

# Namespace SyncerNet

## Classes

[HotfixLoader](#)

用于热更新

[NetworkServer](#)

网络服务器

# Class HotfixLoader

Namespace: [SyncerNet](#)

Assembly: SyncerNet.dll

用于热更新

```
public class HotfixLoader
```

## Inheritance

[object](#) ← HotfixLoader

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### Fix(NetworkServer)

```
public static void Fix(NetworkServer server)
```

#### Parameters

server [NetworkServer](#)

# Class NetworkServer

Namespace: [SyncerNet](#)

Assembly: SyncerNet.dll

网络服务器

```
public class NetworkServer
```

## Inheritance

[object](#) ← NetworkServer

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Fields

### DualMode

```
public bool DualMode
```

Field Value

[bool](#)

### FastResend

```
public int FastResend
```

Field Value

[int](#)

## Interval

```
public uint Interval
```

Field Value

[uint](#)

## MaxRetransmits

```
public uint MaxRetransmits
```

Field Value

[uint](#)

## NoDelay

```
public bool NoDelay
```

Field Value

[bool](#)

## ReceiveWindowSize

```
public uint ReceiveWindowSize
```

Field Value

[uint](#)

## RecvBufferSize

```
public int RecvBufferSize
```

Field Value

[int ↗](#)

## SendBufferSize

```
public int SendBufferSize
```

Field Value

[int ↗](#)

## SendWindowSize

```
public uint SendWindowSize
```

Field Value

[uint ↗](#)

## Timeout

```
public int Timeout
```

Field Value

[int ↗](#)

## Properties

### OnConnected

用于热更，建立新连接时调用

```
public Action<int>? OnConnected { get; set; }
```

Property Value

[Action](#)<[int](#)>

## OnDisconnected

用于热更，断开连接时调用

```
public Action<int>? OnDisconnected { get; set; }
```

Property Value

[Action](#)<[int](#)>

## OnError

用于热更，错误时调用

```
public Action<int, ErrorCode, string>? OnError { get; set; }
```

Property Value

[Action](#)<[int](#), [ErrorCode](#), [string](#)>

## ProcessMessage

用于热更，处理消息时调用

```
public Action<int, ArraySegment<byte>, KcpChannel>? ProcessMessage { get; set; }
```

Property Value

[Action](#)<[int](#), [ArraySegment](#)<[byte](#)>, KcpChannel>

## Methods

### Init(ushort)

初始化服务器

```
public void Init(ushort port)
```

#### Parameters

port [ushort](#)

端口

### Send(int, ArraySegment<byte>, KcpChannel)

```
public void Send(int netId, ArraySegment<byte> data, KcpChannel channel)
```

#### Parameters

netId [int](#)

data [ArraySegment](#)<[byte](#)>

channel KcpChannel

### ServerLoop()

服务器循环Tick接收消息并处理，会阻塞当前线程

```
public void ServerLoop()
```

### ServerTick()

服务器单次Tick，接收消息并处理

```
public void ServerTick()
```

# Namespace SyncerNet.Hotfix

## Classes

[Authenticator](#)

[Entity](#)

[Game](#)

Game为全局唯一的根节点，所有World的父节点

[NetworkMessage](#)

[Player](#)

[Syncer](#)

[World](#)

可序列化的World，新玩家加入时，无需重复发送之前的消息，只需要将此序列化后发送给玩家，便可同步最新的World和其中的Entity

# Class Authenticator

Namespace: [SyncerNet.Hotfix](#)

Assembly: SyncerNet.Hotfix.dll

```
public class Authenticator
```

## Inheritance

[object](#) ← Authenticator

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Methods

### Authenticate(NetworkMessage)

```
public static bool Authenticate(NetworkMessage message)
```

#### Parameters

message [NetworkMessage](#)

#### Returns

[bool](#)

# Class Entity

Namespace: [SyncerNet.Hotfix](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class Entity : IMemoryPackable<Entity>, IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← Entity

## Implements

IMemoryPackable<[Entity](#)>, IMemoryPackFormatterRegister

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint EntityId uint WorldId uint OwnerId string
PrefabPathSystem.Collections.Concurrent.ConcurrentDictionary<System.Type,
SyncerNet.Hotfix.Syncer> Syncers
```

## Constructors

Entity(uint, uint, uint, string, ConcurrentDictionary<Type, Syncer>)

```
public Entity(uint entityId, uint worldId, uint ownerId, string prefabPath,
ConcurrentDictionary<Type, Syncer> syncers)
```

## Parameters

`entityId` [uint](#)

`worldId` [uint](#)

`ownerId` [uint](#)

`prefabPath` [string](#)

`syncers` [ConcurrentDictionary](#)<[Type](#), [Syncer](#)>

## Properties

### EntityId

`public int EntityId { get; set; }`

Property Value

[uint](#)

### OwnerId

`public int OwnerId { get; set; }`

Property Value

[uint](#)

### PrefabPath

`public string PrefabPath { get; set; }`

Property Value

[string](#)

# Syncers

```
public ConcurrentDictionary<Type, Syncer> Syncers { get; }
```

Property Value

[ConcurrentDictionary](#)<Type, Syncer>

# WorldId

```
public uint WorldId { get; set; }
```

Property Value

[uint](#)

# Methods

## AddOrSetSyncer<T>(T)

添加或设置Syncer

```
public void AddOrSetSyncer<T>(T tSyncer) where T : Syncer
```

Parameters

tSyncer T

Type Parameters

T

# Class Game

Namespace: [SyncerNet.Hotfix](#)

Assembly: SyncerNet.Hotfix.dll

Game为全局唯一的根节点，所有World的父节点

```
public class Game
```

## Inheritance

[object](#) ← Game

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### Game()

