlgodToken, string AssetName, string AssetUnitName, ulong? TotalAssetCount, long? AssetDecimals, string AssetURL, string AssetmetadataHash, string AssetTxMessage)
Create Asset `https://developer.algorand.org/docs/features/asa/`

string **ModifyAsset** (string AlgodURLEndpoint, string AlgodToken, string AddressManager, string AddressFreeze, string AddressClawback, string AddressReserve, string AssetTxMessage, long? AssetID)

Modify Asset https://developer.algorand.org/docs/features/asa/#modifying-an-asset

string **OptinAsset** (string AlgodURLEndpoint, string AlgodToken, long? AssetID, string Note="")

Opt-in Asset https://developer.algorand.org/docs/features/asa/#receiving-an-asset

string **AssetTransfer** (string AlgodURLEndpoint, string AlgodToken, string ToAccountAddress, ulong AssetAmount, long? AssetID, string Note="")

Create a transaction ASA https://developer.algorand.org/docs/features/asa/#transferring-an-asset

string **FreezeAsset** (string AlgodURLEndpoint, string AlgodToken, string AddressFreeze, long? AssetID, string Note="")

Freeze Asset https://developer.algorand.org/docs/features/asa/#freezing-an-asset

string **RevokeAsset** (string AlgodURLEndpoint, string AlgodToken, string AddressRevoke, ulong AssetAmount, long? AssetID, string Note="")

Revoke Asset https://developer.algorand.org/docs/features/asa/#revoking-an-asset

string **DestroyAsset** (string AlgodURLEndpoint, string AlgodToken, long? AssetID, string Note="")

Destroy Asset https://developer.algorand.org/docs/features/asa/#destroying-an-asset

string **MakeReKeyTransaction** (string AlgodURLEndpoint, string AlgodToken, string ToReKeyAccountAddress, string Note)

Rekey-to Transaction¶ https://developer.algorand.org/docs/features/accounts/rekey/

Public Attributes

string **ALGOD_URL_ENDPOINT** = string.Empty
string **ALGOD_TOKEN** = string.Empty
string **ALGOD_URL_ENDPOINT_INDEXER** = string.Empty

Protected Member Functions

virtual void **OnEnable** ()
virtual void **OnApplicationQuit** ()

Protected Attributes

string **m_PlayerName**
string **_Version** = "0.18 Alfa"
Account **_AMAccount** = null

Additional Inherited Members

Member Function Documentation

bool AlgorandManager.AddressIsValid (string *AddressPassed*)

Verify if Algorand Address is well formated

Parameters

AddressPassed	

Returns

Simple Boolean: True or False

string AlgorandManager.AssetTransfer (string *AlgodURLEndpoint*, string *AlgodToken*, string *ToAccountAddress*, ulong *AssetAmount*, long? *AssetID*, string *Note* = "")

Create a transaction ASA `https://developer.algorand.org/docs/features/asa/#transferring-an-asset`

Parameters

AlgodURLEndpoint	URL/Endpoint Algod
AlgodToken	API Key token
ToAccountAddress	Algorand Address Received ASA
AssetAmount	Amount ASA to send
AssetID	Asset ID to transfer
Note	Trnasfert Transaction Note

Returns

Transaction ID (TxID)

void AlgorandManager.ConnectToNode (string *AlgodURLEndpoint*, string *AlgodToken*)

Connect to ALGOD / Purestack Node

string AlgorandManager.CreateAsset (string *AlgodURLEndpoint*, string *AlgodToken*, string *AssetName*, string *AssetUnitName*, ulong? *TotalAssetCount*, long? *AssetDecimals*, string *AssetURL*, string *AssetmetadataHash*, string *AssetTxMessage*)

