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# Documentation Home

Feb 08, 2022



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## Resources

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<b>1</b>	<b>Examples</b>	<b>1</b>
<b>2</b>	<b>Blog Posts</b>	<b>3</b>
<b>3</b>	<b>Books</b>	<b>5</b>
<b>4</b>	<b>Presentations &amp; Videos</b>	<b>7</b>
<b>5</b>	<b>Podcasts</b>	<b>9</b>
<b>6</b>	<b>SpecFlow Actions</b>	<b>11</b>
<b>7</b>	<b>SpecFlow Account</b>	<b>13</b>
<b>8</b>	<b>License to Account Migration</b>	<b>17</b>
<b>9</b>	<b>Managing Licenses</b>	<b>21</b>
<b>10</b>	<b>Admin Consent (Azure AD)</b>	<b>23</b>
<b>11</b>	<b>Public Roadmap</b>	<b>27</b>
<b>12</b>	<b>Frequently Asked Questions</b>	<b>29</b>



### 1.1 SpecFlow Sample Projects

You can find a number of [SpecFlow+](#) and [SpecFlow](#) sample projects on our GitHub page. These repositories contain the following sample projects, if you have any projects worth sharing, please consider adding them to the repositories.

If you are looking for **.NET6 example** projects and ready to use code snippets and plugins then check out the [SpecFlow Actions](#) page.

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- **Getting\_Started**: Simple calculator project based on the Getting Started guide with a single SpecFlow+ Runner test
- **Selenium Grid WebTest**: A sample project using Selenium Grid Web with SpecFlow+ Runner
- **Selenium WebTest**: A sample project using Selenium Web with SpecFlow+ Runner. This project also demonstrates how to include screenshots in your HTML report. Refer to the [documentation](#) for more details on embedding screenshots.
- **Windows AppDriver**: Using WindowsAppDriver with SpecFlow+ Runner
- **Custom Deployment Steps**: Sample project based on the WindowsAppDriver project demonstrating custom deployment steps
- **Filter Example**: Sample project using filters to only run a subset of tests
- **Multiple Reports**: Sample project using SpecFlow+ Runner to output multiple reports using custom templates
- **Test Thread Isolation**: Sample project showing the effects of different test thread isolation configurations for multi threaded testing
- **AppVeyor\_Support**: Sample project showing how to use SpecFlow+Runner with AppVeyor
- **Bookshop example** : An end-to-end example project that explains how to use SpecFlow and the SpecFlow+ Runner in a simple web application project
- **Additional Step Assembly** : Sample project showcasing additional step assembly

- **AsyncAwait:** This example shows how to implement a step definition which calls the `HttpClient.GetAsync` method
  - **A Selenium UI automation project:** A UI automation sample project using Selenium with Page Object Model Pattern. A step-by-step guide for this repo is also available [here](#).
  - **SampleMethodTagDecorator:** Sample project showcasing Sample Method Tag Decorator
  - **External Data Sample:** Sample project for the `SpecFlow.ExternalData` plugin
  - **Parallel Execution:** Sample project showcasing parallel execution in `JUnit`, `xUnit`, and `MsTest`.
  - **Scenario Feature Context Injection:** Same project showcasing Scenario Feature Context Injection
  - **Step Argument Transformation Example:** This project demonstrates how you can create feature files in one language, but specify values using a different locale.
  - **Skip Scenario:** `xUnit` skip scenario example
  - **Docker Example :** Docker Example project
  - **Multiple Browsers against different Environments:** This is a example how to use `SpecFlow` and `SpecFlow+Runner` to run Selenium Web Tests for different Browsers and different environments.
  - **External Data Plugin Example:** Sample project to showcase the use of `SpecFlow External Data Plugin`
- 

## 1.2 Given-When-Then Challenge Sample Projects

- **Given-When-Then With Style series :** A series of weekly blog articles, aimed at helping you get the most out of Given-When-Then feature files
- **Challenge 1-2 :** Repo for the first two challenges

## 1.3 Community Sample Projects

- **Tawfik Nouri:** [BDD/TDD With SpecFlow & .NET Core](#)

Do you know any further SpecFlow examples you would recommend? Please let us know on [LinkedIn](#), tweet us [@specflow](#) or just send us a pull request on [GitHub](#).