```
public Game()
```

## Properties

### Players

Key:NetworkId,Value:Player

```
public ConcurrentDictionary<int, Player> Players { get; set; }
```

Property Value

[ConcurrentDictionary](#)<[int](#), [Player](#)>

# SendAction

Hotfix时赋值的NetworkServer的Send函数

```
public Action<int, ArraySegment<byte>, KcpChannel>? SendAction { get; set; }
```

Property Value

[Action](#)<int, [ArraySegment](#)<byte>, KcpChannel>

# Worlds

Key:WorldId,Value:World

```
public ConcurrentDictionary<uint, World> Worlds { get; set; }
```

Property Value

[ConcurrentDictionary](#)<uint, [World](#)>

# Methods

## AddPlayer(int, uint)

添加Player到Game

```
public void AddPlayer(int netId, uint playerId)
```

Parameters

netId [int](#)

NetworkId

playerId [uint](#)

## GenerateWorldId()

生成唯一WorldId

```
public uint GenerateWorldId()
```

Returns

[uint](#)

WorldId

## GetPlayer(int)

获取Player

```
public Player? GetPlayer(int netId)
```

Parameters

[netId](#) [int](#)

NetworkId

Returns

[Player](#)

## GetWorld(uint)

获取World

```
public World? GetWorld(uint worldId)
```

Parameters

[worldId](#) [uint](#)

Returns

[World](#)

## OnConnected(int)

```
public void OnConnected(int netId)
```

Parameters

netId [int](#)

## OnDisconnected(int)

```
public void OnDisconnected(int netId)
```

Parameters

netId [int](#)

## OnError(int, ErrorCode, string)

```
public void OnError(int netId, ErrorCode errorCode, string message)
```

Parameters

netId [int](#)

errorCode ErrorCode

message [string](#)

## ProcessMessage(int, ArraySegment<byte>, KcpChannel)

```
public void ProcessMessage(int netId, ArraySegment<byte> data, KcpChannel channel)
```

## Parameters

netId [int](#)

data [ArraySegment](#)<[byte](#)>

channel KcpChannel

## Send(int, NetworkMessage, KcpChannel)

向指定NetworkId的玩家发送Message消息

```
public void Send(int netId, NetworkMessage message, KcpChannel channel)
```

## Parameters

netId [int](#)

message [NetworkMessage](#)

channel KcpChannel

## Send(int, ArraySegment<byte>, KcpChannel)

向指定NetworkId的玩家发送Byte[]消息

```
public void Send(int netId, ArraySegment<byte> data, KcpChannel channel)
```

## Parameters

netId [int](#)

NetworkId

data [ArraySegment](#)<[byte](#)>

channel KcpChannel

## TryCreateWorld()

创建World

```
public (bool, uint) TryCreateWorld()
```

Returns

([bool](#), [uint](#))

(isSuccess,worldId)

# Class NetworkMessage

Namespace: [SyncerNet.Hotfix](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
[MemoryPackUnion(0, typeof(AddEntityMessage))]
[MemoryPackUnion(1, typeof(AddEntityReqMessage))]
[MemoryPackUnion(2, typeof(AddEntityRespMessage))]
[MemoryPackUnion(3, typeof(CreateWorldReqMessage))]
[MemoryPackUnion(4, typeof(CreateWorldRespMessage))]
[MemoryPackUnion(5, typeof(JoinGameReqMessage))]
[MemoryPackUnion(6, typeof(JoinGameRespMessage))]
[MemoryPackUnion(7, typeof(JoinWorldReqMessage))]
[MemoryPackUnion(8, typeof(JoinWorldRespMessage))]
[MemoryPackUnion(9, typeof(RemoveEntityReqMessage))]
[MemoryPackUnion(10, typeof(RemoveEntityRespMessage))]
[MemoryPackUnion(11, typeof(SyncerMessage))]
public abstract class NetworkMessage : IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← NetworkMessage

## Implements

IMemoryPackFormatterRegister

## Derived

[AddEntityMessage](#), [AddEntityReqMessage](#), [AddEntityRespMessage](#), [CreateWorldReqMessage](#),  
[CreateWorldRespMessage](#), [JoinGameReqMessage](#), [JoinGameRespMessage](#),  
[JoinWorldReqMessage](#), [JoinWorldRespMessage](#), [RemoveEntityReqMessage](#),  
[RemoveEntityRespMessage](#), [SyncerMessage](#)

## Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#),  
[object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#),  
[object.ToString\(\)](#)

## Fields

Id

```
public uint Id
```

Field Value

[uint](#)

## IsResponse

```
public bool IsResponse
```

Field Value

[bool](#)

## PlayerId

```
public uint PlayerId
```

Field Value

[uint](#)

## Token

```
public string Token
```

Field Value

[string](#)

## Methods

Process(Game, int, KcpChannel)

```
public abstract void Process(Game game, int netId, KcpChannel channel)
```

## Parameters

game [Game](#)

netId [int](#)

channel [KcpChannel](#)

# Class Player

Namespace: [SyncerNet.Hotfix](#)

Assembly: SyncerNet.Hotfix.dll

```
public class Player
```

## Inheritance

[object](#) ← Player

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Constructors

### Player(int, uint)

```
public Player(int networkId, uint playerId)
```

#### Parameters

networkId [int](#)

playerId [uint](#)

## Fields

### LastHeartBeat

