Manual (https://docs.unity3d.com/Packages/com.unity.localization@1.4/manual/index.html) / Guides / Quick start guide: 2020.3+ (https://docs.unity3d.com/Package

Quick Start Guide

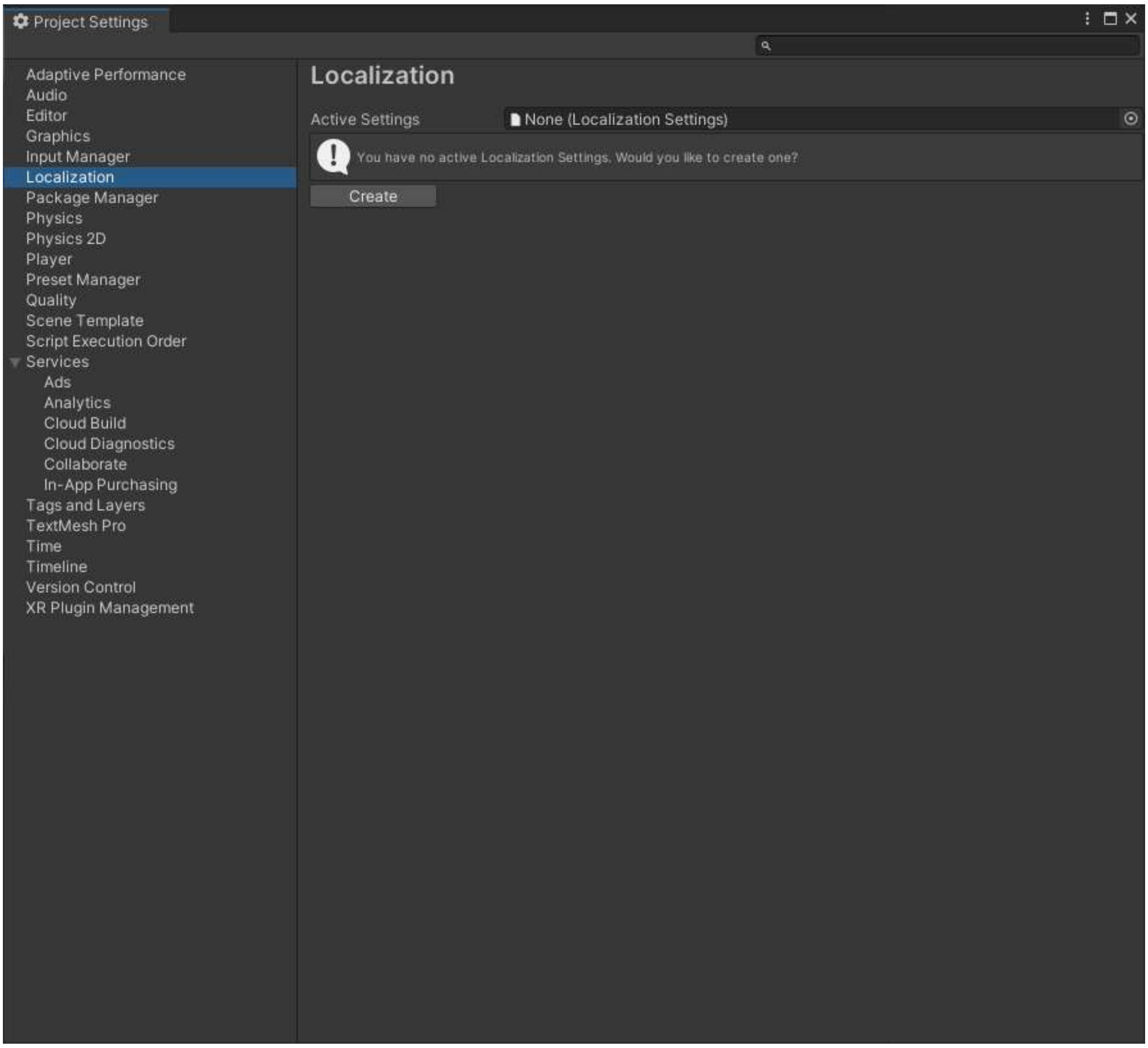
NOTE
This guide requires Unity 2020.3 and above.

This page explains how to set up a simple project with localized assets and strings. This covers the following steps:

1. Create the Localization Settings.
2. Create locales.
3. Choose a default locale.
4. Localize assets.
5. Localize strings
6. Preview and configure your build.

Create the Localization Settings

The Project's Localization Settings is an Asset. To create this Asset, go to **Edit > Project Settings > Localization** and click **Create**



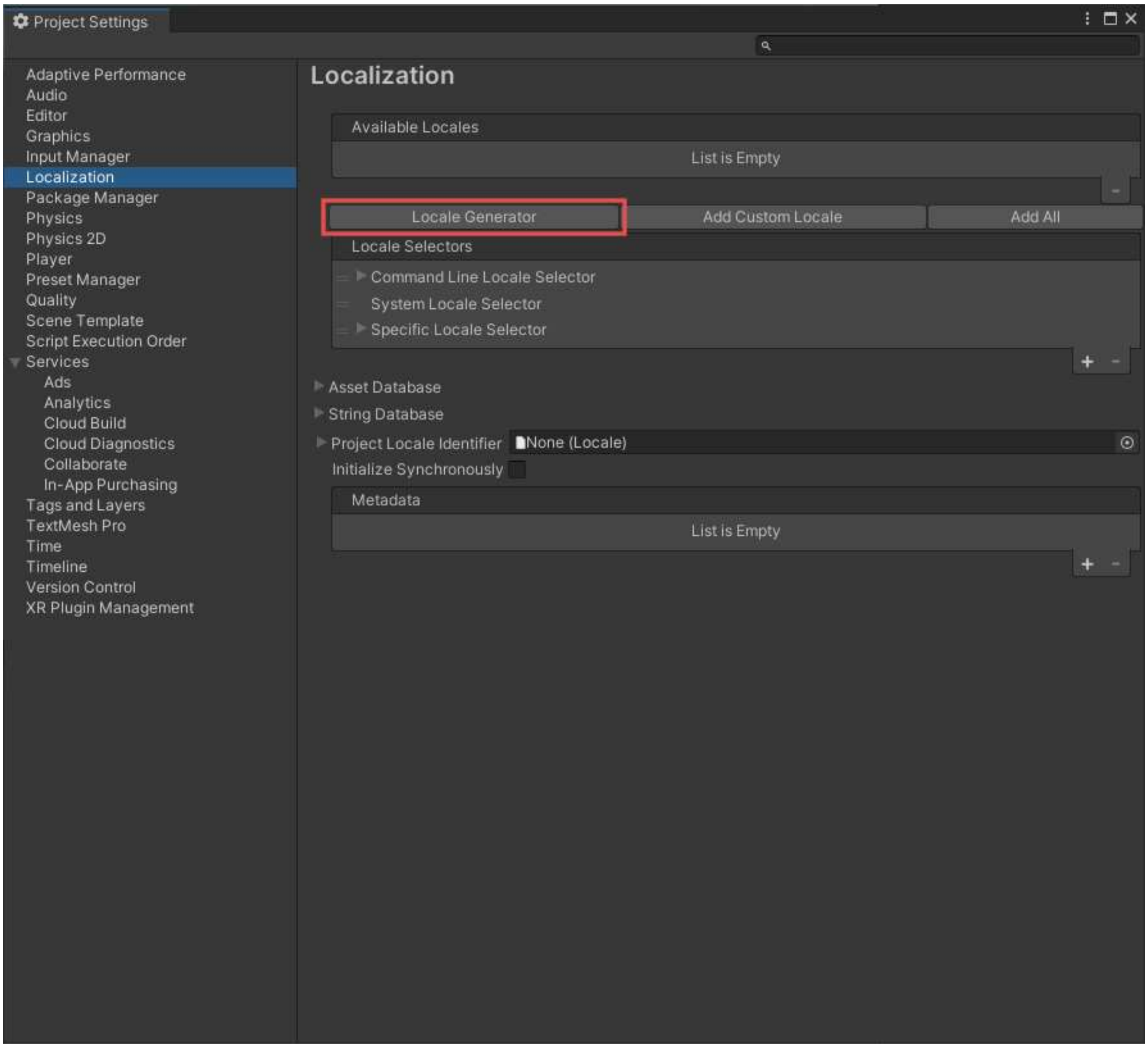
Active Settings: None (Localization Settings)

You have no active Localization Settings. Would you like to create one?