## CHAPTER 2

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### Blog Posts

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We have collected some helpful blog posts to make it easier for you to get started with SpecFlow, Specification-By-Example, Acceptance Test Driven Development (ATDD) and Behavior Driven Development (BDD):

- [SD Times: Overcoming the Challenges of Adopting BDD \(introduction to BDD\)](#)
- [Kenneth Truyer: Running SpecFlow Tests on BrowserStack](#)
- [SpecFlow tutorials on Automate The Planet](#)
- [Have your business analyst write unit tests by Bart Roozendaal](#)
- [Xpand: Testing in JIRA \(Xray\) using SpecFlow+](#)
- [David Leitner: Driver pattern empowers your SpecFlow step definitions](#)
- [Rob Gibbens: SpecFlow and Xamarin Studio](#)
- [Diego Blond: Introdução ao SpecFlow \(in Portuguese/em Português\)](#)
- [marshinov: SpecFlow A to Z \(in Russian/-\)](#)

Do you know any further blog posts you would recommend? Please let us know on [LinkedIn](#), tweet us [@specflow](#) or just send us a pull request on [GitHub](#)





## CHAPTER 3

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### Books

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We have collected some helpful books to make it easier for you to get started with SpecFlow, Specification-By-Example, Acceptance Test Driven Development (ATDD) and Behavior Driven Development (BDD):

- Gojko Adzic: *Bridging the Communication Gap: Specification by Example and Agile Acceptance Testing*
- Gojko Adzic: *Specification by Example: How Successful Teams Deliver the Right Software*
- Lisa Crispin and Janet Gregory: *Agile Testing: A Practical Guide for Testers and Agile Teams*
- Matt Wynne and Aslak Hellesoy: *The Cucumber Book: Behavior-Driven Development for Testers and Developers (Pragmatic Programmers)*
- Ian Dees, Matt Wynne and Aslak Hellesoy: *Cucumber Recipes: Automate Anything with BDD Tools and Techniques (Pragmatic Programmers)*
- Gaspar Nagy & Seb Rose: *Discovery: Explore behavior using examples*

Do you know any further books you would recommend? Please let us know on [LinkedIn](#), tweet us [@specflow](#) or just send us a pull request on [GitHub](#)



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## Presentations & Videos

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We have collected some helpful presentations and videos to make it easier for you to get started with SpecFlow, Specification-By-Example, Acceptance Test Driven Development (ATDD) and Behavior Driven Development (BDD):

### 4.1 General

- Seb Rose: 10 things you need to know about SpecFlow (NDC, Oslo, 2016): [Video \(Vimeo\)](#)
- [Moving Beyond the Basics](#): A series of slides by Joe Buschmann
- Darren Caulthon: SpecFlow Anti-Pattern: Using Private Members to Retain State Between Steps: [Video \(Youtube\)](#)
- Darren Caulthon: SpecFlow Assist Demo: [Video \(Youtube\)](#)
- Darren Caulthon: SpecFlow Assist Comparison Helper Methods Demo: [Video \(Youtube\)](#)
- Execute Automation: [BDD and SpecFlow video series](#)
- Naeem Akram: .NET Core - SpecFlow.Nunit & Appium WinAppDriver Test Automation Beginner Tutorial: [Video \(YouTube\)](#)
- Getting Started With Specflow and Selenium by LambdaTest: [Video \(YouTube\)](#)

### 4.2 Specification By Example

- Christian Hassa: Specification-By-Example with Gherkin (ALM3 Summit Seattle 01/2013) [Video \(Channel9\)](#) and [Slides \(Slideshare\)](#)

## 4.3 Living Documentation

- Naeem Akram: Generate test automation report with SpecFlow Plus LivingDocs in .NET Core Beginner Tutorial: [Video \(YouTube\)](#)

Do you know any further presentations or videos you would recommend? Please let us know on [LinkedIn](#), tweet us [@specflow](#) or just send us a pull request on GitHub

## CHAPTER 5

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### Podcasts

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We have collected some helpful podcasts to make it easier for you to get started with Behavior Driven Development (BDD):

- Developer Melange podcast: [Is BDD worth the overhead?](#)
- more podcasts coming soon...

