



Essential Studio 2015 Volume 2 - v. 13.2.0.29  
**Essential SfSpreadsheet for WPF**



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# 1 SfSpreadsheet

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## 1.1 Overview

The SfSpreadsheet is an Excel inspired control that allows you to create, edit, view and format the Microsoft excel files without Excel installed. It provides absolute ease of using UI experience with integrated ribbon to cover any possible business scenario. SfSpreadsheet comes with built-in calculation engine with support for 370 most widely used formulas that business user requires.

SfSpreadsheet includes several advanced features like,

- **Freeze panes** – Provides support to freeze rows/columns.
- **Editing and Selection**-Interactive support for editing and cell selection in workbook.
- **Ribbon** – Ribbon integrated with organically enhanced UI experience.
- **Formulas** - Provides support for 370 most widely used formulas that is used by any business user and allows you to add, remove and edit the formulas like in excel.
- **Name Manager** – Supports the name ranges in the formulas. By using the name ranges, you can specify the name of the cell range and then you can use it in the formula more easily without hassling of remembering cell locations.
- **Merge Cells** – Allows to merge two or more adjacent cells into a single cell and display the contents of one cell in the merged cell.
- **Cell Comments**- Supports comments that provide additional information about a cell such as what the value represents. And it is useful when you want the end users to understand the data in the cells more deeply.
- **Floating Cells**- Provides support for floating cell mode. That is, when the text exceeds the length of the cell, it floats the text to the adjacent cell.
- **Hyperlinks**- Supports the hyperlink navigation. The hyperlink is a convenient way to navigate or browse data within a worksheet or other worksheets in a workbook.
- **Workbook and Worksheet Protection**- Provides support to protect the worksheet and also supports to lock-down the structure and window of workbook that enables you to prevent workbook from any structural change or from any change in size.
- **Conditional Formatting**- provides support for excel compatible conditional formatting and allows you to apply formats to a cell or range of cells depending on the value of cells or formula that meets specific criteria.
- **Data validation** – Provides support to ensure the data integrity by enforcing end users to enter valid data into the cells and when entered data does not meet the specified criteria, error message is displayed.
- **Grouping** - Provides support to group or ungroup rows and columns.
- **Charts, Pictures and Textboxes** - Provides support to import Charts, Pictures and Textboxes.
- **Fill Series** – Provides support to automatically fill cells with data that follows or completes a pattern.
- **Clipboard Operations** – Provides support for Cut/Copy/Paste Operations in the Spreadsheet.
- **Import/Export** – Provides support to import from excel and export to PDF, HTML, Image and CSV.
- **Undo/Redo** - Provides support to undo or redo the changes that you have made in the workbook.

- **Resizing and Hiding** – Provides interactive support to resize or hide/unhide the rows and columns.

### 1.1.1 Choose between SfSpreadsheet and Spreadsheet control:

Both SfSpreadsheet and Spreadsheet control almost have the same set of features. But SfSpreadsheet has some features that are richer than Spreadsheet control.

Comparatively, the performance and stability of the SfSpreadsheet is better than the Spreadsheet control. You can see the list of rich set of features in the SfSpreadsheet over Spreadsheet control as follows:

*Rich Set of Features in SfSpreadsheet*

Feature	SfSpreadsheet
Scrolling performance	Supports fast and fluid scrolling even when the excel has a huge set of data .Thus, its performance is high compared to Spreadsheet control
Copy Paste	Supports various paste options similar to excel options like Paste, Formulas, Values, Formula and Source Formatting, Values and Source Formatting and Formatting alone. It also provides a good performance compared to Spreadsheet control
Undo/Redo	Supports undo/redo functionalities similar to those achieved with Microsoft Office-type applications. This operation records the changes in the whole workbook while Spreadsheet Control records the changes in the sheet level only.
Formula calculation	Provides support for 370 most widely used formulas and uses Multi-threading concept. So, the calculation speed is also high compared to Spreadsheet control.
Floating Cells	Provides support to float cell both in display and edit mode.
Hyperlinks	Provides support for Hyperlink feature that is created for existing files or web page and email addresses too.

