

Version: **2017.4** ([switch to 2018.1b](#))

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C# JS

MonoBehaviour

class in UnityEngine / Inherits from: [Behaviour](#) [Other Versions](#)
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Description

MonoBehaviour is the base class from which every Unity script derives.

When you use C#, you must explicitly derive from MonoBehaviour. When you use UnityScript (a type of JavaScript), you do not have to explicitly derive from MonoBehaviour.

Note: There is a checkbox for disabling MonoBehaviour on the Unity Editor. It disables functions when unticked. If none of these functions are present in the script, the Editor does not display the checkbox. The functions are:

[Start\(\)](#)
[Update\(\)](#)
[FixedUpdate\(\)](#)
[LateUpdate\(\)](#)
[OnGUI\(\)](#)
[OnDisable\(\)](#)
[OnEnable\(\)](#)

See Also: The [Deactivating GameObjects](#) page in the manual.

Properties

runInEditMode	Allow a specific instance of a MonoBehaviour to run in edit mode (only available in the editor).
useGUILayout	Disabling this lets you skip the GUI layout phase.

Public Methods

CancelInvoke	Cancels all Invoke calls on this MonoBehaviour.
Invoke	Invokes the method methodName in time seconds.
InvokeRepeating	Invokes the method methodName in time seconds, then repeatedly every repeatRate seconds.
IsInvoking	Is any invoke on methodName pending?
StartCoroutine	Starts a coroutine.

routine running on this behaviour.

Static Methods

[print](#) Logs message to the Unity Console (identical to `Debug.Log`).

Messages

[Awake](#) Awake is called when the script instance is being loaded.

[FixedUpdate](#) This function is called every fixed framerate frame, if the MonoBehaviour is enabled.

[LateUpdate](#) LateUpdate is called every frame, if the Behaviour is enabled.

[OnAnimatorIK](#) Callback for setting up animation IK (inverse kinematics).

[OnAnimatorMove](#) Callback for processing animation movements for modifying root motion.

[OnApplicationFocus](#) Sent to all GameObjects when the player gets or loses focus.

[OnApplicationPause](#) Sent to all GameObjects when the application pauses.

[OnApplicationQuit](#) Sent to all game objects before the application is quit.

[OnAudioFilterRead](#) If OnAudioFilterRead is implemented, Unity will insert a custom filter into the audio DSP chain.

[OnBecameInvisible](#) OnBecameInvisible is called when the renderer is no longer visible by any camera.

[OnBecameVisible](#) OnBecameVisible is called when the renderer

	collider/rigidbody has begun touching another rigidbody/collider.
<u>OnCollisionEnter2D</u>	Sent when an incoming collider makes contact with this object's collider (2D physics only).
<u>OnCollisionExit</u>	OnCollisionExit is called when this collider/rigidbody has stopped touching another rigidbody/collider.
<u>OnCollisionExit2D</u>	Sent when a collider on another object stops touching this object's collider (2D physics only).
<u>OnCollisionStay</u>	OnCollisionStay is called once per frame for every collider/rigidbody that is touching rigidbody/collider.
<u>OnCollisionStay2D</u>	Sent each frame where a collider on another object is touching this object's collider (2D physics only).
<u>OnConnectedToServer</u>	Called on the client when you have successfully connected to a server.
<u>OnControllerColliderHit</u>	OnControllerColliderHit is called when the controller hits a collider while performing a Move.
<u>OnDestroy</u>	This function is called when the MonoBehaviour will be destroyed.
<u>OnDisable</u>	This function is called when the behaviour becomes disabled () or inactive.
<u>OnDisconnectedFromServer</u>	Called on the client when the connection was lost or you disconnected from the server.
<u>OnDrawGizmos</u>	Implement OnDrawGizmos if you want to draw gizmos that

	to draw a gizmo if the object is selected.
<u>OnEnable</u>	This function is called when the object becomes enabled and active.
<u>OnFailedToConnect</u>	Called on the client when a connection attempt fails for some reason.
<u>OnFailedToConnectToMasterServer</u>	Called on clients or servers when there is a problem connecting to the MasterServer.
<u>OnGUI</u>	OnGUI is called for rendering and handling GUI events.
<u>OnJointBreak</u>	Called when a joint attached to the same game object broke.
<u>OnJointBreak2D</u>	Called when a Joint2D attached to the same game object breaks.
<u>OnMasterServerEvent</u>	Called on clients or servers when reporting events from the MasterServer.
<u>OnMouseDown</u>	OnMouseDown is called when the user has pressed the mouse button while over the GUIElement or Collider.
<u>OnMouseDrag</u>	OnMouseDrag is called when the user has clicked on a GUIElement or Collider and is still holding down the mouse.
<u>OnMouseEnter</u>	Called when the mouse enters the GUIElement or Collider.
<u>OnMouseExit</u>	Called when the mouse is not any longer over the GUIElement or Collider.
<u>OnMouseOver</u>	Called every frame while the mouse is over the GUIElement or Collider.
<u>OnMouseUp</u>	OnMouseUp is called when the user has