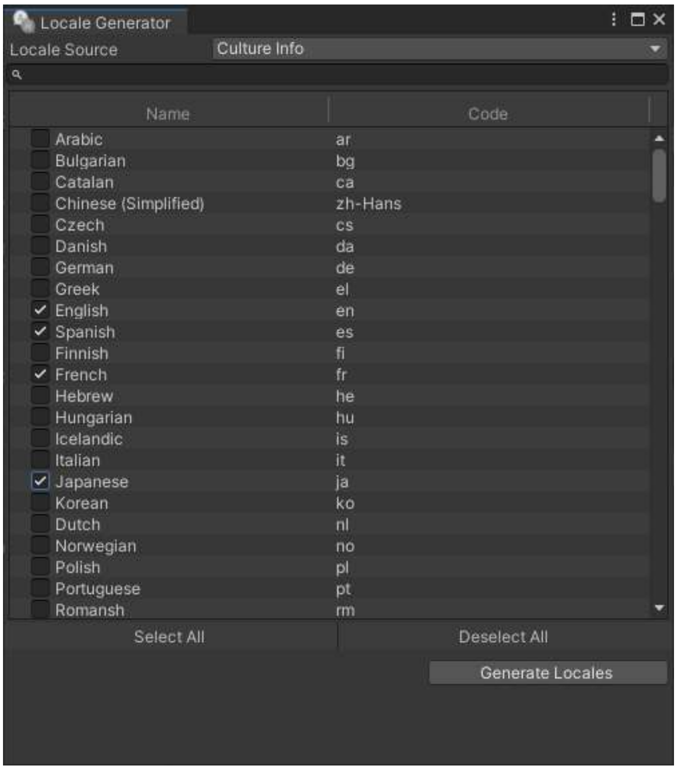
Create locales

A locale (Locale.html) represents a language and an optional region; they can also contain additional information, such as currency, calendar, and user-added custom data.

To open the Locale Generator window, navigate to the Localization Settings (menu: **Edit > Project Settings > Localization**) and select **Locale Generator**.



1. Select the checkbox next to the Locales you want to add.
2. Select **Generate Locales**.
3. Select where you want to save the Assets to. Unity creates an asset file for each locale you select.



Name	Code
□ Arabic	ar
□ Bulgarian	bg
□ Catalan	ca
□ Chinese (Simplified)	zh-Hans
□ Czech	cs
□ Danish	da
□ German	de
□ Greek	el
☑ English	en
☑ Spanish	es
□ Finnish	fi
☑ French	fr
□ Hebrew	he
□ Hungarian	hu
□ Icelandic	is
□ Italian	it
☑ Japanese	ja
□ Korean	ko
□ Dutch	nl
□ Norwegian	no
□ Polish	pl
□ Portuguese	pt
□ Romansh	rm

Choose a default Locale

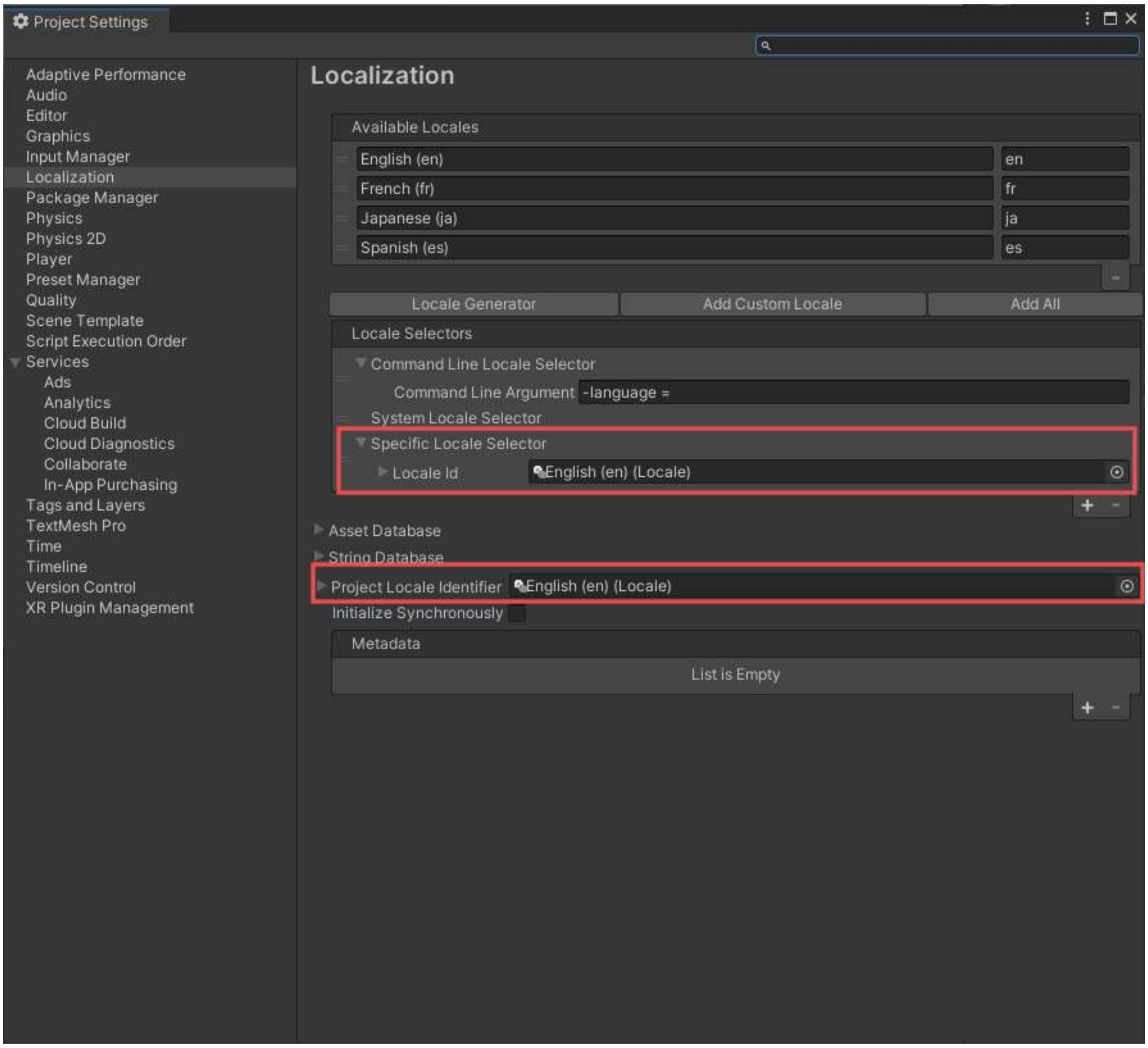
Use the Locale Selectors (LocalizationSettings.html#locale-selector) to determine which Locale your application uses by default if it is not English(en). To do this,

1. Select the **Specific Locale Selector** field.
2. Select the Locale Id field's object picker.
3. Double-click the locale to set as default.

Your application uses this locale on startup, and when no other locale is selected. You should also set the project locale to the default locale. To do this:

1. Select the **Project Locale Identifier** field's object picker.
2. Double-click the locale to set as the project locale.

Typically this is the locale that the project is being developed in and is used by the Localized Property Variants (LocalizedPropertyVariants.html) system.