Data validation	Provides support for validation for cross sheet references and list validation with formula/cell references compared to the Spreadsheet control.
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You can refer to the list of the specific API difference between the Spreadsheet control and the SfSpreadsheet are as follows:

Properties table:

SfSpreadsheet	Spreadsheet	Description
ActiveGrid	GridProperties->ActiveSpreadsheetGrid	Gets the active SfSpreadsheetGrid.
IsCustomTabItemContext MenuEnabled	TabStyleManager -> IsCustomTabItemContext MenuEnabled	Gets or sets whether the Custom ContextMenu is to be Enabled.
ShowTabItemContextMenu	TabStyleManager -> ShowTabItemContextMenu	Gets or sets whether the TabItemContextMenu is to be displayed.
TabItemContextMenu	TabStyleManager -> TabItemContextMenu	Gets or sets the ContextMenu Items for TabItem.
ActiveSheet	ExcelProperties->Workbook->ActiveSheet	Gets the Current ActiveSheet.
CurrentCellStyle	GridProperties->CurrentCellStyle	Gets the Style of the Current Cell.
HistoryManager	GridProperties.ActiveSpreadsheetGrid.Model.CommandStack	Gets the command stack of the SpreadsheetControl. By default, it has been enabled.
SheetName	GridProperties->CurrentSheetName	Gets the tab sheet name.

## 1.2 Getting Started

This section starts with the Assemblies deployment and the subsequent sections explain how to create a simple application with the SfSpreadsheet and how to open and save the excel file in the SfSpreadsheet without Ribbons.

## 1.2.1 Assemblies Deployment

After installing Essential Studio for WPF, you can find these required assemblies in the installation folders.

{Syncfusion Essential Studio Installed location}\Essential Studio\13.2.0.29\

Add the following assemblies to your project.

Demanded Assemblies	Description
Syncfusion.SfCellGrid.WPF.dll	Covers the SfCellGrid Elements.
Syncfusion.SfGridCommon.WPF.dll	Covers the SfGridCommon Elements like Scroll Axis, Disposable classes.
Syncfusion.SfSpreadsheet.WPF.dll	Covers the SfSpreadsheet and the SfSpreadsheetRibbon Elements.
Syncfusion.Shared.WPF.dll	Dependent assembly for Syncfusion.Tools.WPF.dll.
Syncfusion.Tools.WPF.dll	Covers the TabcontrolExt and TabItemExt etc.
Syncfusion.XlsIO.Base.dll	Covers the XlsIO Elements like Workbook, IRange, etc.
Optional Assemblies	Description
Syncfusion.SfSpreadsheetHelper.WPF.dll	To Import Chart into the SfSpreadsheet.
Syncfusion.ExcelChartToImageConverter.WPF.dll	Syncfusion.SfSpreadsheetHelper.WPF.dll refer to this dll for importing charts.
Syncfusion.SfChart.WPF.dll	Syncfusion.SfSpreadsheetHelper.WPF.dll refer to this dll for importing charts.
Syncfusion.ExcelToPDFConverter.Base.dll	For PDF conversion.
Syncfusion.Pdf.Base.dll	For PDF conversion.

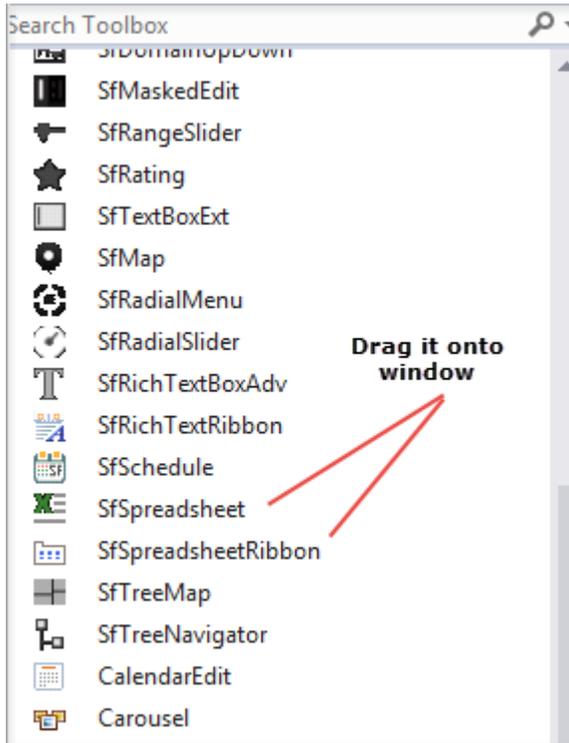
## 1.2.2 Create a Simple Application with SfSpreadsheet

There are two ways to add the SfSpreadsheet to WPF application.

