Namespace SnowflakeID

Classes

Snowflake

This class represents the Snowflake object. Wikipedia article about SnowflakeId

SnowflakeIDGenerator

Generator class for Snowflake.

This keeps track of time, machine number and sequence.

SnowflakeIdGeneratorOptions

Option object for SnowflakeIDGenerator.

SnowflakeIdGeneratorServiceCollectionExtensions

Extension methods to register SnowflakeIDGenerator services.

Interfaces

ISnowflakeIDGenerator

Interface for the generator class for Snowflake.

This keeps track of time, machine number, and sequence.

ISnowflakeIDGeneratorClsCompliant

Interface for the generator class for Snowflake.

This keeps track of time, machine number and sequence.

Interface ISnowflakeIDGenerator

Namespace: SnowflakeID

Assembly: SnowflakeIDGenerator.dll

Interface for the generator class for Snowflake.

This keeps track of time, machine number, and sequence.

```
[CLSCompliant(false)]
public interface ISnowflakeIDGenerator
```

Remarks

NuGet

Source

API

Site

Properties

ConfiguredEpoch

Gets the date configured as the epoch for the generator.

```
DateTime ConfiguredEpoch { get; }
```

Property Value

DateTime

The DateTime value representing the custom epoch date.

Remarks

The epoch date is used as the starting point for generating unique IDs.

ConfiguredMachineId

Gets the configured machine ID for the generator.

```
int ConfiguredMachineId { get; }
```

Property Value

int

The int value representing the machine ID.

Remarks

The machine ID is used to ensure uniqueness across different instances of the generator.

Methods

GetCode()

Gets the next Snowflake ID as a number.

```
ulong GetCode()
```

Returns

ulong

A ulong representing the next Snowflake ID.

Remarks

This method generates a new Snowflake ID and returns it as a numeric value.

GetCodeString()

Gets the next Snowflake ID as a string.

```
string GetCodeString()
```

Returns

string

A string representing the next Snowflake ID.

Remarks

This method generates a new Snowflake ID and returns it as a string value.

GetSnowflake()

Generates the next Snowflake ID.

```
Snowflake GetSnowflake()
```

Returns

Snowflake

A Snowflake object containing the generated ID.

Remarks

This method generates a new Snowflake ID and returns it as a Snowflake object.

Interface ISnowflakeIDGeneratorClsCompliant

Namespace: SnowflakeID

Assembly: SnowflakeIDGenerator.dll

Interface for the generator class for Snowflake.

This keeps track of time, machine number and sequence.

```
public interface ISnowflakeIDGeneratorClsCompliant
```

Remarks

NuGet

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API

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Properties

ConfiguredEpoch

Gets the date configured as the epoch for the generator.

```
DateTime ConfiguredEpoch { get; }
```

Property Value

DateTime

The DateTime value representing the custom epoch date.

Remarks

The epoch date is used as the starting point for generating unique IDs.

ConfiguredMachineId

Gets the configured machine ID for the generator.

```
int ConfiguredMachineId { get; }
```

Property Value

int

The int value representing the machine ID.

Remarks

The machine ID is used to ensure uniqueness across different instances of the generator.

Methods

GetCodeString()

Gets the next Snowflake ID as a string.

```
string GetCodeString()
```

Returns

string

A string representing the next Snowflake ID.

Remarks

This method generates a new Snowflake ID and returns it as a string value.

GetSnowflake()

Generates the next Snowflake ID.

```
Snowflake GetSnowflake()
```

Returns

Snowflake

A Snowflake object containing the generated ID.

Remarks

This method generates a new Snowflake ID and returns it as a Snowflake object.

Class Snowflake

Namespace: SnowflakeID

Assembly: SnowflakeIDGenerator.dll

This class represents the Snowflake object. Wikipedia article about SnowflakeId

```
public class Snowflake : IEquatable<Snowflake>, IComparable<Snowflake>, IComparable
```

Inheritance

object ← Snowflake

Implements

IEquatable<Snowflake>, IComparable<Snowflake>, IComparable

Inherited Members

object.Equals(object, object) , object.ReferenceEquals(object, object) , object.GetType() , object.MemberwiseClone()

Remarks

NuGet

Source

API

Site

Constructors

Snowflake()

Initializes a new instance of the Snowflake class using the default epoch (UNIX time 1-1-1970).

```
public Snowflake()
```

Snowflake(DateTime)

Initializes a new instance of the Snowflake class using a custom date as epoch.

```
public Snowflake(DateTime epoch)
```

Parameters

`epoch` DateTime

The date to use as the epoch.