Localization

Available Locales

English (en)	en
French (fr)	fr
Japanese (ja)	ja
Spanish (es)	es

Locale Selectors

Command Line Locale Selector
Command Line Argument -language =
System Locale Selector
Specific Locale Selector
Locale Id English (en) (Locale)

Asset Database
String Database
Project Locale Identifier English (en) (Locale)
Initialize Synchronously

Metadata

List is Empty

Asset Localization

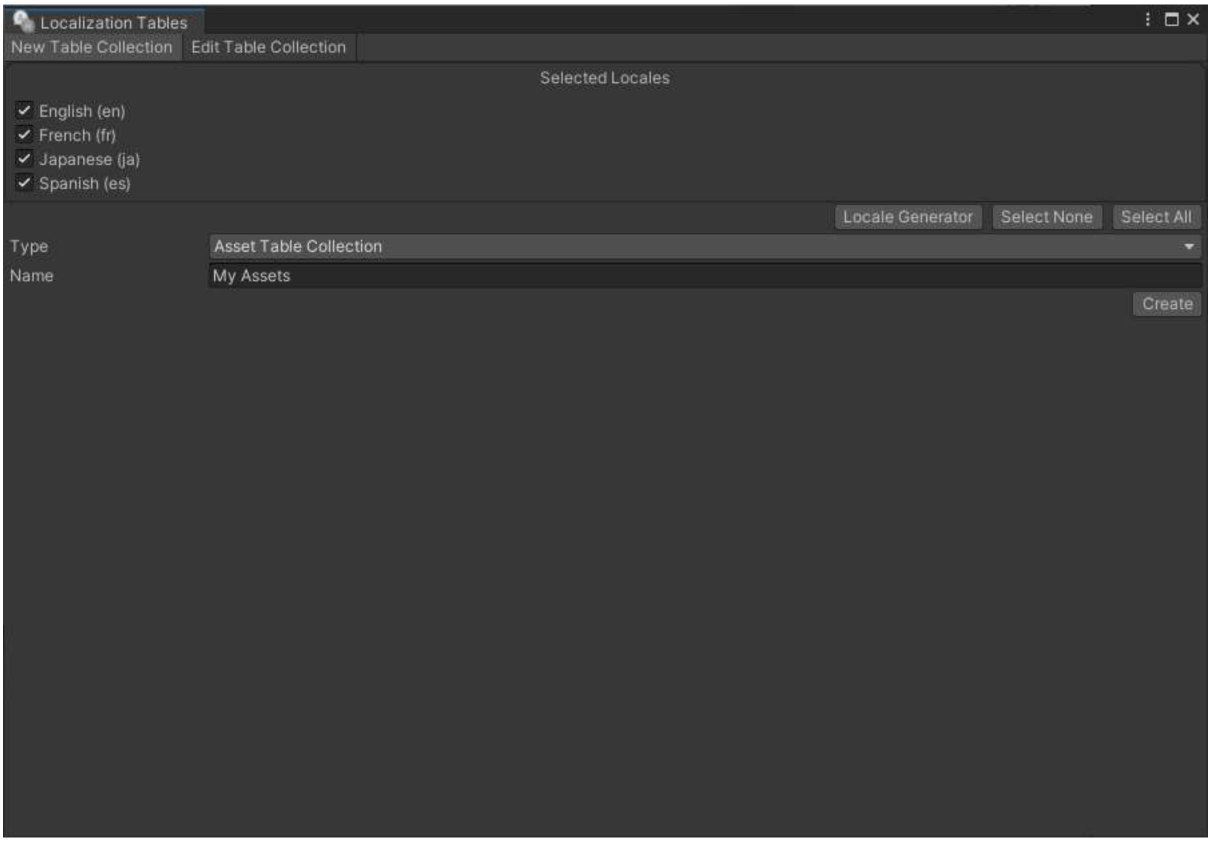
There are many reasons you might need to localize an Asset. For example, you might want to play a different piece of voiceover audio or music, or change a texture that contains written text (such as a signpost). The localization system uses Asset Tables (AssetTables.html) to support this.

This example demonstrates changing an asset's texture to the flag of that locale's country.

Create The Asset Table Collection

First, you need to create an Asset Table. To do this, open the **Localization Tables Window** (menu: **Window > Asset Management > Localization Tables**).

1. In the Asset Tables window, select the **New Table Collection** tab.
2. Select which locales you want to generate tables for.
3. In the Type dropdown, select **Asset Table Collection**.
4. In the Name field, give the collection a name.
5. Select Create and choose a directory to generate the assets.



Localization Tables

New Table Collection | Edit Table Collection

Selected Locales

☑ English (en)
☑ French (fr)
☑ Japanese (ja)
☑ Spanish (es)

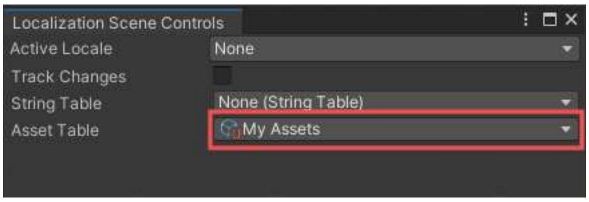
Type: Asset Table Collection

Name: My Assets

Localize a sprite

The Localization system allows you to work directly with scene components and will record any changes made directly to a component for the currently active Locale. To do this you will need to first set up the project. Open the **Localization Scene Controls** window (menu: **Window > Asset Management > Localization Scene Controls**). Set the **Asset Table** field to the table collection that was just created. Any asset changes made now are recorded into the selected Asset Table.

1. In the Asset Table field select your table collection.
2. Any asset changes you make now are recorded into the selected Asset Table.



Localization Scene Controls

Active Locale: None

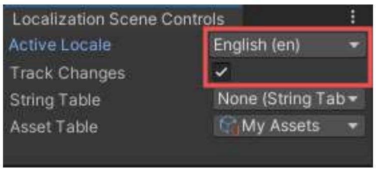
Track Changes: □

String Table: None (String Table)

Asset Table: My Assets

Unity can access a localized Asset in multiple ways. This example uses the Localized Property Variants system, so you do not need to write any scripts.

1. Add a **UI Image** component to the Scene (menu: **GameObject > UI > Image.**). Note: To add an image, your project must have the Unity UI (https://docs.unity3d.com/Manual/com.unity.ugui.html) package installed.
2. In the Active Locale field, select English.
3. Enable the **Track Changes** toggle.