```
public long LastHeartBeat
```

#### Field Value

[long](#)

## NetworkId

```
public int NetworkId
```

Field Value

[int](#)

## PlayerId

```
public uint PlayerId
```

Field Value

[uint](#)

## WorldId

```
public uint WorldId
```

Field Value

[uint](#)

# Class Syncer

Namespace: [SyncerNet.Hotfix](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
[MemoryPackUnion(0, typeof(AnimatorSyncer))]
[MemoryPackUnion(1, typeof(TransformSyncer))]
public abstract class Syncer : IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← Syncer

## Implements

IMemoryPackFormatterRegister

## Derived

[AnimatorSyncer](#), [TransformSyncer](#)

## Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#),  
[object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#),  
[object.ToString\(\)](#)

# Methods

## UpdateSyncer(Entity)

接收到SyncerMessage后，对Syncer进行更新

```
public abstract void UpdateSyncer(Entity entity)
```

## Parameters

entity [Entity](#)

# Class World

Namespace: [SyncerNet.Hotfix](#)

Assembly: SyncerNet.Hotfix.dll

可序列化的World，新玩家加入时，无需重复发送之前的消息，只需要将此序列化后发送给玩家，便可同步最新的World和其中的Entity

```
[MemoryPackable(GenerateType.Object)]
public class World : IMemoryPackable<World>, IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← World

## Implements

IMemoryPackable<[World](#)>, IMemoryPackFormatterRegister

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint WorldIdSystem.Collections.Concurrent.ConcurrentDictionary<uint,
SyncerNet.Hotfix.Entity> Entities
```

## Properties

### Entities

Key:EntityId,Value:Entity

```
public ConcurrentDictionary<uint, Entity> Entities { get; set; }
```

### Property Value

## [ConcurrentDictionary](#)<uint, Entity>

### Players

该World中的所有玩家

```
[MemoryPackIgnore]  
public ConcurrentDictionary<uint, Player> Players { get; set; }
```

### Property Value

#### [ConcurrentDictionary](#)<uint, Player>

### WorldId

```
public uint WorldId { get; set; }
```

### Property Value

[uint](#)

### Methods

#### GenerateEntityId()

生成唯一EntityId

```
public uint GenerateEntityId()
```

### Returns

[uint](#)

EntityId

## GetEntity(uint)

获取Entity

```
public Entity? GetEntity(uint entityId)
```

Parameters

entityId [uint](#)

Returns

[Entity](#)

## RemovePlayer(uint)

将Player从该World中移除

```
public void RemovePlayer(uint playerId)
```

Parameters

playerId [uint](#)

## TryAddEntity(uint, string)

添加Entity

```
public (bool, uint) TryAddEntity(uint ownerId, string prefabPath)
```

Parameters

ownerId [uint](#)

所有者的PlayerId

prefabPath [string](#)

Returns

([bool](#), [uint](#))

(isSuccess,EntityId)

## TryJoinPlayer(Player)

将Player加入到该World

```
public bool TryJoinPlayer(Player player)
```

Parameters

player [Player](#)

Returns

[bool](#)

## TryRemoveEntity(uint)

移除Entity

```
public bool TryRemoveEntity(uint entityId)
```

Parameters

entityId [uint](#)

Returns

[bool](#)

isSuccess

## TrySetEntity(Entity)

## 设置Entity

```
public bool TrySetEntity(Entity entity)
```

### Parameters

entity [Entity](#)

### Returns

[bool](#)

isSuccess

# Namespace SyncerNet.Hotfix.Messages

## Classes

[AddEntityMessage](#)

[AddEntityReqMessage](#)

[AddEntityRespMessage](#)

[CreateWorldReqMessage](#)

[CreateWorldRespMessage](#)

[JoinGameReqMessage](#)

[JoinGameRespMessage](#)

[JoinWorldReqMessage](#)

[JoinWorldRespMessage](#)

[RemoveEntityReqMessage](#)

[RemoveEntityRespMessage](#)

[SyncerMessage](#)

# Class AddEntityMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class AddEntityMessage : NetworkMessage, IMemoryPackable<AddEntityMessage>,
IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← AddEntityMessage

## Implements

IMemoryPackable<[AddEntityMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse uint WorldId uint EntityId uint
OwnerId string PrefabPath
```

## Constructors

### AddEntityMessage(uint, uint, uint, string)

```
public AddEntityMessage(uint worldId, uint entityId, uint ownerId, string prefabPath)
```

## Parameters

worldId [uint](#)

`entityId` [uint](#)

`ownerId` [uint](#)

`prefabPath` [string](#)

## Fields

### EntityId

`public uint EntityId`

Field Value

[uint](#)

### OwnerId

`public uint OwnerId`

Field Value

[uint](#)

### PrefabPath

`public string PrefabPath`

Field Value

[string](#)

### WorldId

```
public uint WorldId
```

Field Value

[uint](#)

## Methods

### Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

Parameters

game [Game](#)

netId [int](#)

channel KcpChannel

# Class AddEntityReqMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class AddEntityReqMessage : NetworkMessage, IMemoryPackable<AddEntityReqMessage>, IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← AddEntityReqMessage

## Implements

IMemoryPackable<[AddEntityReqMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse uint WorldId uint OwnerId string PrefabPath
```

## Constructors

### AddEntityReqMessage(uint, uint, string)

```
public AddEntityReqMessage(uint worldId, uint ownerId, string prefabPath)
```

## Parameters

worldId [uint](#)

ownerId [uint](#)

`prefabPath` [string](#)

## Fields

### OwnerId

`public uint OwnerId`

#### Field Value

[uint](#)

### PrefabPath

`public string PrefabPath`

#### Field Value

[string](#)

### WorldId

`public uint WorldId`

#### Field Value

[uint](#)

## Methods

### Process(Game, int, KcpChannel)

`public override void Process(Game game, int netId, KcpChannel channel)`

## Parameters

game [Game](#)

netId [int](#)

channel [KcpChannel](#)

# Class AddEntityRespMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class AddEntityRespMessage : NetworkMessage, IMemoryPackable<AddEntityRespMessage>,
IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← AddEntityRespMessage

## Implements

IMemoryPackable<[AddEntityRespMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse bool Success uint EntityId
```