Fields

MaxMachineId

Max number of machines / servers allowed. Range from 0 to MaxMachineId-1

```
public const long MaxMachineId = 1024
```

Field Value

long

MaxSequence

The maximum sequence number that can be generated per millisecond. When this value is reached, the sequence is reset to 0.

```
public const long MaxSequence = 4096
```

Field Value

long

MaxTimestamp

Max number of milliseconds since epoch. Range from 0 to MaxTimestamp-1

```
public const long MaxTimestamp = 4398046511104
```

Field Value

long

NumberOfDigits

Total number of digits for the generated code.

```
public static readonly int NumberOfDigits
```

Field Value

int

An int representing the number of digits.

Properties

Code

Gets the Snowflake ID as a string.

```
public string Code { get; }
```

Property Value

string

A string representing the Snowflake ID.

Epoch

Gets the current epoch being used.

```
public DateTime Epoch { get; }
```

Property Value

DateTime

A DateTime representing the current epoch.

Id

Gets the Snowflake ID.

```
[CLSCompliant(false)]
public virtual ulong Id { get; }
```

Property Value

ulong

A ulong representing the Snowflake ID.

MachineId

Gets or sets the machine/server number.

```
[CLSCompliant(false)]
public ulong MachineId { get; set; }
```

Property Value

ulong

Exceptions

ArgumentOutOfRangeException

Thrown when the value is greater than or equal to MaxMachineId.

MachineIdInt32

Gets or sets the machine/server number as an integer.

```
public int MachineIdInt32 { get; set; }
```

Property Value

int

Exceptions

ArgumentOutOfRangeException

Thrown when the value is negative or greater than or equal to MaxMachineId.

Sequence

Gets or sets the sequence number.

```
[CLSCompliant(false)]
public ulong Sequence { get; set; }
```

Property Value

ulong

Exceptions

ArgumentOutOfRangeException

Thrown when the value is greater than or equal to MaxSequence.

SequenceInt32

Gets or sets the sequence number as an integer.

```
public int SequenceInt32 { get; set; }
```

Property Value

int

Exceptions

ArgumentOutOfRangeException

Thrown when the value is negative or greater than or equal to MaxSequence.

Timestamp

Gets or sets the timestamp as the number of milliseconds since the selected epoch.

```
[CLSCompliant(false)]
public ulong Timestamp { get; set; }
```

Property Value

ulong

Exceptions

ArgumentOutOfRangeException

Thrown when the value is greater than or equal to MaxTimestamp.

TimestampInt64

Gets or sets the timestamp as the number of milliseconds since the selected epoch.

```
public long TimestampInt64 { get; set; }
```

Property Value

long

Exceptions

ArgumentOutOfRangeException

Thrown when the value is less than 0 or greater than or equal to MaxTimestamp.

UtcDateTime

Sets the timeStamp portion of the snowflake based on current time and selected epoch. Gets real time of the snowflake based on selected epoch.

```
public DateTime UtcDateTime { get; set; }
```

Property Value

DateTime

Methods

ChangeEpoch(DateTime)

Changes the snowflake's epoch keeping the code intact. This will adjust the represented UtcDateTime to match the new epoch.

```
public void ChangeEpoch(DateTime newEpoch)
```

Parameters

`newEpoch` DateTime

The new epoch to set.

CompareTo(Snowflake)

Compares the current Snowflake object with another Snowflake object.

```
public int CompareTo(Snowflake other)
```

Parameters

`other` Snowflake

The Snowflake object to compare with the current Snowflake object.

Returns

int

A value that indicates the relative order of the objects being compared. The return value has these meanings:

- Less than zero: This object is less than the `other` parameter.
- Zero: This object is equal to `other`.
- Greater than zero: This object is greater than `other`.

Exceptions

SnowflakesUsingDifferentEpochsException

Thrown when comparing Snowflake objects generated using different epochs.

CompareTo(object)

Compares the current Snowflake object with another object.

```
public int CompareTo(object obj)
```

Parameters

`obj` object

The object to compare with the current Snowflake object.

Returns

int

A value that indicates the relative order of the objects being compared. The return value has these meanings:

- Less than zero: This object is less than the `obj` parameter.
- Zero: This object is equal to `obj`.
- Greater than zero: This object is greater than `obj`.