Localization Scene Controls

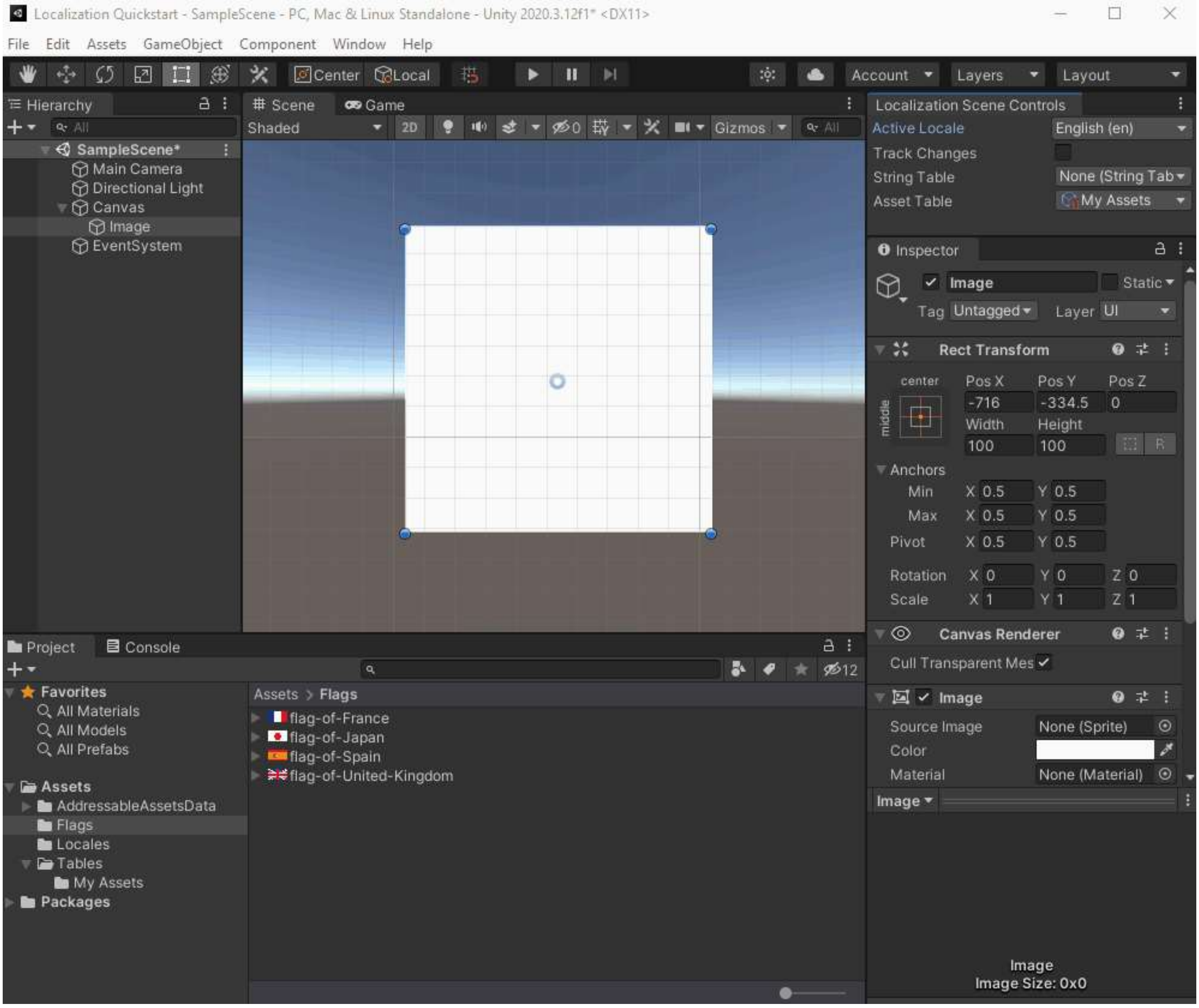
Active Locale: English (en)

Track Changes: ☑

String Table: None (String Tab

Asset Table: My Assets

4. For each locale, change the **Source Image** to use the flag for that locale.



Active Locale English (en)
Track Changes
String Table None (String Tab
Asset Table My Assets

Image Static
Tag Untagged Layer UI

Rect Transform
center middle Pos X -716 Pos Y -334.5 Pos Z 0
Width 100 Height 100
Anchors
Min X 0.5 Y 0.5
Max X 0.5 Y 0.5
Pivot X 0.5 Y 0.5
Rotation X 0 Y 0 Z 0
Scale X 1 Y 1 Z 1

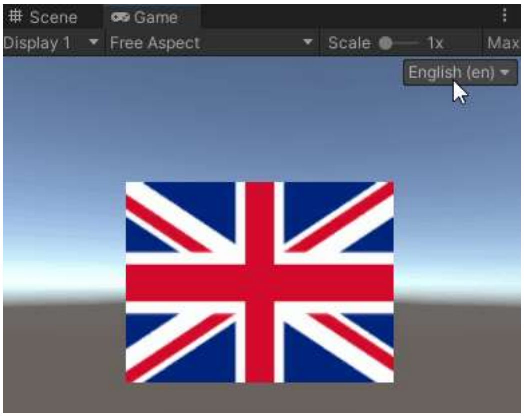
Canvas Renderer
Cull Transparent Mes ✓

Image
Source Image None (Sprite)
Color
Material None (Material)

Image
Image Size: 0x0

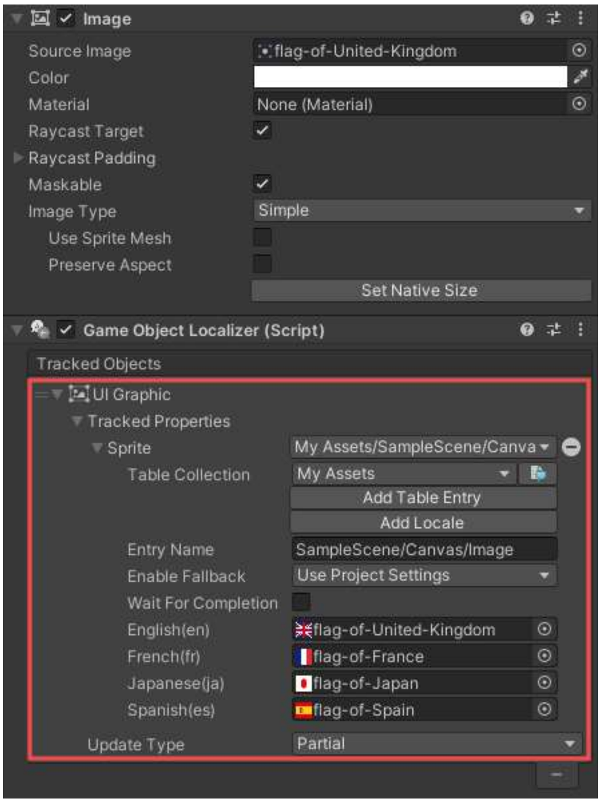
5. Run the Scene and use the Game View Locale selection dropdown to change the **Locale**. If everything is configured correctly, the country flag changes to the assigned sprite in the asset table.

   If the Game View menu does not appear, enable it in the Preferences window (menu: **Edit > Preferences > Localization**)



You can use the **Locale Game View Menu** to quickly change the language in the Editor. You can enable and disable this in **Edit > Preferences > Localization**.

When you edit the sprite, the image is automatically connected to a localization table entry. The **Game Object Localizer** component that is attached to the same GameObject as the image displays the localization table entry. In the Game Object Localizer component, you can edit the table entry and even connect to a different table entry.



Image

Source Image: flag-of-United-Kingdom

Color

Material: None (Material)

Raycast Target ☑

Raycast Padding

Maskable ☑

Image Type: Simple

Use Sprite Mesh □

Preserve Aspect □

Set Native Size

Game Object Localizer (Script)