Create Asset `https://developer.algorand.org/docs/features/asa/`

Parameters

AlgodURLEndpoint	URL/Endpoint Algod
AlgodToken	API Key token
AssetName	The name of the asset. Supplied on creation. Example: Tether
AssetUnitName	The name of a unit of this asset. Supplied on creation. Example: USDT
TotalAssetCount	The total number of base units of the asset to create. This number cannot be changed.
AssetDecimals	The number of digits to use after the decimal point when displaying the asset. If 0, the asset is not divisible. If 1, the base unit of the asset is in tenths. If 2, the base unit of the asset is in hundredths
AssetURL	Specifies a URL where more information about the asset can be retrieved. Max size is 32 bytes.
AssetmetadataHash	This field is intended to be a 32-byte hash of some metadata that is relevant to your asset and/or asset holders. The format of this metadata is up to the application. This field can only be specified upon creation. An example might be the hash of some certificate that acknowledges the digitized asset as the official representation of a particular real-world asset.
AssetTxMessage	Message to insert in creation transaction. Max size is 1000 bytes.

Returns

AssetID created

bool AlgorandManager.DeleteAccountFromPlayerPrefs ()

Delete actual Algorand Account from PlayerPrefs WARNING: this method will irrevocably delete your account from PlayerPrefs!

Returns

Boolean true if procedure went ok

string AlgorandManager.DestroyAsset (string *AlgodURLEndpoint*, string *AlgodToken*, long? *AssetID*, string *Note* = "")

Destroy Asset `https://developer.algorand.org/docs/features/asa/#destroying-an-asset`

Parameters

AlgodURLEndpoint	URL/Endpoint Algod
AlgodToken	API Key token
AssetID	Asset ID to Opt-in
Note	Opt-In Transaction Note

Returns

Transaction ID (TxID)

string AlgorandManager.FreezeAsset (string *AlgodURLEndpoint*, string *AlgodToken*, string *AddressFreeze*, long? *AssetID*, string *Note* = "")

Freeze Asset
`https://developer.algorand.org/docs/features/asa/#freezing-an-asset`

Parameters

AlgodURLEndpoint	URL/Endpoint Algod
AlgodToken	API Key token
AddressFreeze	Algorand Address Freeze Target
AssetID	Asset ID to transfer
Note	Trnasfert Transaction Note

Returns

Transaction ID (TxID)

string AlgorandManager.GenerateAccount ()

Generate new Algorand Account but not saved in Playprefs

Returns

Algorand Account Mnemonic Passphrase

string AlgorandManager.GenerateAccountAndSave ()

Generate a new Algorand Account, save crypted in PlayerPrefs and in **AlgorandManager** instance

Returns

Algorand Account Address generated

string AlgorandManager.GenerateAccountAndSave (string *Password*)

Generate a new Algorand Account, save crypted in PlayerPrefs and in **AlgorandManager** instance crypted with Password by User

Parameters

Password	Password passed from UI by User

Returns

Algorand Account Address generated

string AlgorandManager.GetAccount (string *AlgodURLEndpointIndexer*, string *AlgodToken*, string *AlgorandAccount*, bool *JsonOrString* = `true`)

Get
`https://developer.algorand.org/docs/reference/rest-apis/indexer/#get-v2accountsaccount-id`

Parameters

AlgodURLEndpointIndexer	URL/Endpoint Algod Indexer
AlgodToken	API Key token
AlgorandAccount	Valid Algorand Account Address
JsonOrString	Booleand to return Json (True, default) Or String (False)

Returns

Amount Account or JSON Account Info

string AlgorandManager.GetAddressAccount ()

Get Actual Account Address initialized in **AlgorandManager**

Returns

Algorand Account Address

string AlgorandManager.GetAsset (string *AlgodURLEndpointIndexer*, string *AlgodToken*, long? *AssetID*, bool *JsonOrString* = `true`)

Get
`https://developer.algorand.org/docs/reference/rest-apis/indexer/#get-v2assetsasset-id`

Parameters

AlgodURLEndpointIndexer	URL/Endpoint Algod Indexer
AlgodToken	API Key token
AssetID	Algorand Asset ID
JsonOrString	Booleand to return Json (True, default) Or String (False)

Returns

Complete JSON response or single string Index

string AlgorandManager.GetHealth (string *AlgodURLEndpointIndexer*, string *AlgodToken*)