Do you know any further podcasts you would recommend? Please let us know on [LinkedIn](#), tweet us [@specflow](#) or just send us a pull request on [GitHub](#)



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## SpecFlow Actions

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SpecFlow Actions is our new way to help our users write easier and quicker test automation. We aim to solve common challenges you may encounter during your work of automating an application, API, website, and mobile app.

We do this for our community, therefore we want to work on actions that bring true value to you. Please go to our [SpecFlow Actions forum page](#) and vote for your favorite action or suggest a new one.

There are three kinds of SpecFlow Actions:

- [Code snippets](#) - These are small code snippets that solve a particular problem.
- [Plugins](#) To solve more complex problems, our team has put together a series of dedicated plugins for SpecFlow that provide more functionalities and integrate effortlessly into SpecFlow and its features.
- [.NET 6 examples](#) Examples of how you can use SpecFlow with .NET 6 in various use cases to test an application.

### 6.1 .NET 6 examples

- [ClassLibrary](#) This project contains a working example of how to test a class library using SpecFlow and .NET 6
- [ASP.NET Core Web Application](#) This project contains a working example of how to test an ASP.NET Core web application using SpecFlow and .NET 6.
- [ASP.NET Core API](#) This project contains a working example of how to test an ASP.NET Core web API using SpecFlow and .NET 6.
- [WinForms](#) This project contains a working example of how to test a WinForms application using SpecFlow and .NET 6.
- [WPF](#) This project contains a working example of how to test a WPF application using SpecFlow and .NET 6.
- [Android Mobile App](#) This project contains a working example of how to test an Android mobile application using SpecFlow and .NET 6.

## 6.2 Code snippets

- [CSV](#) This code snippet allows you get the value of a cell using row and column name) from a .csv- file
  - [Excel](#) Similar to the CSV code snippet this code allows you get the value of a cell using row and column name but from a .xlsx- file
  - [Custom test output](#) This code snippets shows you how to bring your custom test output to the unit test runner of your choice. It supports NUnit, MSTest, xUnit and SpecFlow+ Runner.
- 

## 6.3 Plugins

- [Selenium](#) This plugin will help you use Selenium together with SpecFlow. It handles the lifetime of your browser and provides easy configuration and helper methods to interact with Selenium.
- [BoaConstrictor](#) This plugin will help you use [Boa-Constrictor](#) together with SpecFlow to use the Screenplay Pattern for Selenium more easily. In the background it is using [SpecFlow.Actions.Selenium](#) so all functionality of it is also available, if you are using Boa-Constrictor. Boa-Constrictor is configured out of the box. The logger is connected to the [SpecFlow Output API](#).
- [Browserstack](#) This plugin will help you use Browserstack and Selenium together with SpecFlow. As an extension of [SpecFlow.Actions.Selenium](#), It handles the lifetime of your browser and provides seamless integration with the Browserstack Automate feature.
- [Docker](#) This plugin will help you by using Docker together with SpecFlow.
- [Playwright](#) This plugin will help you use [Playwright](#) together with SpecFlow. It handles the initialization and lifetime of your browser, provides methods to work with your page selectors and a configuration that makes it easy to set up the browser instance.



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## SpecFlow Account

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We have introduced a new license model for SpecFlow+ products. This new licensing model is **account-based** instead of requiring a license key. You need to sign up for a free personal SpecFlow account in order to use SpecFlow+ products.

### 7.1 What are the benefits?

Signing up for a free SpecFlow account allows you to use the previously paid SpecFlow+ products for free. You no longer need to wait for us to process your request for a license manually and can expand your use of the software to more users as required. We also plan to offer exclusive additional benefits to help you boost your productivity and get the most out of SpecFlow.

### 7.2 Requirements

In order to license SpecFlow+ and SpecMap with the new license model:

- A free Microsoft account is required. This can be your already existing personal or corporate/enterprise Microsoft Account. If you do not yet have a Microsoft account, you can [create one for free](#).
- Access to the internet is needed from your work environment.
- If you previously purchased a license from TechTalk, the terms and conditions and privacy policy have changed following the [acquisition of SpecFlow](#) by Tricentis. You will need to accept these new terms when signing up.

In order to migrate from an existing active SpecFlow+ or SpecMap license key to the new SpecFlow account follow the step-by-step instructions in our migration guide [here](#).