Tracked Objects

UI Graphic

Tracked Properties

Sprite: My Assets/SampleScene/Canva

Table Collection: My Assets

Add Table Entry

Add Locale

Entry Name: SampleScene/Canvas/Image

Enable Fallback: Use Project Settings

Wait For Completion □

English(en): flag-of-United-Kingdom

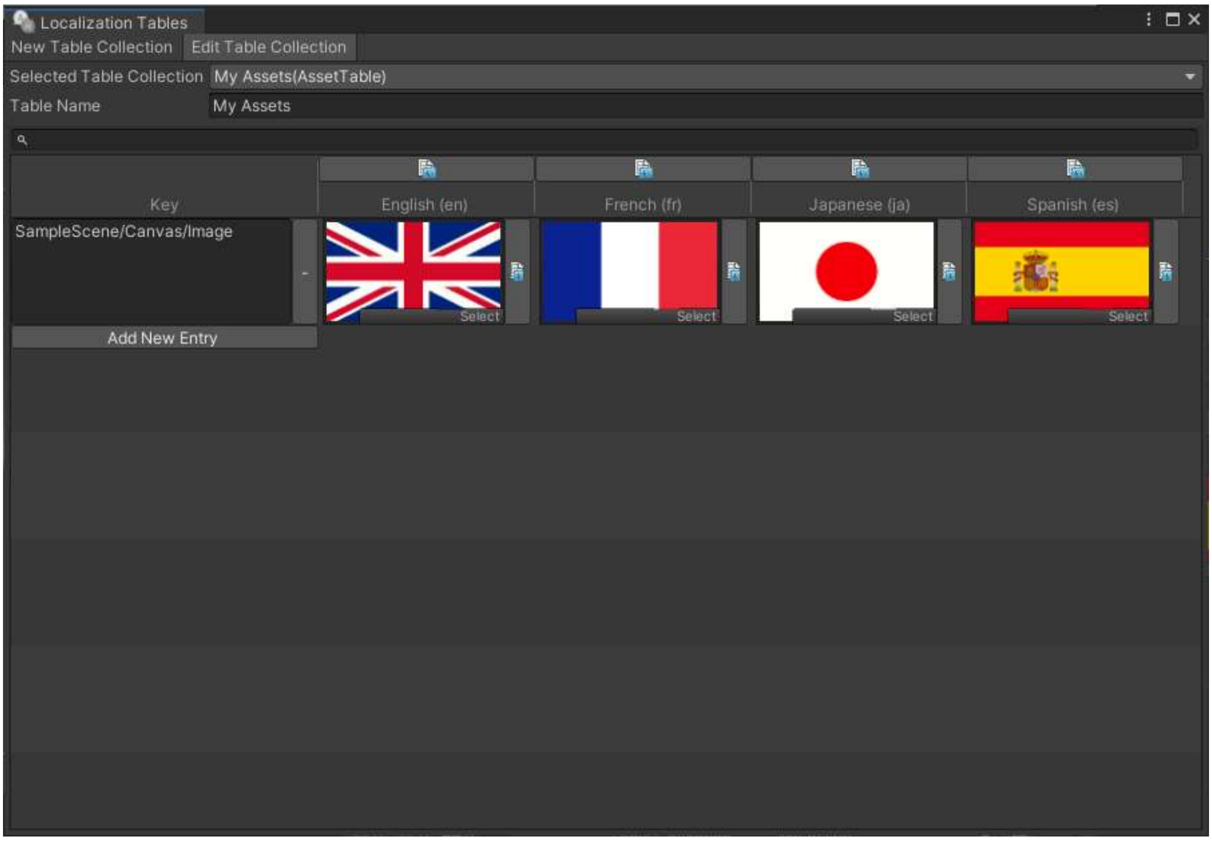
French(fr): flag-of-France

Japanese(ja): flag-of-Japan

Spanish(es): flag-of-Spain

Update Type: Partial

When you open the Asset Table Collection, the new entry and its associated assets are displayed. You can make changes in the table as well as directly to the Image component and GameObject Localizer.



Localization Tables

New Table Collection | Edit Table Collection

Selected Table Collection: My Assets(AssetTable)

Table Name: My Assets

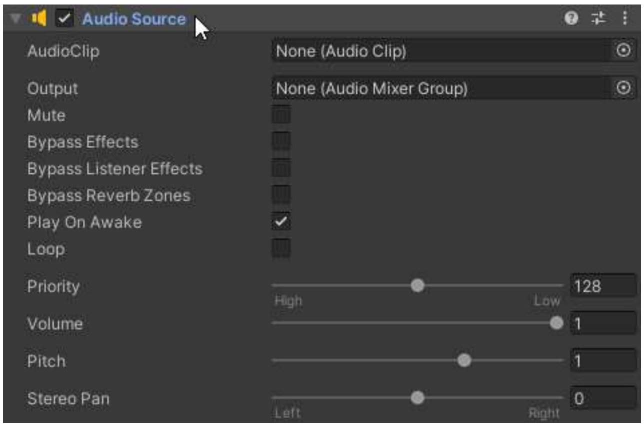
Key	English (en)	French (fr)	Japanese (ja)	Spanish (es)
SampleScene/Canvas/Image	Select	Select	Select	Select

Add New Entry

Localize audio

Not all Unity component types let you directly change the component. In these cases, use component localizers. For further information see Localized Property Variants (LocalizedPropertyVariants.html). This example shows how to use component localizers to apply different audio files for different locales.

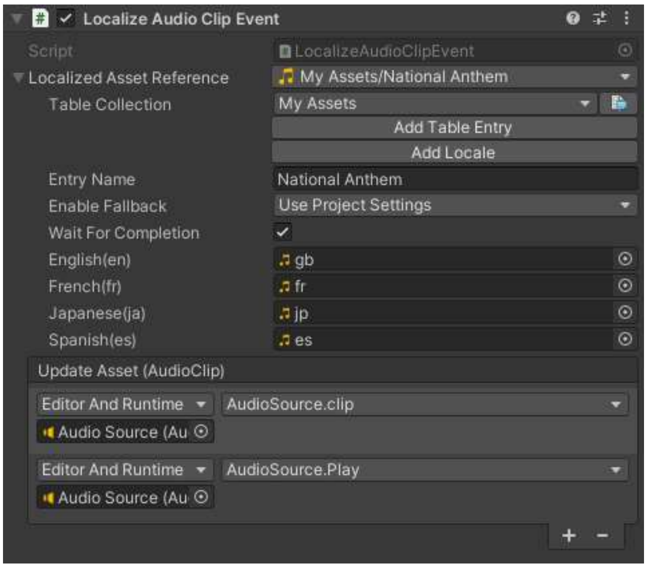
1. Add an Audio Source GameObject (menu: **GameObject > Audio > Audio Source**).
2. Right-click the Audio Source component and choose **Localize**.



Audio Source

AudioClip: None (Audio Clip)
Output: None (Audio Mixer Group)
Mute: ☐
Bypass Effects: ☐
Bypass Listener Effects: ☐
Bypass Reverb Zones: ☐
Play On Awake: ☑
Loop: ☐
Priority: 128
Volume: 1
Pitch: 1
Stereo Pan: 0

3. In the **Localize Audio Clip Event** component, expand the **Localized Asset Reference** field.
4. In the Table Collection dropdown, select your asset table.
5. Click **Add Table Entry** and change the **Entry Name** to `National Anthem` .
6. Drag and drop the audio clips into the corresponding Locale fields.



Localize Audio Clip Event

Script: LocalizeAudioClipEvent
Localized Asset Reference: My Assets/National Anthem
Table Collection: My Assets
Entry Name: National Anthem
Enable Fallback: Use Project Settings
Wait For Completion: ☑
English(en): gb
French(fr): fr
Japanese(ja): jp
Spanish(es): es

Update Asset (AudioClip)
Editor And Runtime: AudioSource.clip — Audio Source (Au
Editor And Runtime: AudioSource.Play — Audio Source (Au

Localize strings

Strings are one of the most common areas to localize. Strings can either be static, in that the contents never change, or dynamic such as text that changes based on the current game status. The localization system uses String Tables (StringTables.html) to support both static and dynamic strings.