Exceptions

SnowflakesUsingDifferentEpochsException

Thrown when comparing Snowflake objects generated using different epochs.

Equals(Snowflake)

Checks equality between this Snowflake object and another Snowflake object.

```
public virtual bool Equals(Snowflake other)
```

Parameters

`other` Snowflake

The Snowflake object to compare with the current Snowflake object.

Returns

bool

`true` if the specified Snowflake object is equal to the current Snowflake object; otherwise, `false`.

Equals(object)

Checks equality between this Snowflake object and another object.

```
public override bool Equals(object obj)
```

Parameters

`obj` object

The object to compare with the current Snowflake object.

Returns

bool

`true` if the specified object is equal to the current Snowflake object; otherwise, `false`.

FromString(string)

Creates a Snowflake instance from the specified string.

```
public static Snowflake FromString(string s)
```

Parameters

`s` string

The string representation of the Snowflake.

Returns

Snowflake

A Snowflake instance that corresponds to the specified string.

FromUInt64(ulong)

Creates a Snowflake instance from the specified unsigned long integer.

```
[CLSCompliant(false)]
public static Snowflake FromUInt64(ulong s)
```

Parameters

`s` ulong

The unsigned long integer representation of the Snowflake.

Returns

Snowflake

A Snowflake instance that corresponds to the specified unsigned long integer.

GetHashCode()

Serves as the default hash function. Override of GetHashCode().

```
public override int GetHashCode()
```

Returns

int

A hash code for the current Snowflake object.

Parse(string)

Creates a SnowflakeId object from a SnowflakeId code.

```
public static Snowflake Parse(string s)
```

Parameters

s string

The SnowflakeId code as a string.

Returns

Snowflake

A new instance of the Snowflake class.

Parse(string, DateTime)

Creates a SnowflakeId object from a SnowflakeId code using a custom epoch.

```
public static Snowflake Parse(string s, DateTime customEpoch)
```

Parameters

`s` string

The SnowflakeId code as a string.

`customEpoch` DateTime

The custom date to use as the epoch.

Returns

Snowflake

A new instance of the Snowflake class.

Parse(ulong)

Creates a SnowflakeId object from a SnowflakeId code.

```
[CLSCompliant(false)]
public static Snowflake Parse(ulong b)
```

Parameters

`b` ulong

The SnowflakeId code as a ulong.

Returns

Snowflake

A new instance of the Snowflake class.

Parse(ulong, DateTime)

Creates a SnowflakeId object from a SnowflakeId code using a custom epoch.

```
[CLSCompliant(false)]
public static Snowflake Parse(ulong b, DateTime customEpoch)
```

Parameters

`b` ulong

The SnowflakeId code as a ulong.

`customEpoch` DateTime

The custom date to use as the epoch.

Returns

Snowflake

A new instance of the Snowflake class.

RebaseEpoch(DateTime)

Rebase the Snowflake to a new epoch CHANGING THE GENERATED CODE but keeping the same date and time.

```
public void RebaseEpoch(DateTime newEpoch)
```

Parameters

`newEpoch` DateTime

The new epoch to set.

ToString()

Gets the Snowflake ID as a string.

```
public override string ToString()
```

Returns

string

A string representing the Snowflake ID.

ToUInt64()

Converts the current Snowflake instance to its unsigned long integer representation.

```
[CLSCompliant(false)]
public ulong ToUInt64()
```

Returns

ulong

An unsigned long integer representation of the current Snowflake instance.

Remarks

If a loosely typed language (or a language that doesn't differentiate between number types, i.e.: Typescript) is part of your workflow, use ToString() to avoid issues regarding floating-point underflow and rounding.

Operators

operator ==(Snowflake, Snowflake)

Determines whether two specified instances of Snowflake are equal.

```
public static bool operator ==(Snowflake s1, Snowflake s2)
```

Parameters

`s1` Snowflake

The first Snowflake to compare.

`s2` Snowflake

The second Snowflake to compare.

Returns

bool

`true` if the two Snowflake instances are equal; otherwise, `false`.

explicit operator Snowflake(string)

Converts the specified string to a Snowflake instance.

```
public static explicit operator Snowflake(string s)
```

Parameters

`s` string

The string to convert.