Get
`https://developer.algorand.org/docs/reference/rest-apis/indexer/#get-health`

Parameters

AlgodURLEndpointIndexer	URL/Endpoint Algod Indexer
AlgodToken	API Key token

Returns

Message from Aldgorand Indexer

string AlgorandManager.GetMnemonicPassphrase ()

Get Actual Mnemonic Passphrase initialized in **AlgorandManager**

Returns

Algorand Account Mnemonic Passphrase

string AlgorandManager.GetPlayerName ()

Get Actual Player Name

Returns

Player Name

byte [] AlgorandManager.GetPrivateKey ()

Return Private Key of Algorand Account

Returns

Byte Array

long? AlgorandManager.GetWalletAmount (string *AlgodURLEndpoint*, string *AlgodToken*, string *AccountAddress*)

Get Wallet Amount in MicroAlgos

Parameters

AlgodURLEndpoint	URL/Endpoint Algod
AlgodToken	API Key token
AccountAddress	Algorand Address

Returns

MicroAlgos of Algorand Account

string AlgorandManager.LoadAccountFromPassphrase (string *Passphrase*)

Load Algorand Account from Mnemonic Passphrase

Parameters

Passphrase	

Returns

Algorand Account Address

string AlgorandManager.LoadAccountFromPlayerPrefs ()

Load Account from PlayPrefs and use in Algorand Manager instance

Returns

Algorand Account Address saved in PlayPrefs

string AlgorandManager.LoadAccountFromPlayerPrefs (string *Password*)

Load Account from PlayPrefs and use in Algorand Manager instance decrypted with Password by User

Parameters

Password	Password passed from UI by User

Returns

Algorand Account Address saved in PlayPrefs

string AlgorandManager.MakePaymentTransaction (string *AlgodURLEndpoint*, string *AlgodToken*, string *ToAccountAddress*, double *AlgoAmount*, string *Note*)

Create and send a payment Algorand Transaction

Parameters

AlgodURLEndpoint	URL/Endpoint Algod
AlgodToken	API Key token
ToAccountAddress	Algorand Address Received Algos
AlgoAmount	Amount Algo to send
Note	Note to insert in transaction max 1000 Bytes

Returns

TxID: Transaction ID

string AlgorandManager.MakeReKeyTransaction (string *AlgodURLEndpoint*, string *AlgodToken*, string *ToReKeyAccountAddress*, string *Note*)

Rekey-to Transaction¶
`https://developer.algorand.org/docs/features/accounts/rekey/`

Parameters

AlgodURLEndpoint	URL/Endpoint Algod
AlgodToken	API Key token
ToReKeyAccountAddress	Algorand valid Address to rekey
Note	Rekey Transaction note

Returns

Transaction ID (TxID)

string AlgorandManager.ModifyAsset (string *AlgodURLEndpoint*, string *AlgodToken*, string *AddressManager*, string *AddressFreeze*, string *AddressClawback*, string *AddressReserve*, string *AssetTxMessage*, long? *AssetID*)

Modify Asset
`https://developer.algorand.org/docs/features/asa/#modifying-an-asset`

Parameters

AlgodURLEndpoint	URL/Endpoint Algod
AlgodToken	API Key token
AddressManager	Modified Algorand Manager Address
AddressFreeze	Modified Algorand Freeze Address
AddressClawback	Modified Algorand Clawback Address
AddressReserve	Modified Algorand Reserve Address
AssetTxMessage	Message to insert in creation transaction. Max size is 1000 bytes.
AssetID	AssetID on which to make changes

Returns

Transaction ID (TxID)

string AlgorandManager.OptinAsset (string *AlgodURLEndpoint*, string *AlgodToken*, long? *AssetID*, string *Note* = "")

Opt-in Asset
`https://developer.algorand.org/docs/features/asa/#receiving-an-asset`

Parameters

AlgodURLEndpoint	URL/Endpoint Algod
AlgodToken	API Key token
AssetID	Asset ID to Opt-in
Note	Opt-In Transaction Note