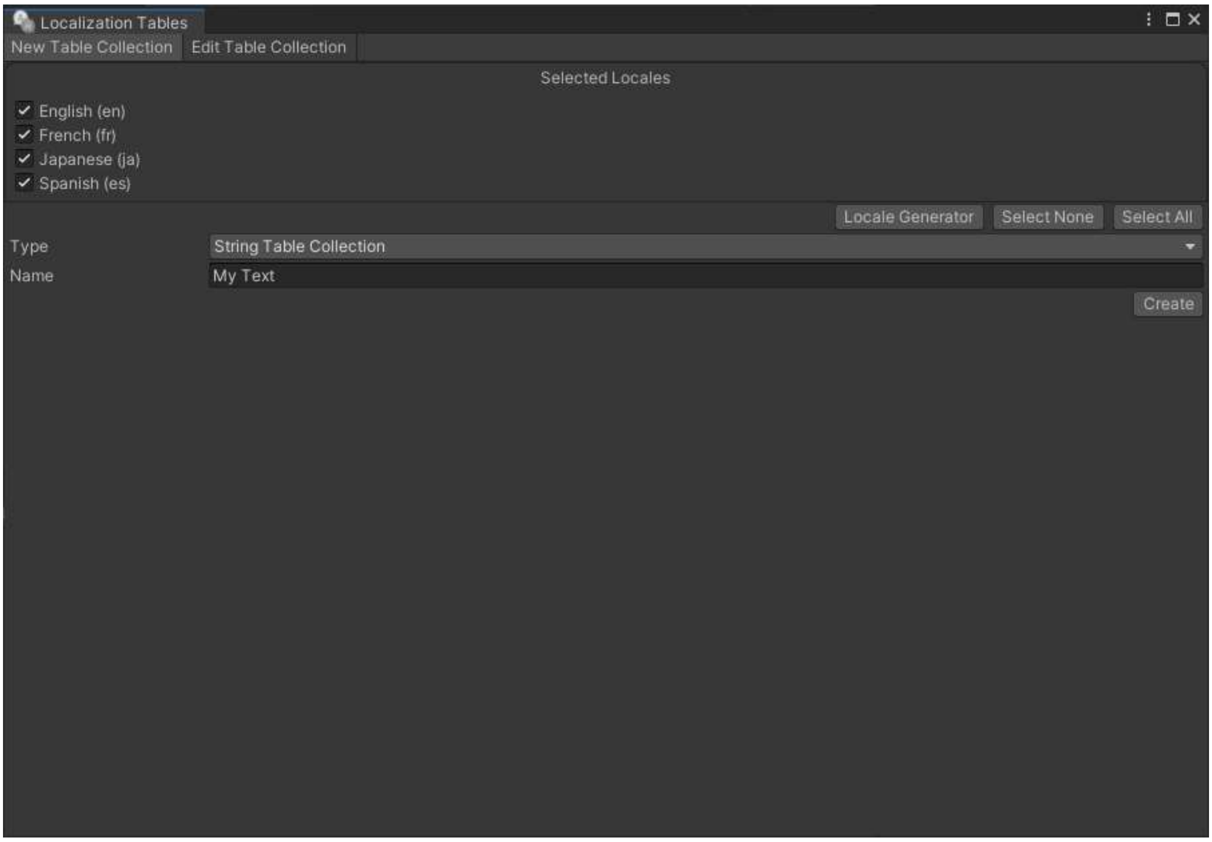
To localize strings, follow these steps:

1. Create the String Table Collection.
2. Localize the static text.
3. Localize the dynamic text.
4. Use the string table entries.

Create the String Table Collection

First, you need to create a string table. To do this, open the **Localization Tables Window** (menu: **Window > Asset Management > Localization Tables**).

1. In the Asset Tables window, select the **New Table Collection tab**.
2. Select which Locales you want to generate tables for, choose the **String Table Collection** from the Type dropdown and give the collection a name.
3. Click the Create button and choose a directory to generate the assets.



Localization Tables
New Table Collection | Edit Table Collection

Selected Locales

☑ English (en)
☑ French (fr)
☑ Japanese (ja)
☑ Spanish (es)

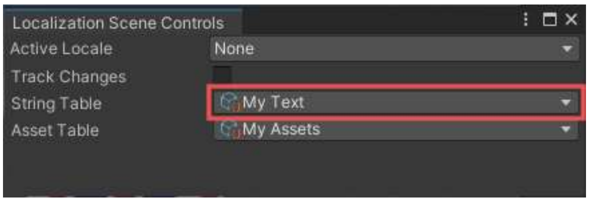
Locale Generator | Select None | Select All

Type: String Table Collection
Name: My Text

Create

Localize static text

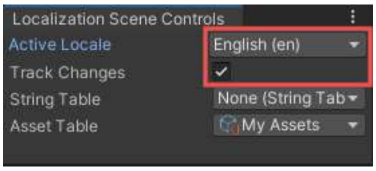
The Localization system allows you to work directly with scene components and records any changes you make directly to a component for the currently active Locale. To do this you will need to first set up the project. Open the **Localization Scene Controls** window (menu: **Window > Asset Management > Localization Scene Controls**). Set the **String Table** field to the table collection that was just created. Any string changes made now are recorded into the selected String Table.



Localization Scene Controls
Active Locale: None
Track Changes: □
String Table: My Text
Asset Table: My Assets

Unity can access localized strings in multiple ways. This example uses the **Localized Property Variants** system, so you do not need to write any scripts.

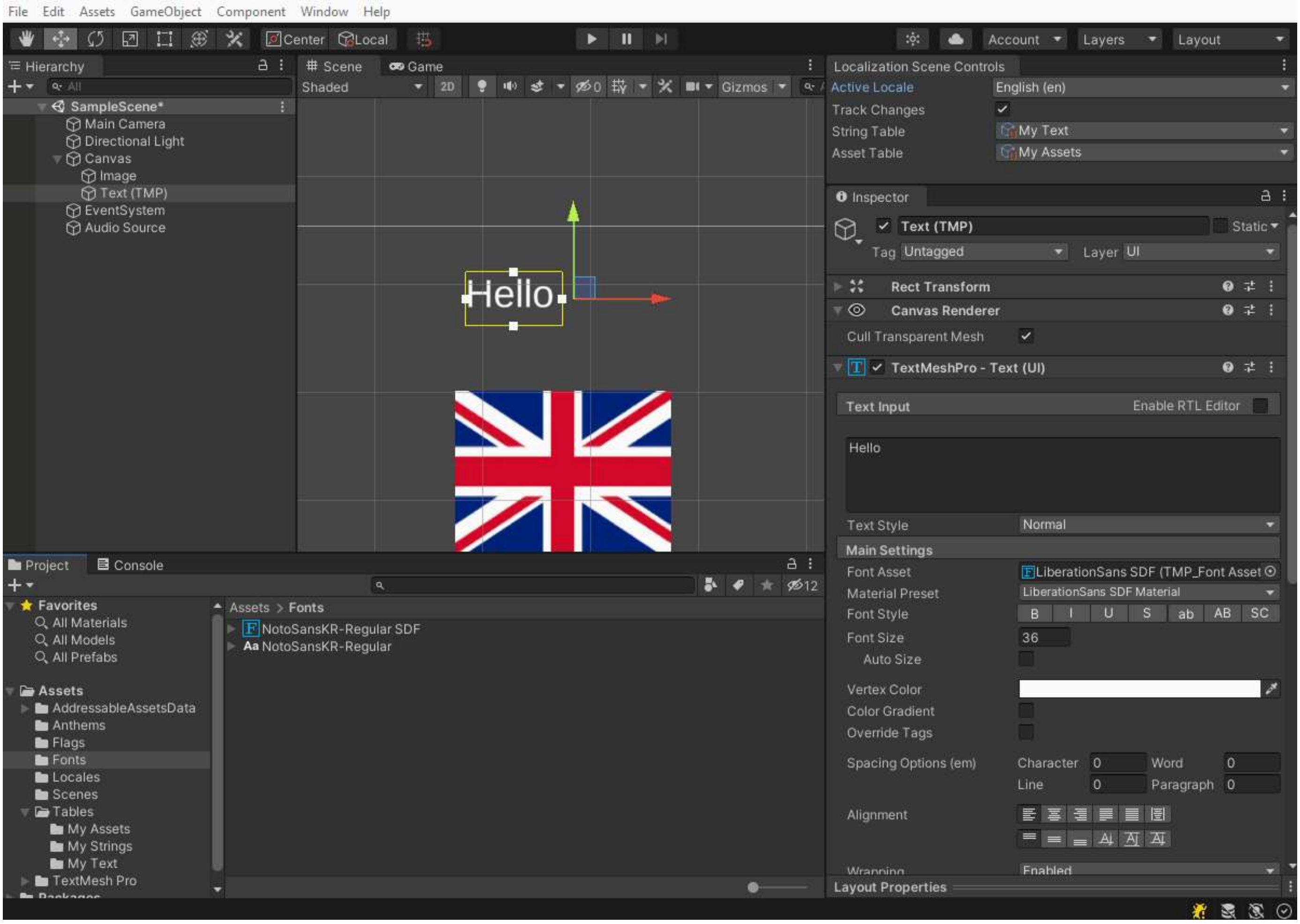
1. Add a **TextMeshPro - Text** component to the scene (menu: **GameObject > UI > Text - TextMeshPro**). Note: To use TextMeshPro, your project must have the TextMeshPro (https://docs.unity3d.com/Manual/com.unity.textmeshpro.html) package installed.
2. In the **Active Locale** field, select **English**.
3. Enable the **Track Changes** toggle.