Returns

Snowflake

A Snowflake instance that is equivalent to the specified string.

explicit operator Snowflake(ulong)

Converts the specified unsigned long integer to a Snowflake instance.

```
[CLSCompliant(false)]
public static explicit operator Snowflake(ulong s)
```

Parameters

`s` ulong

The unsigned long integer to convert.

Returns

Snowflake

A Snowflake instance that is equivalent to the specified unsigned long integer.

operator >(Snowflake, Snowflake)

Determines whether the first specified Snowflake is greater than the second specified Snowflake.

```
public static bool operator >(Snowflake s1, Snowflake s2)
```

Parameters

`s1` Snowflake

The first Snowflake to compare.

`s2` Snowflake

The second Snowflake to compare.

Returns

bool

`true` if the first Snowflake is greater than the second Snowflake; otherwise, `false`.

Exceptions

SnowflakesUsingDifferentEpochsException

Thrown when comparing Snowflake objects generated using different epochs.

operator >=(Snowflake, Snowflake)

Determines whether the first specified Snowflake is greater than or equal to the second specified Snowflake.

```
public static bool operator >=(Snowflake s1, Snowflake s2)
```

Parameters

`s1` Snowflake

The first Snowflake to compare.

`s2` Snowflake

The second Snowflake to compare.

Returns

bool

`true` if the first Snowflake is greater than or equal to the second Snowflake; otherwise, `false`.

Exceptions

SnowflakesUsingDifferentEpochsException

Thrown when comparing Snowflake objects generated using different epochs.

implicit operator string(Snowflake)

Converts the specified Snowflake instance to its string representation.

```
public static implicit operator string(Snowflake s)
```

Parameters

`s` Snowflake

The Snowflake instance to convert.

Returns

string

A string representation of the specified Snowflake instance.

implicit operator ulong(Snowflake)

Converts the specified Snowflake instance to its unsigned long integer representation.

```
[CLSCompliant(false)]
public static implicit operator ulong(Snowflake s)
```

Parameters

`s` Snowflake

The Snowflake instance to convert.

Returns

ulong

An unsigned long integer representation of the specified Snowflake instance.

Remarks

If a loosely typed language (or a language that doesn't differentiate between number types, i.e.: Typescript) is part of your workflow, use the string representation to avoid issues regarding floating-point underflow and rounding.

operator !=(Snowflake, Snowflake)

Determines whether two specified instances of Snowflake are not equal.

```
public static bool operator !=(Snowflake s1, Snowflake s2)
```

Parameters

`s1` Snowflake

The first Snowflake to compare.

`s2` Snowflake

The second Snowflake to compare.

Returns

bool

`true` if the two Snowflake instances are not equal; otherwise, `false`.

operator <(Snowflake, Snowflake)

Determines whether the first specified Snowflake is less than the second specified Snowflake.

```
public static bool operator <(Snowflake s1, Snowflake s2)
```

Parameters

`s1` Snowflake

The first Snowflake to compare.

`s2` Snowflake

The second Snowflake to compare.

Returns

bool

`true` if the first Snowflake is less than the second Snowflake; otherwise, `false`.

Exceptions

SnowflakesUsingDifferentEpochsException

Thrown when comparing Snowflake objects generated using different epochs.

operator <=(Snowflake, Snowflake)

Determines whether the first specified Snowflake is less than or equal to the second specified Snowflake.

```
public static bool operator <=(Snowflake s1, Snowflake s2)
```

Parameters

`s1` Snowflake

The first Snowflake to compare.

`s2` Snowflake

The second Snowflake to compare.

Returns

bool

`true` if the first Snowflake is less than or equal to the second Snowflake; otherwise, `false`.

Exceptions

SnowflakesUsingDifferentEpochsException

Thrown when comparing Snowflake objects generated using different epochs.

Class SnowflakeIDGenerator

Namespace: SnowflakeID

Assembly: SnowflakeIDGenerator.dll

Generator class for Snowflake.

This keeps track of time, machine number and sequence.

```
public class SnowflakeIDGenerator : ISnowflakeIDGenerator, ISnowflakeIDGeneratorClsCompliant
```

Inheritance

object ← SnowflakeIDGenerator

Implements

ISnowflakeIDGenerator, ISnowflakeIDGeneratorClsCompliant

Inherited Members

object.ToString() , object.Equals(object) , object.Equals(object, object) , object.ReferenceEquals(object, object) , object.GetHashCode() , object.GetType() , object.MemberwiseClone()

Remarks

NuGet

Source

API

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Constructors

SnowflakeIDGenerator(int)

Creates a SnowflakeIDGenerator for a given machine number.

```
public SnowflakeIDGenerator(int machineId)
```

Parameters

`machineId` int

Machine number

Remarks

This constructor initializes the generator with a specific machine ID and uses the default epoch date. It ensures that the machine ID is within the valid range and sets the initial timestamp to prevent overflow issues.