## Constructors

### AddEntityRespMessage(bool, uint)

```
public AddEntityRespMessage(bool success, uint entityId)
```

## Parameters

success [bool](#)

entityId [uint](#)

# Fields

## EntityId

```
public uint EntityId
```

### Field Value

[uint](#)

## Success

```
public bool Success
```

### Field Value

[bool](#)

# Methods

## Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

### Parameters

game [Game](#)

netId [int](#)

channel [KcpChannel](#)

# Class CreateWorldReqMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class CreateWorldReqMessage : NetworkMessage, IMemoryPackable<CreateWorldReqMessage>,
IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← CreateWorldReqMessage

## Implements

IMemoryPackable<[CreateWorldReqMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse
```

## Methods

### Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

## Parameters

game [Game](#)

netId [int](#)

`channel` KcpChannel

# Class CreateWorldRespMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class CreateWorldRespMessage : NetworkMessage,
IMemoryPackable<CreateWorldRespMessage>, IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← CreateWorldRespMessage

## Implements

IMemoryPackable<[CreateWorldRespMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse bool Success uint WorldId
```

## Constructors

### CreateWorldRespMessage(bool, uint)

```
public CreateWorldRespMessage(bool success, uint worldId)
```

## Parameters

success [bool](#)

worldId [uint](#)

# Fields

## Success

```
public bool Success
```

### Field Value

[bool](#)

## WorldId

```
public uint WorldId
```

### Field Value

[uint](#)

# Methods

## Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

### Parameters

game [Game](#)

netId [int](#)

channel [KcpChannel](#)

# Class JoinGameReqMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class JoinGameReqMessage : NetworkMessage, IMemoryPackable<JoinGameReqMessage>, IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← JoinGameReqMessage

## Implements

IMemoryPackable<[JoinGameReqMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse
```

## Methods

### Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

## Parameters

game [Game](#)

netId [int](#)

`channel` KcpChannel

# Class JoinGameRespMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class JoinGameRespMessage : NetworkMessage, IMemoryPackable<JoinGameRespMessage>,
IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← JoinGameRespMessage

## Implements

IMemoryPackable<[JoinGameRespMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse
```

## Constructors

### JoinGameRespMessage()

```
public JoinGameRespMessage()
```

## Methods

### Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

## Parameters

game [Game](#)

netId [int](#)

channel [KcpChannel](#)

# Class JoinWorldReqMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class JoinWorldReqMessage : NetworkMessage, IMemoryPackable<JoinWorldReqMessage>, IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← JoinWorldReqMessage

## Implements

IMemoryPackable<[JoinWorldReqMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse uint WorldId
```

## Constructors

### JoinWorldReqMessage(uint)

```
public JoinWorldReqMessage(uint worldId)
```

## Parameters

worldId [uint](#)

# Fields

## WorldId

```
public uint WorldId
```

### Field Value

[uint](#)

# Methods

## Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

### Parameters

game [Game](#)

netId [int](#)

channel [KcpChannel](#)

# Class JoinWorldRespMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class JoinWorldRespMessage : NetworkMessage, IMemoryPackable<JoinWorldRespMessage>,
IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← JoinWorldRespMessage

## Implements

IMemoryPackable<[JoinWorldRespMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse bool Success SyncerNet.Hotfix.World World
```

## Constructors

### JoinWorldRespMessage(bool, World?)

```
public JoinWorldRespMessage(bool success, World? world)
```

## Parameters

success [bool](#)

world [World](#)

# Fields

## Success

```
public bool Success
```

### Field Value

[bool](#)

## World

```
public World? World
```

### Field Value

[World](#)

# Methods

## Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

### Parameters

game [Game](#)

netId [int](#)

channel [KcpChannel](#)

# Class RemoveEntityReqMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class RemoveEntityReqMessage : NetworkMessage,
IMemoryPackable<RemoveEntityReqMessage>, IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← RemoveEntityReqMessage

## Implements

IMemoryPackable<[RemoveEntityReqMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse uint WorldId uint EntityId
```

## Constructors

### RemoveEntityReqMessage(uint, uint)

```
public RemoveEntityReqMessage(uint worldId, uint entityId)
```

## Parameters

worldId [uint](#)

entityId [uint](#)

# Fields

## EntityId

```
public uint EntityId
```

### Field Value

[uint](#)

## WorldId

```
public uint WorldId
```

### Field Value

[uint](#)

# Methods

## Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

### Parameters

game [Game](#)

netId [int](#)

channel [KcpChannel](#)

# Class RemoveEntityRespMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class RemoveEntityRespMessage : NetworkMessage,
IMemoryPackable<RemoveEntityRespMessage>, IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← RemoveEntityRespMessage

## Implements

IMemoryPackable<[RemoveEntityRespMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse bool Success
```

## Constructors

### RemoveEntityRespMessage(bool)

```
public RemoveEntityRespMessage(bool success)
```

## Parameters

success [bool](#)

# Fields

## Success

```
public bool Success
```

### Field Value

[bool](#)

# Methods

## Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

### Parameters

game [Game](#)

netId [int](#)

channel [KcpChannel](#)

# Class SyncerMessage

Namespace: [SyncerNet.Hotfix.Messages](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class SyncerMessage : NetworkMessage, IMemoryPackable<SyncerMessage>,
IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [NetworkMessage](#) ← SyncerMessage

## Implements

IMemoryPackable<[SyncerMessage](#)>, IMemoryPackFormatterRegister

## Inherited Members

[NetworkMessage.Id](#) , [NetworkMessage.PlayerId](#) , [NetworkMessage.Token](#) ,  
[NetworkMessage.IsResponse](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,  
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,  
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
uint Id uint PlayerId string Token bool IsResponse uint WorldId uint
EntityId SyncerNet.Hotfix.Syncer Syncer
```

## Constructors

### SyncerMessage(uint, uint, Syncer)