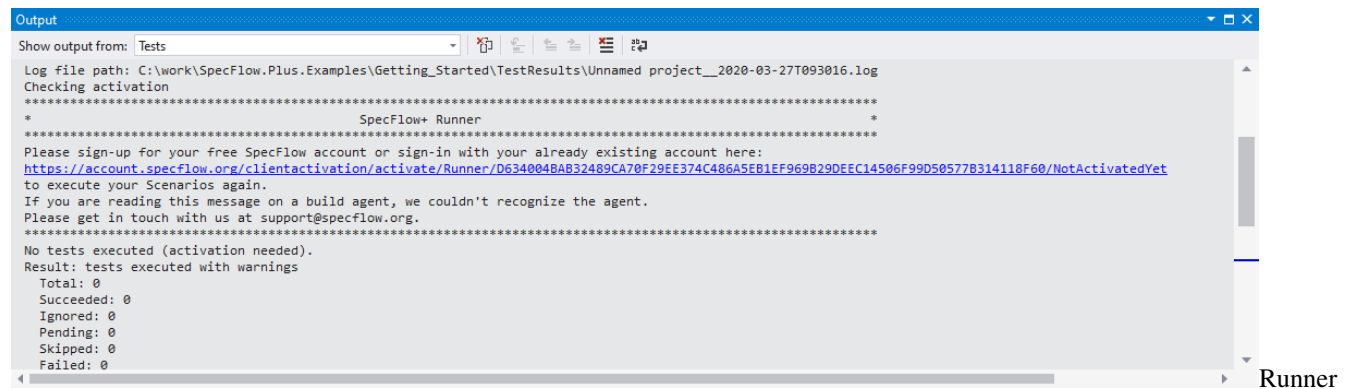
## 7.3 Sign up for an account

Depending on the product you are using, the steps you need to take are different. If you are new to SpecFlow, start with our [step-by-step Getting Started](#) and learn how to setup SpecFlow, SpecFlow+ Runner, and SpecFlow+LivingDoc.

### 7.3.1 SpecFlow+ Runner

If SpecFlow+ Runner is unlicensed, a message is written to the console when you try to execute your tests with SpecFlow+ Runner. You will be asked to sign up for a SpecFlow account or to sign in with your existing account. To see this, you need at least version 3.2.13 of the SpecFlow+ Runner.

In Visual Studio it looks like this:



```

Output
Show output from: Tests
Log file path: C:\work\SpecFlow.Plus.Examples\Getting_Started\TestResults\Unnamed project__2020-03-27T093016.log
Checking activation
*****
*                               SpecFlow+ Runner                               *
*****
Please sign-up for your free SpecFlow account or sign-in with your already existing account here:
https://account.specflow.org/clientactivation/activate/Runner/D634004B8B32489CA70F29EE374C486A5EB1EF969B29DEEC14506F99D50577B314118F60/NotActivatedYet
to execute your Scenarios again.
If you are reading this message on a build agent, we couldn't recognize the agent.
Please get in touch with us at support@specflow.org.
*****
No tests executed (activation needed).
Result: tests executed with warnings
Total: 0
Succeeded: 0
Ignored: 0
Pending: 0
Skipped: 0
Failed: 0
  
```

sign up

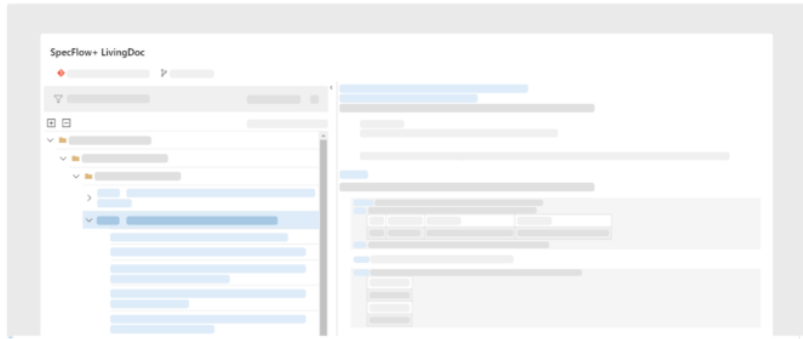
- 1- Open the URL from the message in your browser. In Visual Studio you can click the link while pressing the CTRL-key.
- 2- You are displayed with a “Welcome Page”. Click on **Sign in with Microsoft** to continue.
- 3- Sign in with your Microsoft account. It can be a personal or corporate/enterprise account. If you are already signed in to your Microsoft account, this should happen automatically – *you might need additional permissions from your Active Directory admin. Learn more about admin consents [here](#)*
- 4- You will be taken to a setup page where you can set up your SpecFlow account. Enter your details to sign up for a free SpecFlow account.
- 5- After you finished the sign-up, return to your IDE and run your scenarios again.