Exceptions

ArgumentOutOfRangeException

Thrown when `machineId` is greater than or equal to MaxMachineId.

SnowflakeIDGenerator(int, DateTime)

Creates a SnowflakeIDGenerator for a given machine number using a custom date as epoch.

```
public SnowflakeIDGenerator(int machineId, DateTime customEpoch)
```

Parameters

`machineId` int

Machine number

`customEpoch` DateTime

Date to use as epoch

Remarks

This constructor initializes the generator with a specific machine ID and a custom epoch date. It ensures that the machine ID is within the valid range and sets the initial timestamp to prevent overflow issues.

Exceptions

ArgumentOutOfRangeException

Thrown when `machineId` is greater than or equal to MaxMachineId.

SnowflakeIDGenerator(ulong)

Creates a SnowflakeIDGenerator for a given machine number.

```
[CLSCompliant(false)]
public SnowflakeIDGenerator(ulong machineId)
```

Parameters

`machineId` ulong

Machine number

Remarks

This constructor initializes the generator with a specific machine ID and uses the default epoch date. It ensures that the machine ID is within the valid range and sets the initial timestamp to prevent overflow issues.

Exceptions

ArgumentOutOfRangeException

Thrown when `machineId` is greater than or equal to MaxMachineId.

SnowflakeIDGenerator(ulong, DateTime)

Creates a SnowflakeIDGenerator for a given machine number using a custom date as epoch.

```
[CLSCompliant(false)]
public SnowflakeIDGenerator(ulong machineId, DateTime customEpoch)
```

Parameters

`machineId` ulong

Machine number

`customEpoch` DateTime

Date to use as epoch

Remarks

This constructor initializes the generator with a specific machine ID and a custom epoch date. It ensures that the machine ID is within the valid range and sets the initial timestamp to prevent overflow issues.

Exceptions

ArgumentOutOfRangeException

Thrown when `machineId` is greater than or equal to MaxMachineId.

Properties

ConfiguredEpoch

Gets the date configured as the epoch for the generator.

```
public DateTime ConfiguredEpoch { get; }
```

Property Value

DateTime

The DateTime value representing the custom epoch date.

Remarks

The epoch date is used as the starting point for generating unique IDs.

ConfiguredMachineId

Gets the configured machine ID for the generator.

```
public int ConfiguredMachineId { get; }
```

Property Value

int

The int value representing the machine ID.

Remarks

The machine ID is used to ensure uniqueness across different instances of the generator.

Methods

GetCode()

Gets the next Snowflake ID as a number.

```
[CLSCompliant(false)]
public ulong GetCode()
```

Returns

ulong

A ulong representing the next Snowflake ID.

Remarks

This method generates a new Snowflake ID and returns it as a numeric value.

If a loosely typed language (or a language that doesn't differentiate between number types, i.e.: Typescript) is part of your workflow, use GetCodeString() to avoid issues regarding floating-point underflow and rounding.

GetCode(ulong)

Static method to get the next Snowflake ID as a number for a given machine ID.

```
[CLSCompliant(false)]
public static ulong GetCode(ulong machineId)
```

Parameters

`machineId` ulong

The machine ID as a ulong.

Returns

ulong

A ulong representing the next Snowflake ID.

Remarks

This method generates a new Snowflake ID and returns it as a numeric value.

If a loosely typed language (or a language that doesn't differentiate between number types, i.e.: Typescript) is part of your workflow, use GetCodeString(ulong) to avoid issues regarding floating-point underflow and rounding.

GetCode(ulong, DateTime)

Static method to get the next Snowflake ID as a number for a given machine ID using a custom epoch date.

```
[CLSCompliant(false)]
public static ulong GetCode(ulong machineId, DateTime customEpoch)
```

Parameters

`machineId` ulong

The machine ID as a ulong.

`customEpoch` DateTime

The custom epoch date as a DateTime.

Returns

ulong

A ulong representing the next Snowflake ID.

Remarks

This method generates a new Snowflake ID and returns it as a numeric value.