```
public SyncerMessage(uint worldId, uint entityId, Syncer syncer)
```

## Parameters

worldId [uint](#)

`entityId` [uint](#)

`syncer` [Syncer](#)

## Fields

### EntityId

`public uint EntityId`

Field Value

[uint](#)

### Syncer

`public Syncer Syncer`

Field Value

[Syncer](#)

### WorldId

`public uint WorldId`

Field Value

[uint](#)

## Methods

### Process(Game, int, KcpChannel)

```
public override void Process(Game game, int netId, KcpChannel channel)
```

## Parameters

game [Game](#)

netId [int](#)

channel [KcpChannel](#)

# Namespace SyncerNet.Hotfix.Syncers

## Classes

[AnimatorSyncer](#)

[TransformSyncer](#)

# Class AnimatorSyncer

Namespace: [SyncerNet.Hotfix.Syncers](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class AnimatorSyncer : Syncer, IMemoryPackable<AnimatorSyncer>,
IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← [Syncer](#) ← AnimatorSyncer

## Implements

IMemoryPackable<[AnimatorSyncer](#)>, IMemoryPackFormatterRegister

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
float _animatorSpeedint[] _intParametersfloat[] _floatParametersbool[] _boolParametersint[]
_stateHashfloat[] _normalizedTimefloat[] _layerWeight
```

## Methods

### UpdateSyncer(Entity)

接收到SyncerMessage后，对Syncer进行更新

```
public override void UpdateSyncer(Entity entity)
```

## Parameters

entity [Entity](#)



# Class TransformSyncer

Namespace: [SyncerNet.Hotfix.Syncers](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public class TransformSyncer : Syncer, IMemoryPackable<TransformSyncer>,
IMemoryPackFormatterRegister, IFixedSizeMemoryPackable
```

## Inheritance

[object](#) ← [Syncer](#) ← TransformSyncer

## Implements

IMemoryPackable<[TransformSyncer](#)>, IMemoryPackFormatterRegister,  
IFixedSizeMemoryPackable

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

UnityEngine.Vector3 \_positionUnityEngine.Vector3 \_eulerAnglesUnityEngine.Vector3 \_localScale

## Methods

### UpdateSyncer(Entity)

接收到SyncerMessage后，对Syncer进行更新

```
public override void UpdateSyncer(Entity entity)
```

## Parameters

entity [Entity](#)



# Namespace SyncerNet.Logging

## Classes

[Logger](#)

## Enums

[LogLevel](#)

# Enum LogLevel

Namespace: [SyncerNet.Logging](#)

Assembly: SyncerNet.Logging.dll

```
public enum LogLevel
```

## Fields

Debug = 0

Error = 3

Fatal = 4

Info = 1

Warn = 2

# Class Logger

Namespace: [SyncerNet.Logging](#)

Assembly: SyncerNet.Logging.dll

```
public class Logger
```

## Inheritance

[object](#) ← Logger

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,  
[object.ToString\(\)](#)

# Properties

## LogLevel

```
public static LogLevel LogLevel { get; set; }
```

Property Value

[LogLevel](#)

# Methods

## Debug(object)

```
public static void Debug(object obj)
```

Parameters

obj [object](#)

## Error(object)

```
public static void Error(object obj)
```

Parameters

obj [object](#)

## Fatal(object)

```
public static void Fatal(object obj)
```

Parameters

obj [object](#)

## Info(object)

```
public static void Info(object obj)
```

Parameters

obj [object](#)

## Warn(object)

```
public static void Warn(object obj)
```

Parameters

obj [object](#)

# Namespace UnityEngine

## Classes

[AnimationCurve](#)

[Gradient](#)

[RectOffset](#)

## Structs

[Bounds](#)

[BoundsInt](#)

[Color](#)

[Color32](#)

[GradientAlphaKey](#)

[GradientColorKey](#)

[Keyframe](#)

[LayerMask](#)

[Matrix4x4](#)

[Quaternion](#)

[Rangelnt](#)

[Rect](#)

[RectInt](#)

[Vector2](#)

[Vector2Int](#)

[Vector3](#)

[Vector3Int](#)

[Vector4](#)

# Enums

[GradientMode](#)

[WrapMode](#)

# Class AnimationCurve

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public sealed class AnimationCurve : IMemoryPackable<AnimationCurve>,
IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← AnimationCurve

## Implements

IMemoryPackable<[AnimationCurve](#)>, IMemoryPackFormatterRegister

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

UnityEngine.WrapMode postWrapModeUnityEngine.WrapMode preWrapModeUnityEngine.Keyframe[] keys

## Fields

### keys

```
public Keyframe[] keys
```

#### Field Value

[Keyframe\[\]](#)

### postWrapMode

```
public WrapMode postWrapMode
```

Field Value

[WrapMode](#)

## preWrapMode

```
public WrapMode preWrapMode
```

Field Value

[WrapMode](#)

## Properties

### length

```
[MemoryPackIgnore]  
public int length { get; }
```

Property Value

[int](#)

# Struct Bounds

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Bounds : IMemoryPackable<Bounds>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Bounds](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
UnityEngine.Vector3 centerUnityEngine.Vector3 extentsUnityEngine.Vector3
sizeUnityEngine.Vector3 maxUnityEngine.Vector3 min
```

## Fields

### center

```
public Vector3 center
```

Field Value

[Vector3](#)

### extents

```
public Vector3 extents
```

Field Value

[Vector3](#)