Localization Scene Controls
Active Locale: English (en)
Track Changes: ☑
String Table: None (String Tab
Asset Table: My Assets

4. Change the **Text** to “Hello”.
5. For each Locale, change the **Text** to the appropriate translation for that Locale. You may also need to change the Font and adjust the Rect Transform properties for each Locale. These changes will be specific to the Active Locale only.

Locale	Translation
English	Hello
French	Bonjour
Japanese	こんにちは
Spanish	Hola



Localization Scene Controls

Active Locale: English (en)

Track Changes: ☑

String Table: My Text

Asset Table: My Assets

Text (TMP) ☑ Static

Tag: Untagged Layer: UI

Cull Transparent Mesh: ☑

Text Input Enable RTL Editor □

Hello

Text Style: Normal

Font Asset: LiberationSans SDF (TMP_Font Asset)

Material Preset: LiberationSans SDF Material

Font Style: B I U S ab AB SC

Font Size: 36

Auto Size: □

Vertex Color

Color Gradient: □

Override Tags: □

Spacing Options (em): Character 0 Word 0 Line 0 Paragraph 0

Alignment

Wrapping: Enabled

Localize dynamic text

Unity can generate dynamic text using smart string. This example shows how to use multiple data sources to generate a string.

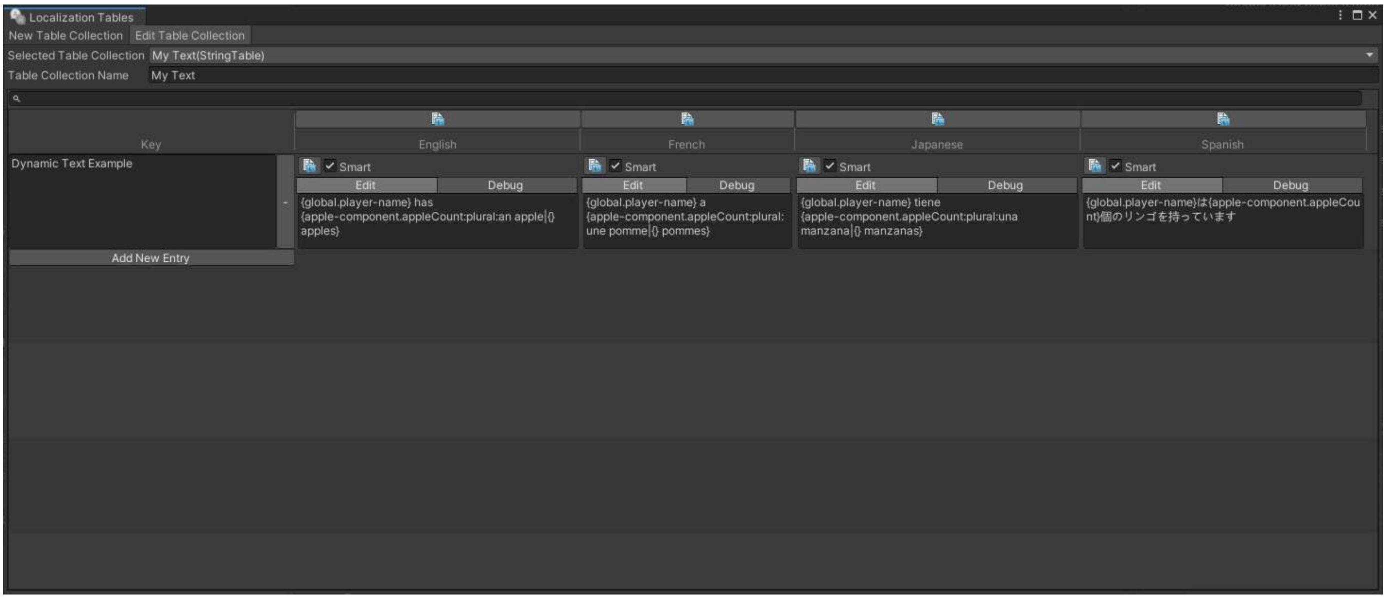
1. Open the String Table (menu: **Window > Asset Management > Localization Tables**).
2. Select **Add New Entry** button and give the new Entry a name.
3. Enable the **Smart** option to mark the entry as a smart string (Smart/SmartStrings.html). This example uses the smart string reflection, global variables and plural features to print out a variable from the following script:

```
using UnityEngine;

public class Apples : MonoBehaviour
{
    public int appleCount = 1;
}
```

Enter the following values:

Locale	Translation
English	{global.player-name} has {apple-component.appleCount:plural:an apple|{} apples}
French	{global.player-name} a {apple-component.appleCount:plural:une pomme|{} pommes}
Spanish	{global.player-name} tiene {apple-component.appleCount:plural:una manzana|{} manzanas}
Japanese	{global.player-name}は{apple-component.appleCount}個のリンゴを持っています



Localization Tables

New Table Collection | Edit Table Collection

Selected Table Collection: My Text(StringTable)

Table Collection Name: My Text

Key	English	French	Japanese	Spanish
Dynamic Text Example	✓ Smart {global.player-name} has {apple-component.appleCount:plural:an apple|{} apples}	✓ Smart {global.player-name} a {apple-component.appleCount:plural: une pomme|{} pommes}	✓ Smart {global.player-name} tiene {apple-component.appleCount:plural:una manzana|{} manzanas}	✓ Smart {global.player-name}は{apple-component.appleCount}個のリンゴを持っています

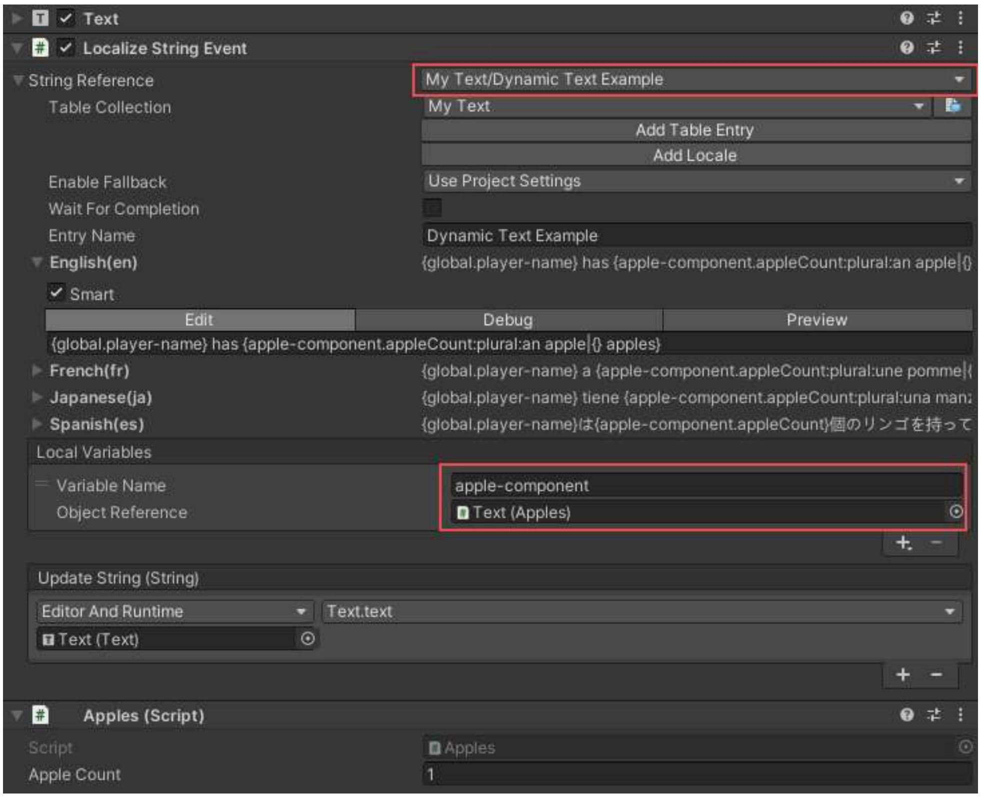
English, French and Spanish languages all use two plural forms in our example and Japanese does not use any plurals so we only need to insert the value.