**Important Note for Active Directory Approvals:** It might be possible, that your Active Directory admin needs to grant you and your team *permission to use the SpecFlow+ Runner* due to your organizations’ Active Directory configuration. Learn more about admin consents [here](#).

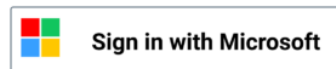
**Note for Build Agents:** These steps should not be necessary on a build server.

### 7.3.2 SpecFlow+ LivingDoc

If you start SpecFlow+ LivingDoc without a valid license, you will be asked to sign in with your Microsoft Identity and set up your SpecFlow account. You can download SpecFlow+ LivingDoc from the Microsoft Marketplace [here](#).



SpecFlow+ LivingDoc turns Gherkin features files into living documentation you can share with your stakeholders.



Free forever. No credit card needed.

Microsoft

sign in

To create your account:

- 1- Start SpecFlow+ Living Doc under *Overview | SpecFlow+ LivingDoc* in Azure DevOps.
- 2- Click on Sign in with Microsoft.
- 3- Sign in with your Microsoft account. It can be a personal or corporate/enterprise account. If you are already signed in, this should happen automatically – *you might need additional permissions from your Active Directory admin. Learn more about admin consents [here](#)*
- 4- You will be taken to a setup page where you can set up your SpecFlow account. Enter your details to sign up for a free SpecFlow account.
- 5- Return to SpecFlow+ LivingDoc and refresh your browser.

**Important Note for Active Directory Approvals:** It might be possible, that your Active Directory admin needs to grant you and your team *permission to use the SpecFlow+ LivingDoc* due to your organizations' Active Directory configuration. Learn more about admin consents [here](#).

### 7.3.3 Do you have any further questions?

We want to make the transition as easy as possible. If you have any questions or concerns, please take a look at our [FAQs](#). Are you new to SpecFlow? Start with our easy to follow [Step-by-Step Getting Started](#) and learn how to setup SpecFlow, and the SpecFlow+ products.



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## License to Account Migration

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We have introduced a new license model for SpecFlow+ and SpecMap. This new licensing model is account-based instead of requiring a license key. You need to sign up for a free personal SpecFlow account in order to use SpecFlow+ and SpecMap. Learn more about the SpecFlow account [here](#).

### 8.1 What are the benefits?

Signing up for a free SpecFlow account allows you to use the previously paid SpecFlow+ (Runner and LivingDoc) and SpecMap products for free. You no longer need to wait for us to process your request for a license manually and can expand your use of the software to more users as required. We also plan to offer exclusive additional benefits to help you boost your productivity and get the most out of SpecFlow and SpecMap.

### 8.2 Migrate to the SpecFlow Account

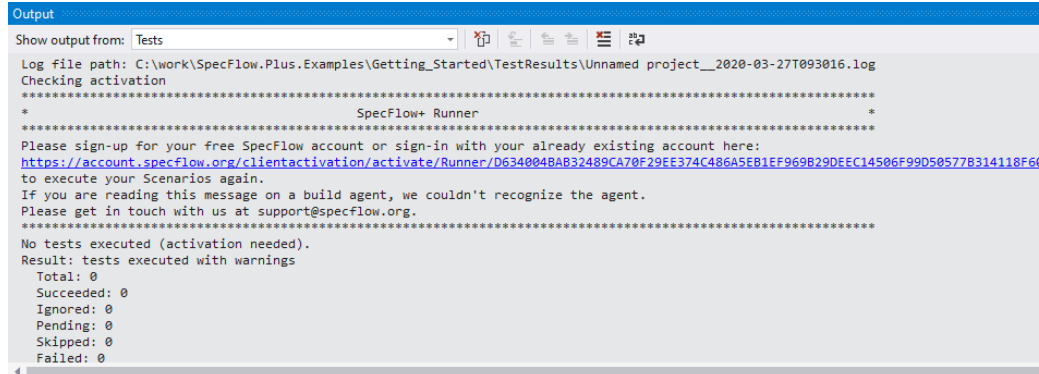
In order to migrate from an existing active SpecFlow+ or SpecMap license key to the new SpecFlow Account follow the step-by-step instructions below.