## Properties

max

```
public Vector3 max { get; set; }
```

Property Value

[Vector3](#)

min

```
public Vector3 min { get; set; }
```

Property Value

[Vector3](#)

size

```
public Vector3 size { get; set; }
```

Property Value

[Vector3](#)

## Methods

SetMinMax(Vector3, Vector3)

```
public void SetMinMax(Vector3 min, Vector3 max)
```

## Parameters

min [Vector3](#)

max [Vector3](#)

# Struct BoundsInt

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct BoundsInt : IMemoryPackable<BoundsInt>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[BoundsInt](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
UnityEngine.Vector3Int position UnityEngine.Vector3Int size
```

## Constructors

### BoundsInt(Vector3Int, Vector3Int)

```
public BoundsInt(Vector3Int position, Vector3Int size)
```

## Parameters

position [Vector3Int](#)

size [Vector3Int](#)

## Fields

### position

```
public Vector3Int position
```

Field Value

[Vector3Int](#)

**size**

```
public Vector3Int size
```

Field Value

[Vector3Int](#)

# Struct Color

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Color : IMemoryPackable<Color>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Color](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
float rfloat gfloat bfloat a
```

## Constructors

### Color(float, float, float)

```
public Color(float r, float g, float b)
```

## Parameters

r [float](#)

g [float](#)

b [float](#)

### Color(float, float, float, float)

```
public Color(float r, float g, float b, float a)
```

## Parameters

r [float](#)

g [float](#)

b [float](#)

a [float](#)

## Fields

a

```
public float a
```

Field Value

[float](#)

b

```
public float b
```

Field Value

[float](#)

g

```
public float g
```

Field Value

[float](#) ↴

r

```
public float r
```

Field Value

[float](#) ↴

# Struct Color32

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Color32 : IMemoryPackable<Color32>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Color32](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
byte rbyte gbyte bbyte a
```

## Constructors

### Color32(byte, byte, byte, byte)

```
public Color32(byte r, byte g, byte b, byte a)
```

## Parameters

r [byte](#)

g [byte](#)

b [byte](#)

a [byte](#)

# Fields

a

```
public byte a
```

Field Value

[byte ↗](#)

b

```
public byte b
```

Field Value

[byte ↗](#)

g

```
public byte g
```

Field Value

[byte ↗](#)

r

```
public byte r
```

Field Value

[byte ↗](#)

# Class Gradient

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public sealed class Gradient : IMemoryPackable<Gradient>, IMemoryPackFormatterRegister
```

## Inheritance

[object](#) ← Gradient

## Implements

IMemoryPackable<[Gradient](#)>, IMemoryPackFormatterRegister

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
UnityEngine.GradientColorKey[] colorKeys UnityEngine.GradientAlphaKey[]
alphaKeys UnityEngine.GradientMode mode
```

## Fields

### alphaKeys

```
public GradientAlphaKey[] alphaKeys
```

Field Value

[GradientAlphaKey\[\]](#)

### colorKeys

```
public GradientColorKey[] colorKeys
```

Field Value

[GradientColorKey\[\]](#)

**mode**

```
public GradientMode mode
```

Field Value

[GradientMode](#)

# Struct GradientAlphaKey

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct GradientAlphaKey : IMemoryPackable<GradientAlphaKey>,
IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[GradientAlphaKey](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
float alphafloat time
```

## Constructors

### GradientAlphaKey(float, float)

```
public GradientAlphaKey(float alpha, float time)
```

## Parameters

alpha [float](#)

time [float](#)

## Fields

## alpha

```
public float alpha
```

### Field Value

[float](#) ↗

## time

```
public float time
```

### Field Value

[float](#) ↗

# Struct GradientColorKey

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
public struct GradientColorKey
```

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Constructors

### GradientColorKey(Color, float)

```
public GradientColorKey(Color col, float time)
```

## Parameters

col [Color](#)

time [float](#)

## Fields

### color

```
public Color color
```

## Field Value

[Color](#)

### time

```
public float time
```

Field Value

[float](#) ↗

# Enum GradientMode

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
public enum GradientMode
```

## Fields

Blend = 0

Fixed = 1

# Struct Keyframe

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Keyframe : IMemoryPackable<Keyframe>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Keyframe](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
float timefloat valuefloat inTangentfloat outTangent
```

## Constructors

### Keyframe(float, float)

```
public Keyframe(float time, float value)
```

#### Parameters

time [float](#)

value [float](#)

### Keyframe(float, float, float, float)

```
public Keyframe(float time, float value, float inTangent, float outTangent)
```

## Parameters

time [float](#)

value [float](#)

inTangent [float](#)

outTangent [float](#)

## Fields

### inTangent

public float inTangent

#### Field Value

[float](#)

### outTangent

public float outTangent

#### Field Value

[float](#)

### time

public float time

#### Field Value

[float](#)

## value

```
public float value
```

Field Value

[float](#) ↗

# Struct LayerMask

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct LayerMask : IMemoryPackable<LayerMask>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[LayerMask](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
int value
```

## Fields

### value

```
public int value
```

## Field Value

[int](#)

# Struct Matrix4x4

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Matrix4x4 : IMemoryPackable<Matrix4x4>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Matrix4x4](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
float m00float m10float m20float m30float m01float m11float m21float m31float m02float
m12float m22float m32float m03float m13float m23float m33
```

## Fields

### m00