If a loosely typed language (or a language that doesn't differentiate between number types, i.e.: Typescript) is part of your workflow, use GetCodeString(ulong, DateTime) to avoid issues regarding floating-point underflow and rounding.

GetCodeString()

Gets the next Snowflake ID as a string.

```
public string GetCodeString()
```

Returns

string

A string representing the next Snowflake ID.

Remarks

This method generates a new Snowflake ID and returns it as a string value.

GetCodeString(int)

Gets the next Snowflake ID as a string for a given machine ID.

```
public static string GetCodeString(int machineId)
```

Parameters

`machineId` int

The machine ID as an int.

Returns

string

A string representing the next Snowflake ID.

GetCodeString(int, DateTime)

Gets the next Snowflake ID as a string for a given machine ID using a custom epoch date.

```
public static string GetCodeString(int machineId, DateTime customEpoch)
```

Parameters

`machineId` int

The machine ID as an int.

`customEpoch` DateTime

The custom epoch date as a DateTime.

Returns

string

A string representing the next Snowflake ID.

GetCodeString(ulong)

Gets the next Snowflake ID as a string for a given machine ID.

```
[CLSCompliant(false)]
public static string GetCodeString(ulong machineId)
```

Parameters

`machineId` ulong

The machine ID as a ulong.

Returns

string

A string representing the next Snowflake ID.

GetCodeString(ulong, DateTime)

Gets the next Snowflake ID as a string for a given machine ID using a custom epoch date.

```
[CLSCompliant(false)]
public static string GetCodeString(ulong machineId, DateTime customEpoch)
```

Parameters

`machineId` ulong

The machine ID as a ulong.

`customEpoch` DateTime

The custom epoch date as a DateTime.

Returns

string

A string representing the next Snowflake ID.

GetSnowflake()

Generates the next Snowflake ID.

```
public Snowflake GetSnowflake()
```

Returns

Snowflake

A Snowflake object containing the generated ID.

Exceptions

InvalidOperationException

Thrown when the system clock is moved backwards.

GetSnowflake(int)

Static method to get the next Snowflake ID for a given machine ID.

```
public static Snowflake GetSnowflake(int machineId)
```

Parameters

`machineId` int

The machine ID as an int.

Returns

Snowflake

A Snowflake object containing the generated ID.

GetSnowflake(int, DateTime)

Static method to get the next Snowflake ID for a given machine ID using a custom epoch date.

```
public static Snowflake GetSnowflake(int machineId, DateTime customEpoch)
```

Parameters

`machineId` int

The machine ID as an int.

`customEpoch` DateTime

The custom epoch date as a DateTime.

Returns

Snowflake

A Snowflake object containing the generated ID.

GetSnowflake(ulong)

Static method to get the next Snowflake ID for a given machine ID.

```
[CLSCompliant(false)]
public static Snowflake GetSnowflake(ulong machineId)
```

Parameters

`machineId` ulong

The machine ID as a ulong.

Returns

Snowflake

A Snowflake object containing the generated ID.

Remarks

This method generates a new Snowflake ID and returns it as a Snowflake object.

GetSnowflake(ulong, DateTime)

Static method to get the next Snowflake ID for a given machine ID using a custom epoch date.

```
[CLSCompliant(false)]
public static Snowflake GetSnowflake(ulong machineId, DateTime customEpoch)
```

Parameters

`machineId` ulong

The machine ID as a ulong.

`customEpoch` DateTime

The custom epoch date as a DateTime.

Returns

Snowflake

A Snowflake object containing the generated ID.

Class SnowflakeIdGeneratorOptions

Namespace: SnowflakeID

Assembly: SnowflakeIDGenerator.DependencyInjection.dll

Option object for SnowflakeIDGenerator.

```
public class SnowflakeIdGeneratorOptions
```

Inheritance

object ← SnowflakeIdGeneratorOptions

Inherited Members

object.Equals(object) , object.Equals(object, object) , object.GetHashCode() , object.GetType() , object.MemberwiseClone() , object.ReferenceEquals(object, object) , object.ToString()

Properties

Epoch

Gets or sets the epoch date as a string.

```
public string Epoch { get; set; }
```

Property Value

string

The epoch date as a string in ISO 8601 format.

Remarks

This property allows setting the epoch date using a string representation. The date is parsed and stored internally as a DateTime object in UTC.