#### 8.2.1 SpecFlow+ Runner

Migrate from an active license key for the SpecFlow+ Runner to the SpecFlow account:

- 1- Update to the latest [SpecFlow+Runner NuGet Runner package](#)
- 2- Unregister your license key – Follow the instructions [here](#)
- 3- Return to your IDE and run your scenarios
- 4- Open the URL from the console message in your browser

You are displayed with a “Welcome Page”. Click on **Sign in with Microsoft** to continue



```
Output
Show output from: Tests
Log file path: C:\work\SpecFlow.Plus.Examples\Getting_Started\TestResults\Unnamed project__2020-03-27T093016.log
Checking activation
*****
*                               SpecFlow+ Runner                               *
*****
Please sign-up for your free SpecFlow account or sign-in with your already existing account here:
https://account.specflow.org/clientactivation/activate/Runner/D6340048A832489CA70F29EE374C486A5EB1EF969829DEEC14506F99050577B314118F6
to execute your Scenarios again.
If you are reading this message on a build agent, we couldn't recognize the agent.
Please get in touch with us at support@specflow.org.
*****
No tests executed (activation needed).
Result: tests executed with warnings
Total: 0
Succeeded: 0
Ignored: 0
Pending: 0
Skipped: 0
Failed: 0
```

Test- Output window in Visual Studio:  
sign up

**5-** Sign in with your Microsoft account. It can be a personal or corporate/enterprise account. If you are already signed in to your Microsoft account, this should happen automatically – *you might need additional permissions from your Active Directory admin. Learn more about admin consents [here](#)*

**6-** You will be taken to a setup page where you can set up your SpecFlow account. Enter your details to sign up for a free SpecFlow account

**7-** After you finished the sign-up, return to your IDE and run your scenarios again

**Important Note for Active Directory Approvals:** It might be possible, that your Active Directory admin needs to grant you and your team permission to use the SpecFlow+ Runner due to your organizations' Active Directory configuration. Learn more about admin consents [here](#).

### 8.2.2 SpecFlow+ LivingDoc

Migrate from an active license key for SpecFlow+ LivingDoc to the new SpecFlow account:

**1-** Update to the latest version of SpecFlow+ LivingDoc – *usually happens automatically for Azure DevOps*

**2-** Start SpecFlow+ LivingDoc under (**Overview**| **SpecFlow+ LivingDoc**) in Azure DevOps

**3-** Click on *Issued to*

**4-** Clear the *Issued to* field

**5-** Update

**6-** Click on *Sign in with Microsoft*

**7-** Sign in with your Microsoft account. It can be a personal or corporate/enterprise account. If you are already signed in, this should happen automatically – *you might need additional permissions from your Active Directory admin. Learn more about admin consents [here](#)*

**8-** You will be taken to a setup page where you can set up your SpecFlow account. Enter your details to sign up for a free SpecFlow account.

**9-** Return to SpecFlow+ LivingDoc and refresh your browser

**Important Note for Active Directory Approvals:** It might be possible, that your Active Directory admin needs to grant you and your team permission to use the SpecFlow+ LivingDoc due to your organizations' Active Directory configuration. Learn more about admin consents [here](#).

### 8.2.3 SpecMap

Migrate from an active license key for SpecMap to the new SpecFlow account:

- 1- Update to the latest version of SpecMap – usually happens automatically for Azure DevOps
  - 2- Start SpecMap under (**Boards**| **SpecMap**) in Azure DevOps
  - 3- Click on the *Help – ?* – icon in the toolbar
  - 4- Click on *Issued to*
  - 5- Clear the *Issued to* field
  - 6- Save
  - 7- Click on *Sign in with Microsoft*
  - 8- Sign in with your Microsoft account. It can be a personal or corporate/enterprise account. If you are already signed in, this should happen automatically – *you might need additional permissions from your Active Directory admin. Learn more about admin consents [here](#)*
  - 9- You will be taken to a setup page where you can set up your SpecFlow account. Enter your details to sign up for a free SpecFlow account
  - 10- Return to SpecMap and refresh your browser
- Important Note for Active Directory Approvals:** It might be possible, that your Active Directory admin needs to grant you and your team permission to use the SpecMap due to your organizations' Active Directory configuration. Learn more about admin consents [here](#).