### Through Designer:-

1. Create new WPF application in the Visual Studio.

2. Open the Visual Studio tool box. Navigate to “Syncfusion Controls” tab and you can find the SfSpreadsheet/SfSpreadsheetRibbon toolbox items.

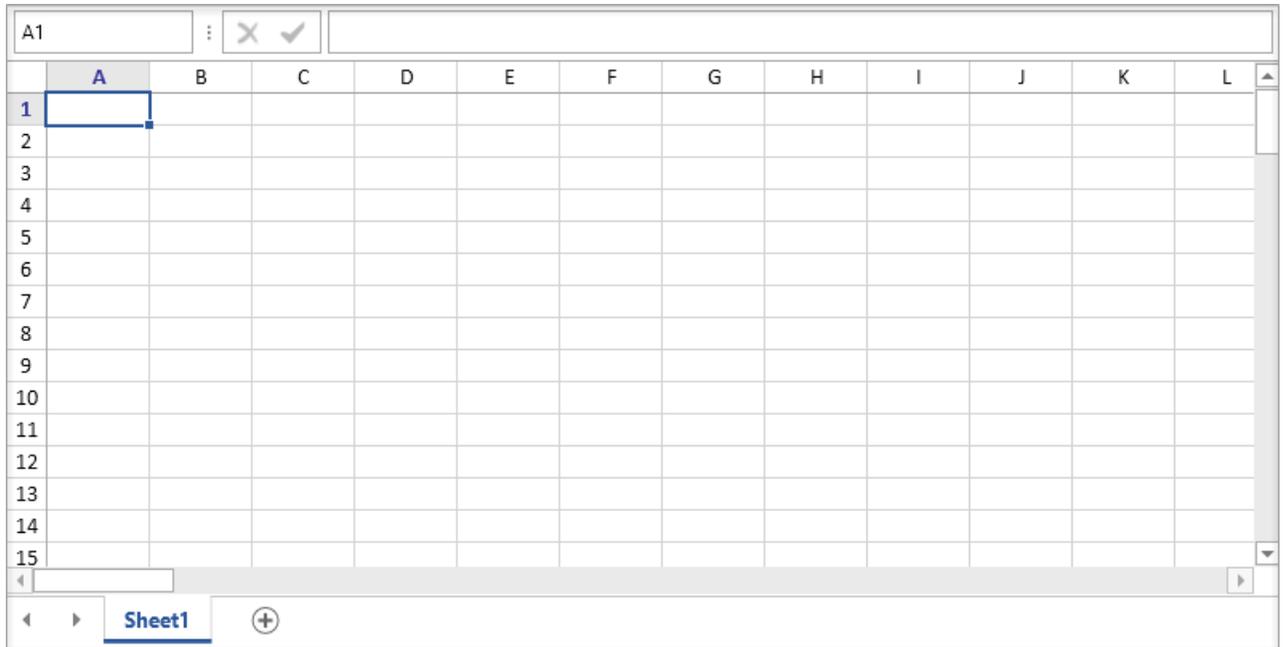


Syncfusion control tab

3. Drag the SfSpreadsheet to the Designer area from the Toolbox.
4. Customize the properties of the Spreadsheet by using the Properties window.

**For Spreadsheet:**

```
<syncfusion:SfSpreadsheet x:Name="spreadsheet" />
```

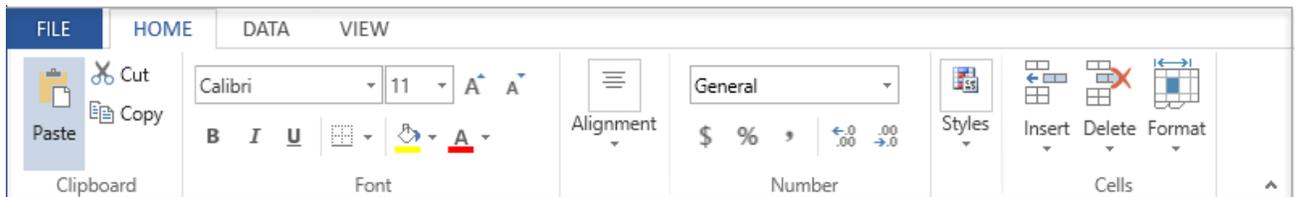


**Spreadsheet**

5. You can add Ribbon to the application by dragging the SfSpreadsheetRibbon to the Designer area.
6. To make an interaction between Ribbon items and the SfSpreadsheet, you need to bind the SfSpreadsheet as DataContext to the SfSpreadsheetRibbon.