MachineId

Gets or sets the machine ID.

```
public int MachineId { get; set; }
```

Property Value

int

The machine ID as an int.

Class SnowflakeIdGeneratorServiceCollectionExtensions

Namespace: SnowflakeID

Assembly: SnowflakeIDGenerator.DependencyInjection.dll

Extension methods to register SnowflakeIDGenerator services.

```
public static class SnowflakeIdGeneratorServiceCollectionExtensions
```

Inheritance

object ← SnowflakeIdGeneratorServiceCollectionExtensions

Inherited Members

object.Equals(object) , object.Equals(object, object) , object.GetHashCode() , object.GetType() , object.MemberwiseClone() , object.ReferenceEquals(object, object) , object.ToString()

Remarks

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Methods

AddSnowflakeIdGeneratorService(IServiceCollection)

Registers a SnowflakeIDGenerator in ISnowflakeIDGenerator.

```
public static IServiceCollection AddSnowflakeIdGeneratorService(this
IServiceCollection serviceCollection)
```

Parameters

`serviceCollection` IServiceCollection

The IServiceCollection to add services to.

Returns

IServiceCollection

The updated IServiceCollection.

AddSnowflakeIdGeneratorService(IServiceCollection, SnowflakeIdGeneratorOptions)

Registers a SnowflakeIDGenerator in ISnowflakeIDGenerator.

```
public static IServiceCollection AddSnowflakeIdGeneratorService(this IServiceCollection
serviceCollection, SnowflakeIdGeneratorOptions options)
```

Parameters

`serviceCollection` IServiceCollection

The IServiceCollection to add services to.

`options` SnowflakeIdGeneratorOptions

Option object. Useful when obtaining from IConfigurationSection.

Returns

IServiceCollection

The updated IServiceCollection.

AddSnowflakeIdGeneratorService(IServiceCollection, int)

Registers a SnowflakeIDGenerator in ISnowflakeIDGenerator.

```
public static IServiceCollection AddSnowflakeIdGeneratorService(this IServiceCollection
serviceCollection, int machineId)
```

Parameters

`serviceCollection` IServiceCollection

The IServiceCollection to add services to.

`machineId` int

Machine number.

Returns

IServiceCollection

The updated IServiceCollection.

AddSnowflakeIdGeneratorService(IServiceCollection, int, DateTime)

Registers a SnowflakeIDGenerator in ISnowflakeIDGenerator.

```
public static IServiceCollection AddSnowflakeIdGeneratorService(this IServiceCollection
serviceCollection, int machineId, DateTime customEpoch)
```

Parameters

`serviceCollection` IServiceCollection

The IServiceCollection to add services to.

`machineId` int

Machine number.

`customEpoch` DateTime

Date to use as epoch.

Returns

IServiceCollection

The updated IServiceCollection.

AddSnowflakeIdGeneratorService(IServiceCollection, long, DateTime)

Registers a SnowflakeIDGenerator in ISnowflakeIDGenerator.

```
public static IServiceCollection AddSnowflakeIdGeneratorService(this IServiceCollection
serviceCollection, long machineId, DateTime customEpoch)
```

Parameters

`serviceCollection` IServiceCollection

The IServiceCollection to add services to.

`machineId` long

Machine number.

`customEpoch` DateTime

Date to use as epoch.

Returns

IServiceCollection

The updated IServiceCollection.

AddSnowflakeIdGeneratorService(IServiceCollection, ulong)

Registers a SnowflakeIDGenerator in ISnowflakeIDGenerator.

```
public static IServiceCollection AddSnowflakeIdGeneratorService(this IServiceCollection
serviceCollection, ulong machineId)
```

Parameters

`serviceCollection` IServiceCollection

The IServiceCollection to add services to.

`machineId` ulong

Machine number.

Returns

IServiceCollection

The updated IServiceCollection.

AddSnowflakeIdGeneratorService(IServiceCollection, ulong, DateTime)

Registers a SnowflakeIDGenerator in ISnowflakeIDGenerator.

```
public static IServiceCollection AddSnowflakeIdGeneratorService(this IServiceCollection
serviceCollection, ulong machineId, DateTime customEpoch)
```

Parameters

`serviceCollection` IServiceCollection

The IServiceCollection to add services to.

`machineId` ulong

Machine number.

`customEpoch` DateTime

Date to use as epoch.

Returns

IServiceCollection

The updated IServiceCollection.