Use String Table entries

To add a UI Text element to the Scene, go to **GameObject > UI > Text**.

1. Right-click the Text component and select the **Localize** option. Unity adds a Localize String Event component and automatically configures it for the GameObject it is attached to. If the Text component contains a string value that is also in a String Table, then Unity automatically assigns this during the setup. If it does not, you can assign a value using the String Reference field dropdown. Assign the entry you previously created to the **String Reference**.
2. Add the **Apples** component to the same GameObject as the Text.
3. Press the Add (+) button in the **Local Variables** field, select **Object Reference** and drag the **Apples** Component into the **Object Reference** slot. Name the variable **apple-component**.

Note: if the Apples component is on a different GameObject then ensure that the component is dragged into the slot and not the GameObject reference. One way to do this is to open two inspectors and lock one of them to the Text; you can then drag the Component across from one inspector and into the other.



☑ Text

☑ Localize String Event

String Reference: My Text/Dynamic Text Example

Table Collection: My Text

Enable Fallback: Use Project Settings

Wait For Completion: □

Entry Name: Dynamic Text Example

English(en): {global.player-name} has {apple-component.appleCount:plural:an apple|{}

☑ Smart

{global.player-name} has {apple-component.appleCount:plural:an apple|{} apples}

French(fr): {global.player-name} a {apple-component.appleCount:plural:une pomme|{

Japanese(ja): {global.player-name} tiene {apple-component.appleCount:plural:una man:

Spanish(es): {global.player-name}は{apple-component.appleCount}個のリンゴを持って

Local Variables

Variable Name: apple-component

Object Reference: Text (Apples)

Update String (String)

Editor And Runtime | Text.text

Text (Text)

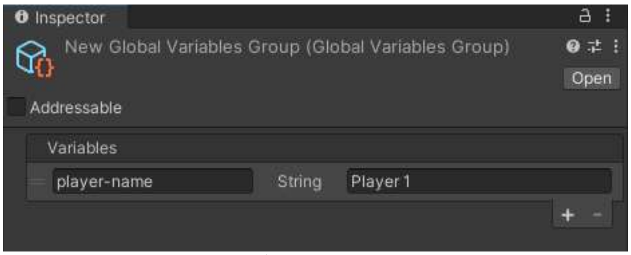
Apples (Script)

Script: Apples

Apple Count: 1

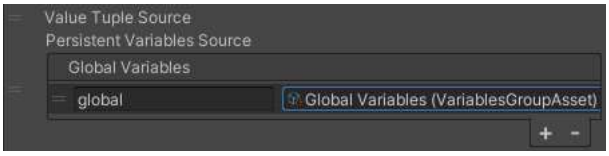
The Text and the 2nd Argument appleCount is now configured however we also need to configure the 1st argument {global.player-name}.

1. Create a Global Variables Group Asset (Menu: **Assets/Create/Localization/Global Variables Group**)
2. Select Add (+) in the Variables list and create a new String variable. Name it `player-name` .



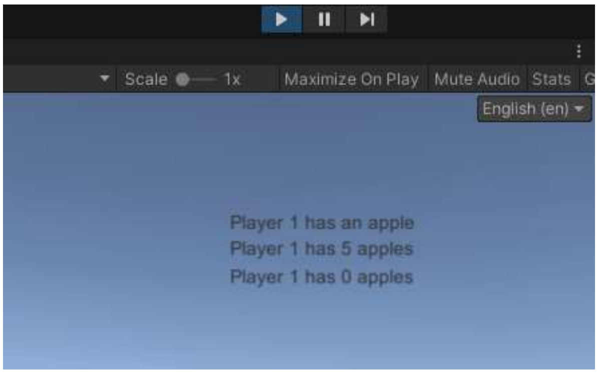
player-name String Player 1

3. Open the Localization Settings (menu: **Edit > Project Settings > Localization**).
4. Navigate to the Smart Format Sources list (**String Database/Smart Format/**) and select Add (+) to create a new Global Variables Source. Drag and drop the Global Variables Source to the second position in the Sources List, under the List Formatter item.
5. Select Add (+) in the Global Variables Source to create a new item. Keep the default name “global”, this is the value used in the first part of the Smart String {**global**.player-name} and drag the Global Variables Source asset into the slot. The Global Variables source is now configured.



global Global Variables (VariablesGroupAsset)

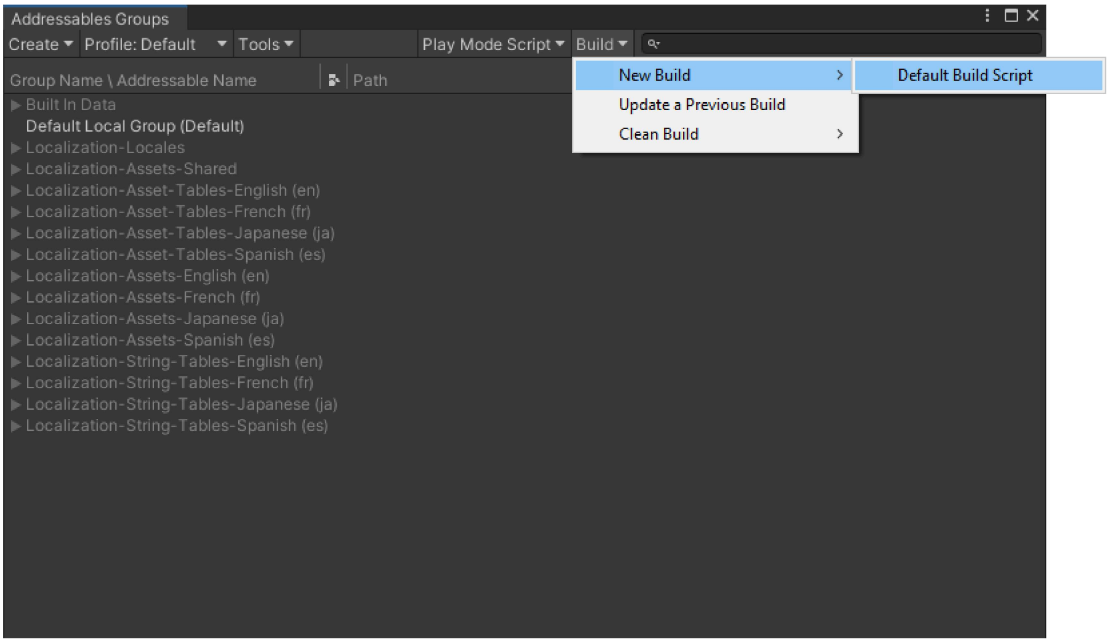
Duplicate the Text GameObject and change the Apple count to a different value. Press Play and notice that the text is using the correct plural form for each.



Player 1 has an apple
Player 1 has 5 apples
Player 1 has 0 apples

Preview and configure your build

To use the localized assets in the player, you must build the Addressables player content. To do this, in the Addressables window (menu: **Window/Asset Management/Addressable Assets/Groups**), select **Build/New Build/Default Build Script**. You can also use the Addressables window to control how to repackage and host assets, such as local storage or via a remote web server.



Built In Data
Default Local Group (Default)
Localization-Locales
Localization-Assets-Shared
Localization-Asset-Tables-English (en)
Localization-Asset-Tables-French (fr)
Localization-Asset-Tables-Japanese (ja)
Localization-Asset-Tables-Spanish (es)
Localization-Assets-English (en)
Localization-Assets-French (fr)
Localization-Assets-Japanese (ja)
Localization-Assets-Spanish (es)
Localization-String-Tables-English (en)
Localization-String-Tables-French (fr)
Localization-String-Tables-Japanese (ja)
Localization-String-Tables-Spanish (es)

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