```
public float m00
```

Field Value

[float](#)

### m01

```
public float m01
```

Field Value

[float](#) ↗

m02

```
public float m02
```

Field Value

[float](#) ↗

m03

```
public float m03
```

Field Value

[float](#) ↗

m10

```
public float m10
```

Field Value

[float](#) ↗

m11

```
public float m11
```

Field Value

[float](#)

m12

```
public float m12
```

Field Value

[float](#)

m13

```
public float m13
```

Field Value

[float](#)

m20

```
public float m20
```

Field Value

[float](#)

m21

```
public float m21
```

Field Value

[float](#)

m22

```
public float m22
```

Field Value

[float](#)

m23

```
public float m23
```

Field Value

[float](#)

m30

```
public float m30
```

Field Value

[float](#)

m31

```
public float m31
```

Field Value

[float](#)

m32

```
public float m32
```

Field Value

[float](#) ↗

m33

```
public float m33
```

Field Value

[float](#) ↗

# Struct Quaternion

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Quaternion : IMemoryPackable<Quaternion>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Quaternion](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
float xfloat yfloat zfloat w
```

## Constructors

### Quaternion(float, float, float, float)

```
public Quaternion(float x, float y, float z, float w)
```

## Parameters

x [float](#)

y [float](#)

z [float](#)

w [float](#)

# Fields

w

```
public float w
```

Field Value

[float ↗](#)

x

```
public float x
```

Field Value

[float ↗](#)

y

```
public float y
```

Field Value

[float ↗](#)

z

```
public float z
```

Field Value

[float ↗](#)

# Struct RangeInt

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct RangeInt : IMemoryPackable<RangeInt>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[RangeInt](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
int start int length
```

## Constructors

### RangeInt(int, int)

```
public RangeInt(int start, int length)
```

## Parameters

start [int](#)

length [int](#)

## Fields

### length

```
public int length
```

Field Value

[int](#) ↗

start

```
public int start
```

Field Value

[int](#) ↗

# Struct Rect

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Rect : IMemoryPackable<Rect>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Rect](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
float xfloat yfloat widthfloat height
```

## Constructors

### Rect(float, float, float, float)

```
public Rect(float x, float y, float width, float height)
```

## Parameters

x [float](#)

y [float](#)

width [float](#)

height [float](#)

## Rect(Rect)

```
public Rect(Rect source)
```

### Parameters

source [Rect](#)

## Rect(Vector2, Vector2)

```
public Rect(Vector2 position, Vector2 size)
```

### Parameters

position [Vector2](#)

size [Vector2](#)

## Fields

### height

```
public float height
```

### Field Value

[float](#) ↗

### width

```
public float width
```

### Field Value

[float](#) ↗

x

```
public float x
```

Field Value

[float](#)

y

```
public float y
```

Field Value

[float](#)

# Struct RectInt

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct RectInt : IMemoryPackable<RectInt>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[RectInt](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
int x int y int width int height
```

## Constructors

### RectInt(int, int, int, int)

```
public RectInt(int x, int y, int width, int height)
```

## Parameters

x [int](#)

y [int](#)

width [int](#)

height [int](#)

## RectInt(RectInt)

```
public RectInt(RectInt source)
```

### Parameters

source [RectInt](#)

## RectInt(Vector2Int, Vector2Int)

```
public RectInt(Vector2Int position, Vector2Int size)
```

### Parameters

position [Vector2Int](#)

size [Vector2Int](#)

## Fields

### height

```
public int height
```

### Field Value

[int](#)

### width

```
public int width
```

### Field Value

[int](#)

x

```
public int x
```

Field Value

[int ↗](#)

y

```
public int y
```

Field Value

[int ↗](#)

# Class RectOffset

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public sealed class RectOffset : IMemoryPackable<RectOffset>, IMemoryPackFormatterRegister,
IFixedSizeMemoryPackable
```

## Inheritance

[object](#) ← RectOffset

## Implements

IMemoryPackable<[RectOffset](#)>, IMemoryPackFormatterRegister, IFixedSizeMemoryPackable

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,  
[object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

## Remarks

MemoryPack GenerateType: Object

```
int leftint rightint topint bottom
```

## Constructors

### RectOffset()

```
public RectOffset()
```

### RectOffset(int, int, int, int)

```
[MemoryPackConstructor]
public RectOffset(int left, int right, int top, int bottom)
```

## Parameters

**left** [int ↗](#)

**right** [int ↗](#)

**top** [int ↗](#)

**bottom** [int ↗](#)

## Fields

### bottom

`public int bottom`

#### Field Value

[int ↗](#)

### left

`public int left`

#### Field Value

[int ↗](#)

### right

`public int right`

#### Field Value

[int ↗](#)

# top

```
public int top
```

Field Value

[int](#) ↗

# Struct Vector2

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Vector2 : IMemoryPackable<Vector2>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Vector2](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
float xfloat y
```

## Constructors

### Vector2(float, float)

```
public Vector2(float x, float y)
```

## Parameters

x [float](#)

y [float](#)

## Fields

x

```
public float x
```

Field Value

[float](#)

y

```
public float y
```

Field Value

[float](#)

## Operators

**operator +(Vector2, Vector2)**

```
public static Vector2 operator +(Vector2 a, Vector2 b)
```

Parameters

a [Vector2](#)

b [Vector2](#)

Returns

[Vector2](#)

**operator /(Vector2, float)**

```
public static Vector2 operator /(Vector2 a, float d)
```

Parameters

a [Vector2](#)

d [float](#)

Returns

[Vector2](#)

## operator /(Vector2, Vector2)

```
public static Vector2 operator /(Vector2 a, Vector2 b)
```

Parameters

a [Vector2](#)

b [Vector2](#)

Returns

[Vector2](#)

## operator \*(float, Vector2)

```
public static Vector2 operator *(float d, Vector2 a)
```

Parameters

d [float](#)

a [Vector2](#)

Returns

[Vector2](#)

## operator \*(Vector2, float)

```
public static Vector2 operator *(Vector2 a, float d)
```

Parameters

a [Vector2](#)

d [float](#)

Returns

[Vector2](#)

## operator \*(Vector2, Vector2)