**For Ribbon:**

```
<syncfusion:SfSpreadsheetRibbon DataContext="{Binding ElementName=spreadsheet}" />
```



**SfSpreadsheetRibbon**

**Through Xaml and C#:**

Spreadsheet is available in the following namespace “**Syncfusion.UI.Xaml.Spreadsheet**” and it can be created programmatically either by using XAML or C# code. The following code example are used to create a SfSpreadsheet,

For Spreadsheet:

**Xaml :**

```
<syncfusion:SfSpreadsheet x:Name="spreadsheet"  
FormulaBarVisibility="Visible" />
```

**C#**

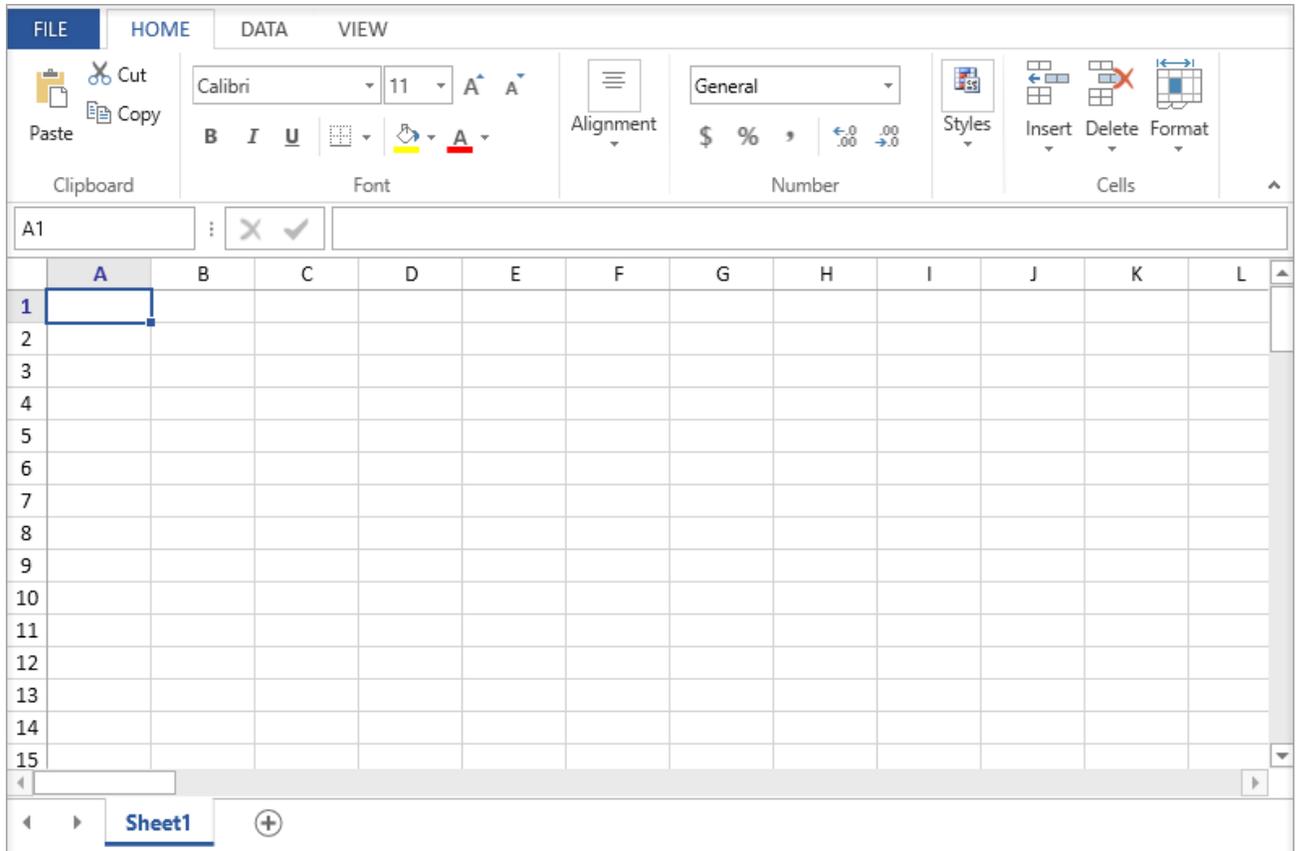
```
SfSpreadsheet spreadsheet = new SfSpreadsheet();  
this.grid.Children.Add(spreadsheet);
```