Returns

Transaction ID (TxID)

string AlgorandManager.RevokeAsset (string *AlgodURLEndpoint*, string *AlgodToken*, string *AddressRevoke*, ulong *AssetAmount*, long? *AssetID*, string *Note* = "")

Revoke Asset
`https://developer.algorand.org/docs/features/asa/#revoking-an-asset`

Parameters

AlgodURLEndpoint	URL/Endpoint Algod
AlgodToken	API Key token
AddressRevoke	Algorand Address to revoke target

AssetAmount	Amount ASA to revoke
AssetID	Asset ID to transfer
Note	Trnasfert Transaction Note

Returns

Transaction ID (TxID)

Boolean AlgorandManager.SaveAccountInPlayerPrefs (byte[] *PrivateKey*, string *Password*)

Save Algorand Account in encrypted PlayPrefs crypted with Password by User

Parameters

PirvateKey	Mnemonic Algorand Account
Password	Password passed from UI by User

Returns

True if saved

Boolean AlgorandManager.SaveAccountInPlayerPrefs (string *Passphrase*)

Save Algorand Account in encrypted PlayPrefs

Parameters

Passphrase	Mnemonic Algorand Account

Returns

True if saved

string AlgorandManager.SearchTransactions (string *AlgodURLEndpointIndexer*, string *AlgodToken*, string *AlgorandAccount*)

Get `https://developer.algorand.org/docs/reference/rest-apis/indexer/#get-v2accountsaccount-idtransactions`

Parameters

AlgodURLEndpointIndexer	URL/Endpoint Algod Indexer
AlgodToken	API Key token
AlgorandAccount	

Returns

Structured result in JSON format

string AlgorandManager.Version ()

Get AlgorandSDK Version

Returns

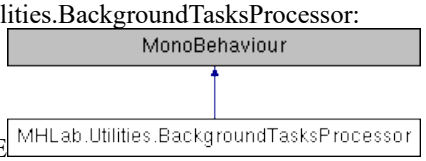
AlgorandDSK Version

The documentation for this class was generated from the following file:

C:/Users/enric/Desktop/UnityAlgorandSDK/UnityAlgorandSDK/Assets/AlgorandUnitySDK/Scripts/AlgorandManager.cs

MHLab.Utilities.BackgroundTasksProcessor Class Reference

Inheritance diagram for MHLab.Utilities.BackgroundTasksProcessor:

IMAGE 

Public Member Functions

void **Process** (Func< object > task, Action< object > onComplete)

Public Attributes

int **FrequencyInHz** = 10

Properties

bool **IsReady** `[get]`

The documentation for this class was generated from the following file:
C:/Users/enric/Desktop/UnityAlgorandSDK/UnityAlgorandSDK/Assets/AlgorandUnitySDK/Scripts/BackgroundTasksProcessor.cs

HKDF Class Reference

Public Member Functions

HKDF (HashAlgorithmName algo, byte[] ikm, byte[] info, int outputLength=0, byte[] salt=null)

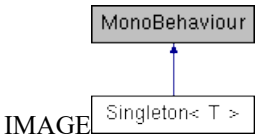
Properties

byte[] **hash** `[get, set]`

The documentation for this class was generated from the following file:
C:/Users/enric/Desktop/UnityAlgorandSDK/UnityAlgorandSDK/Assets/AlgorandUnitySDK/Scripts/HKDF.cs

Singleton< T > Class Template Reference

Inheritance diagram for Singleton< T >:



IMAGE

Protected Member Functions

virtual void **Awake** ()

Use this for initialization.

Properties

static T **Instance** `[get]`

Gets the instance.

Member Function Documentation

virtual void Singleton< T >.Awake () `[protected], [virtual]`

Use this for initialization.

Property Documentation

T Singleton< T >.Instance `[static], [get]`

Gets the instance.

The instance.

The documentation for this class was generated from the following file:

C:/Users/enric/Desktop/UnityAlgorandSDK/UnityAlgorandSDK/Assets/AlgorandUnitySDK/Scripts/Singleton.cs

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