```
public static Vector2 operator *(Vector2 a, Vector2 b)
```

Parameters

a [Vector2](#)

b [Vector2](#)

Returns

[Vector2](#)

## operator -(Vector2, Vector2)

```
public static Vector2 operator -(Vector2 a, Vector2 b)
```

Parameters

a [Vector2](#)

b [Vector2](#)

Returns

[Vector2](#)

## operator -(Vector2)

```
public static Vector2 operator -(Vector2 a)
```

Parameters

a [Vector2](#)

Returns

[Vector2](#)

# Struct Vector2Int

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Vector2Int : IMemoryPackable<Vector2Int>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Vector2Int](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
int x int y
```

## Constructors

### Vector2Int(int, int)

```
public Vector2Int(int x, int y)
```

## Parameters

x [int](#)

y [int](#)

## Fields

X

```
public int x
```

Field Value

[int ↗](#)

y

```
public int y
```

Field Value

[int ↗](#)

# Struct Vector3

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Vector3 : IMemoryPackable<Vector3>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Vector3](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
float xfloat yfloat z
```

## Constructors

### Vector3(float, float, float)

```
public Vector3(float x, float y, float z)
```

## Parameters

x [float](#)

y [float](#)

z [float](#)

## Fields

x

```
public float x
```

Field Value

[float](#)

y

```
public float y
```

Field Value

[float](#)

z

```
public float z
```

Field Value

[float](#)

## Operators

### operator +(Vector3, Vector3)

```
public static Vector3 operator +(Vector3 a, Vector3 b)
```

Parameters

a [Vector3](#)

b [Vector3](#)

Returns

[Vector3](#)

## operator /(Vector3, float)

```
public static Vector3 operator /(Vector3 a, float d)
```

Parameters

a [Vector3](#)

d [float](#)

Returns

[Vector3](#)

## operator \*(float, Vector3)

```
public static Vector3 operator *(float d, Vector3 a)
```

Parameters

d [float](#)

a [Vector3](#)

Returns

[Vector3](#)

## operator \*(Vector3, float)

```
public static Vector3 operator *(Vector3 a, float d)
```

Parameters

a [Vector3](#)

d [float](#)

Returns

[Vector3](#)

## operator -(Vector3, Vector3)

```
public static Vector3 operator -(Vector3 a, Vector3 b)
```

Parameters

a [Vector3](#)

b [Vector3](#)

Returns

[Vector3](#)

## operator -(Vector3)

```
public static Vector3 operator -(Vector3 a)
```

Parameters

a [Vector3](#)

Returns

[Vector3](#)

# Struct Vector3Int

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Vector3Int : IMemoryPackable<Vector3Int>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Vector3Int](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
int x int y int z
```

## Constructors

### Vector3Int(int, int, int)

```
public Vector3Int(int x, int y, int z)
```

## Parameters

x [int](#)

y [int](#)

z [int](#)

## Fields

x

```
public int x
```

Field Value

[int ↗](#)

y

```
public int y
```

Field Value

[int ↗](#)

z

```
public int z
```

Field Value

[int ↗](#)

## Operators

**operator \*(Vector3Int, int)**

```
public static Vector3Int operator *(Vector3Int a, int d)
```

Parameters

a [Vector3Int](#)

d [int ↗](#)

Returns

[Vector3Int](#)

# Struct Vector4

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
[MemoryPackable(GenerateType.Object)]
public struct Vector4 : IMemoryPackable<Vector4>, IMemoryPackFormatterRegister
```

## Implements

IMemoryPackable<[Vector4](#)>, IMemoryPackFormatterRegister

## Inherited Members

[ValueType.Equals\(object\)](#) , [ValueType.GetHashCode\(\)](#) , [ValueType.ToString\(\)](#) ,  
[object.Equals\(object, object\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

## Remarks

MemoryPack GenerateType: unmanaged

```
float xfloat yfloat zfloat w
```

## Constructors

### Vector4(float, float, float, float)

```
public Vector4(float x, float y, float z, float w)
```

## Parameters

x [float](#)

y [float](#)

z [float](#)

w [float](#)

# Fields

w

```
public float w
```

Field Value

[float ↗](#)

x

```
public float x
```

Field Value

[float ↗](#)

y

```
public float y
```

Field Value

[float ↗](#)

z

```
public float z
```

Field Value

[float ↗](#)

# Operators

## operator +(Vector4, Vector4)

```
public static Vector4 operator +(Vector4 a, Vector4 b)
```

### Parameters

a [Vector4](#)

b [Vector4](#)

### Returns

[Vector4](#)

## operator /(Vector4, float)

```
public static Vector4 operator /(Vector4 a, float d)
```

### Parameters

a [Vector4](#)

d [float](#)

### Returns

[Vector4](#)

## operator \*(float, Vector4)

```
public static Vector4 operator *(float d, Vector4 a)
```

### Parameters

d [float](#)

a [Vector4](#)

Returns

[Vector4](#)

## operator \*(Vector4, float)

```
public static Vector4 operator *(Vector4 a, float d)
```

Parameters

a [Vector4](#)

d [float](#)

Returns

[Vector4](#)

## operator -(Vector4, Vector4)

```
public static Vector4 operator -(Vector4 a, Vector4 b)
```

Parameters

a [Vector4](#)

b [Vector4](#)

Returns

[Vector4](#)

## operator -(Vector4)

```
public static Vector4 operator -(Vector4 a)
```

## Parameters

a [Vector4](#)

## Returns

[Vector4](#)

# Enum WrapMode

Namespace: [UnityEngine](#)

Assembly: SyncerNet.Hotfix.dll

```
public enum WrapMode
```

## Fields

Clamp = 1

ClampForever = 8

Default = 0

Loop = 2

Once = 1

PingPong = 4