**Note:** When you want to use the *SfSpreadsheetRibbon* in your application, then you need to use the *RibbonWindow* since the backstage of Ribbon opens only when the ribbon is loaded under the *RibbonWindow*.

```
<syncfusion:RibbonWindow  
    x:Class="SfSpreadsheetDemo_2010.MainWindow"  
  
xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"  
  
    xmlns :  
d="http://schemas.microsoft.com/expression/blend/2008"  
    xmlns : mc="http://schemas.openxmlformats.org/markup-compatibility/2006"  
  
    xmlns :x="http://schemas.microsoft.com/winfx/2006/xaml"  
    xmlns :syncfusion="http://schemas.syncfusion.com/wpf"  
    syncfusion:SkinStorage.VisualStudio="Office2013"  
    mc:Ignorable = "d" >  
</syncfusion:RibbonWindow>
```

You can get the following output when you execute the application.



### 1.2.2.1 Creating a new Workbook

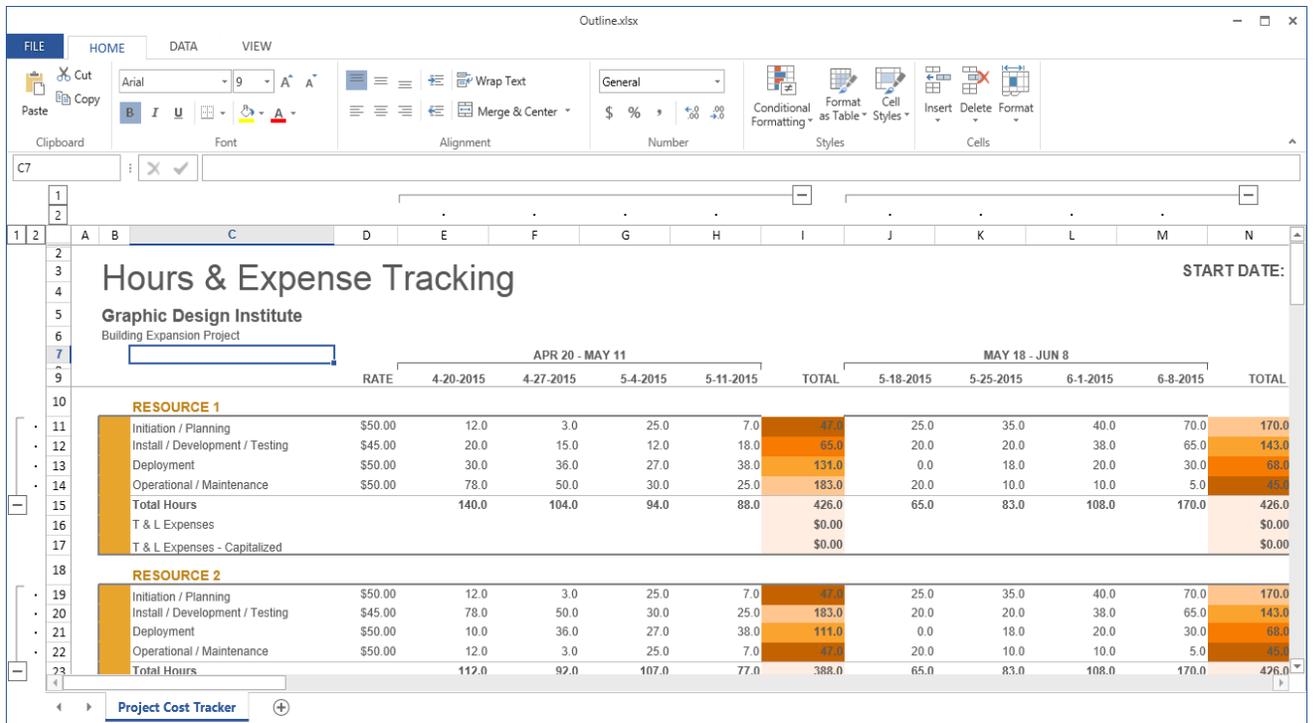
To create a new workbook, you can use the Create method of the SfSpreadsheet. By default, a workbook is created with a single worksheet. But, you can also create a new workbook with a specified number of worksheets. The following code example illustrates this:

```
C#:  
spreadsheet.Create(2);
```