Namespace SnowflakeID.Exceptions

Classes

SnowflakesUsingDifferentEpochsException

Exception thrown when trying to compare IDs using different epochs.

Class SnowflakesUsingDifferentEpochsException

Namespace: SnowflakeID.Exceptions

Assembly: SnowflakeIDGenerator.dll

Exception thrown when trying to compare IDs using different epochs.

```
[Serializable]
public class SnowflakesUsingDifferentEpochsException : ArgumentException,
_Exception, ISerializable
```

Inheritance

object ← Exception ← SystemException ← ArgumentException ← SnowflakesUsingDifferentEpochsException

Implements

_Exception, ISerializable

Inherited Members

ArgumentException.GetObjectData(SerializationInfo, StreamingContext) , ArgumentException.Message , ArgumentException.ParamName , Exception.GetBaseException() , Exception.ToString() , Exception.GetType() , Exception.Data , Exception.InnerException , Exception.TargetSite , Exception.StackTrace , Exception.HelpLink , Exception.Source , Exception.HResult , object.Equals(object) , object.Equals(object, object) , object.ReferenceEquals(object, object) , object.GetHashCode() , object.MemberwiseClone()

Constructors

SnowflakesUsingDifferentEpochsException()

Initializes a new instance of the SnowflakesUsingDifferentEpochsException class.

```
public SnowflakesUsingDifferentEpochsException()
```

SnowflakesUsingDifferentEpochsException(SerializationInfo, StreamingContext)

Initializes a new instance of the SnowflakesUsingDifferentEpochsException class with serialized data.

```
protected SnowflakesUsingDifferentEpochsException(SerializationInfo serializationInfo,
StreamingContext streamingContext)
```

Parameters

`serializationInfo` SerializationInfo

The object that holds the serialized object data.

`streamingContext` StreamingContext

The contextual information about the source or destination.

SnowflakesUsingDifferentEpochsException(string)

Initializes a new instance of the SnowflakesUsingDifferentEpochsException class with a specified error message.

```
public SnowflakesUsingDifferentEpochsException(string message)
```

Parameters

`message` string

The error message that explains the reason for the exception.

SnowflakesUsingDifferentEpochsException(string, Exception)

Initializes a new instance of the SnowflakesUsingDifferentEpochsException class with a specified error message and a reference to the inner exception that is the cause of this exception.

```
public SnowflakesUsingDifferentEpochsException(string message, Exception innerException)
```

Parameters

`message` string

The error message that explains the reason for the exception.

`innerException` Exception

The exception that is the cause of the current exception.

SnowflakesUsingDifferentEpochsException(string, string)

Initializes a new instance of the SnowflakesUsingDifferentEpochsException class with a specified error message and the name of the parameter that causes this exception.

```
public SnowflakesUsingDifferentEpochsException(string message, string paramName)
```

Parameters

`message` string

The error message that explains the reason for the exception.

`paramName` string

The name of the parameter that caused the current exception.

SnowflakesUsingDifferentEpochsException(string, string, Exception)

Initializes a new instance of the SnowflakesUsingDifferentEpochsException class with a specified error message, the parameter name, and a reference to the inner exception that is the cause of this exception.

```
public SnowflakesUsingDifferentEpochsException(string message, string paramName,
Exception innerException)
```

Parameters

`message` string

The error message that explains the reason for the exception.

`paramName` string

The name of the parameter that caused the current exception.

`innerException` Exception

The exception that is the cause of the current exception.

Fields

DefaultMessage

Default message for the exception.

```
public const string DefaultMessage = "When comparing SnowflakeIds, both should be using the
same epoch for the comparison to make sense."
```

Field Value

string

Namespace SnowflakeID.Helpers

Classes

GlobalConstants

Global constants used throughout the Snowflake ID generator.

Class GlobalConstants

Namespace: SnowflakeID.Helpers

Assembly: SnowflakeIDGenerator.dll

Global constants used throughout the Snowflake ID generator.

```
public static class GlobalConstants
```

Inheritance

object ← GlobalConstants

Inherited Members

object.ToString() , object.Equals(object) , object.Equals(object, object) , object.ReferenceEquals(object, object) , object.GetHashCode() , object.GetType() , object.MemberwiseClone()

Fields

DefaultEpoch

The default date used as the epoch if not configured.

```
public static readonly DateTime DefaultEpoch
```

Field Value

DateTime

Remarks

This is set to Unix Epoch (January 1, 1970).