	mouse is released over the same GUIElement or Collider as it was pressed.
<u>OnNetworkInstantiate</u>	Called on objects which have been network instantiated with Network.Instantiate.
<u>OnParticleCollision</u>	OnParticleCollision is called when a particle hits a Collider.
<u>OnParticleTrigger</u>	OnParticleTrigger is called when any particles in a particle system meet the conditions in the trigger module.
<u>OnPlayerConnected</u>	Called on the server whenever a new player has successfully connected.
<u>OnPlayerDisconnected</u>	Called on the server whenever a player disconnected from the server.
<u>OnPostRender</u>	OnPostRender is called after a camera finished rendering the scene.
<u>OnPreCull</u>	OnPreCull is called before a camera culls the scene.
<u>OnPreRender</u>	OnPreRender is called before a camera starts rendering the scene.
<u>OnRenderImage</u>	OnRenderImage is called after all rendering is complete to render image.
<u>OnRenderObject</u>	OnRenderObject is called after camera has rendered the scene.
<u>OnSerializeNetworkView</u>	Used to customize synchronization of variables in a script watched by a network view.
<u>OnServerInitialized</u>	Called on the server whenever a Network.InitializeServer

	of the transform of the GameObject has changed.
<u>OnTransformParentChanged</u>	This function is called when the parent property of the transform of the GameObject has changed.
<u>OnTriggerEnter</u>	OnTriggerEnter is called when the Collider other enters the trigger.
<u>OnTriggerEnter2D</u>	Sent when another object enters a trigger collider attached to this object (2D physics only).
<u>OnTriggerExit</u>	OnTriggerExit is called when the Collider other has stopped touching the trigger.
<u>OnTriggerExit2D</u>	Sent when another object leaves a trigger collider attached to this object (2D physics only).
<u>OnTriggerStay</u>	OnTriggerStay is called once per frame for every Collider other that is touching the trigger.
<u>OnTriggerStay2D</u>	Sent each frame where another object is within a trigger collider attached to this object (2D physics only).
<u>OnValidate</u>	This function is called when the script is loaded or a value is changed in the inspector (Called in the editor only).
<u>OnWillRenderObject</u>	OnWillRenderObject is called for each camera if the object is visible and not a UI element.
<u>Reset</u>	Reset to default values.
<u>Start</u>	Start is called on the frame when a script is enabled just before any of the Update methods is called the first time.

Inherited Members

Properties

<u>enabled</u>	Enabled Behaviours are Updated, disabled Behaviours are not.
<u>isActiveAndEnabled</u>	Has the Behaviour had enabled called.
<u>gameObject</u>	The game object this component is attached to. A component is always attached to a game object.
<u>tag</u>	The tag of this game object.
<u>transform</u>	The Transform attached to this GameObject.
<u>hideFlags</u>	Should the object be hidden, saved with the scene or modifiable by the user?
<u>name</u>	The name of the object.

Public Methods

<u>BroadcastMessage</u>	Calls the method named methodName on every MonoBehaviour in this game object or any of its children.
<u>CompareTag</u>	Is this game object tagged with tag ?
<u>GetComponent</u>	Returns the component of Type type if the game object has one attached, null if it doesn't.
<u>GetComponentInChildren</u>	Returns the component of Type type in the GameObject or any of its children using depth first search.
<u>GetComponentInParent</u>	Returns the component of Type type in the GameObject or any of its parents.
<u>GetComponents</u>	Returns all components of Type type in the GameObject.
<u>GetComponentsInChildren</u>	Returns all components of Type type in the GameObject or any of its children.
<u>GetComponentsInParent</u>	Returns all components of Type type in the GameObject or any of its parents.
<u>SendMessage</u>	Calls the method named methodName on every

MonoBehaviour in this game object and on every ancestor of the behaviour.

[GetInstanceID](#)

Returns the instance id of the object.

[ToString](#)

Returns the name of the GameObject.

Static Methods

[Destroy](#)

Removes a gameobject, component or asset.

[DestroyImmediate](#)

Destroys the object obj immediately. You are strongly recommended to use Destroy instead.

[DontDestroyOnLoad](#)

Makes the object target not be destroyed automatically when loading a new scene.

[FindObjectOfType](#)

Returns the first active loaded object of Type type.

[FindObjectsOfType](#)

Returns a list of all active loaded objects of Type type.

[Instantiate](#)

Clones the object original and returns the clone.

Operators

[bool](#)

Does the object exist?

[operator](#)

Compares if two objects refer to a different object.

[!=](#)

[operator](#)

Compares two object references to see if they refer to the same object.

[==](#)

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