### 1.2.2.2 Open the Existing Workbook

You can open the existing workbook in the SfSpreadsheet by using the Open method as explained in the following code example.

```
C#:  
spreadsheet.Open(@"..\..\Data\Outline.xlsx");
```



Opening Excel File in SfSpreadsheet

### 1.2.2.3 Saving the Existing Workbook

You can save the existing workbook in the SfSpreadsheet by using the Save method as explained in the following code example.

```
C# :
spreadsheet.Save();
```

### 1.2.3 Importing Charts

To import the charts into the SfSpreadsheet, you need to create an instance of the GraphicChartCellRenderer and add that renderer into the GraphicCellRenderers collection. The GraphicChartCellRenderer is available under the following assembly and namespace.

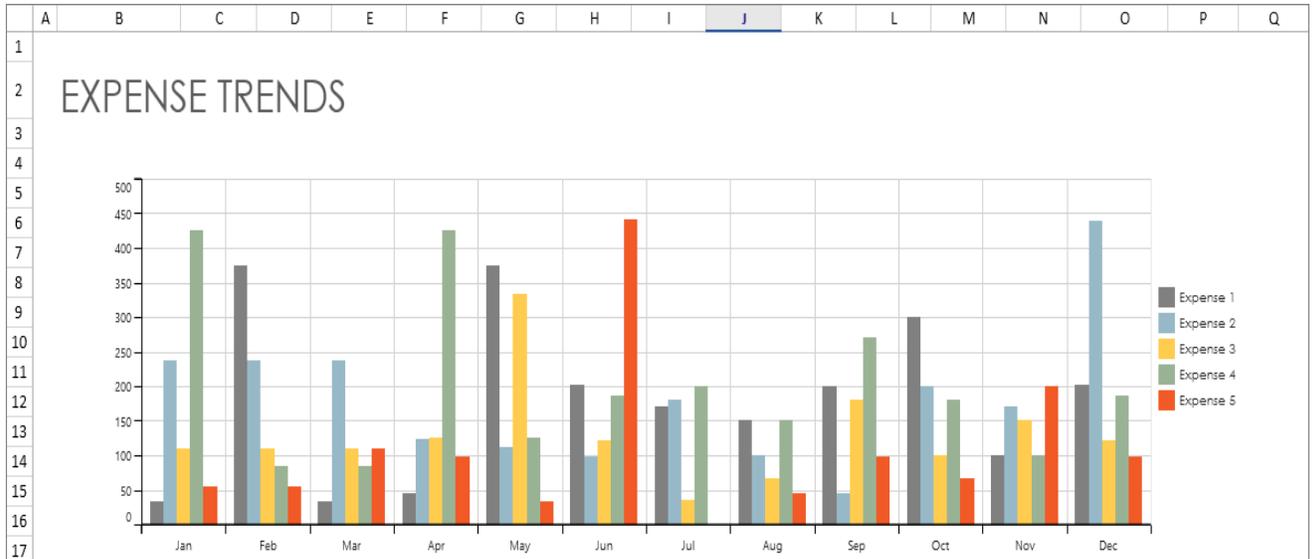
**Assembly:** Syncfusion.SfSpreadsheetHelper.WPF.dll

**Namespace:** Syncfusion.UI.Xaml.SpreadsheetHelper;

You can add the GraphicChartCellRenderer into the GraphicCellRenderers collection by using the extension method "AddGraphicChartCellRenderer" of the SfSpreadsheet which is available under the namespace "Syncfusion.UI.Xaml.Spreadsheet.Helpers".

C#:

```
this.spreadsheet.AddGraphicChartCellRenderer(new  
GraphicChartCellRenderer());
```



### Importing Charts

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