## 8.2.4 Do you have any further questions?

We want to make the transition as easy as possible. If you have any questions or concerns, please take a look at our [FAQs](#).





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## Managing Licenses

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We have introduced a new license model for SpecFlow+ and SpecMap. Our new licensing model is account-based instead of requiring a license key.

You need to sign up for a free personal SpecFlow account in order to use SpecFlow+ and SpecMap. [Learn more](#)

### 9.1 Unregistering a License

Use the unregister option to remove a SpecFlow+ license from a user's machine:

```
specflow-plus-license unregister  
SpecRun.exe unregister
```

This is only necessary if the user will continue to have access to the machine, but should no longer be licensed to use SpecFlow+, for example if the user is no longer assigned to a project using SpecFlow+.

This step is not necessary if the user has left your organization and can no longer use the license on the machine, as the license key is written to the user's registry. This means that re-imaging the hard drive will also remove the license.

### 9.2 Register a Legacy License Key

You need to specify your license key and the licensee (*“Issued to”*) values in the command line. You should have received an email including your license key and licensee.

#### 9.2.1 Registering your license with SpecFlow+ Runner 3 or higher

If you are using SpecFlow+ Runner with .NET Core, you need to [install the SpecFlow licensing tool](#) and use that to [register your license](#).

To install the tool:

1- Open a command prompt.

2- Run the following command:

```
dotnet tool install --global SpecFlow.Plus.License
```

> **Note:** If you want to install a specific version, use the `--version` option to specify the desired version:

```
dotnet tool install --global SpecFlow.Plus.License --version
```

3- You can test that the installation was successful and display your license status using the following command:  
`specflow-plus-license about`

To register your license:

Open a command prompt and use the following to register your license:

```
specflow-plus-license register --licenseKey KEY --issuedTo "LICENSEE"
```

Replace the placeholders (KEY and LICENSEE) with your license key and licensee. For example:

```
specflow-plus-license register --licenseKey KBh8227Ahb9382QAAA=== --issuedTo "ACME Corp."
```

> **Note:** The licensee and license key are case-sensitive.

### 9.2.2 Registering Older Versions of SpecFlow+

Use *SpecRun.exe* or *SpecFlow.Plus.Excel.Converter.exe* (located in the `/packages` folder of your Visual Studio solution) to register your license. Detailed instructions can be found [here](#).

The following example uses *SpecRun.exe*. You can use the same syntax with *SpecFlow.Plus.Excel.Converter.exe*. Note that you only need to register the license once per machine, and registering the license for SpecFlow+ Runner also registers the license for SpecFlow+ Excel, and vice versa.

The syntax is as follows:

```
SpecRun.exe register --licenseKey KEY --issuedTo "LICENSEE"
```

Replace the placeholders (KEY and LICENSEE) with your license key and licensee. For example:

```
SpecRun.exe register --licenseKey KBh8227Ahb9382QAAA=== --issuedTo "ACME Corp."
```

> **Note:** The licensee and license key are case-sensitive!

### 9.2.3 Displaying Your License Details

Start `specflow-plus-license` or `SpecRun.exe` from the [command line](#) with the `about` parameter to display license information, including the licensee and the date on which your upgrade period ends or your license expires.

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## Admin Consent (Azure AD)

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### 10.1 Overview

Please note this guide is for **Azure AD Administrators** only.

Depending on your organization's policy, users may not have the permission to create a SpecFlow account. As an admin you can construct a URL for granting tenant-wide admin consent to your organization's users. This guide is based on [Microsoft's documentation](#).

As per [Microsoft documentation](#) the tenant-wide admin consent URL follows the following format:

```
https://login.microsoftonline.com/{tenant-id}/adminconsent?client_id={client-id}
```

where:

{client-id} is the application's client ID (also known as app ID).

{tenant-id} is your organization's tenant ID or any verified domain name.

SpecFlow's {client-id} is:

```
e3d07a6c-7ef6-48fe-bde7-6d8f0384cc9e
```

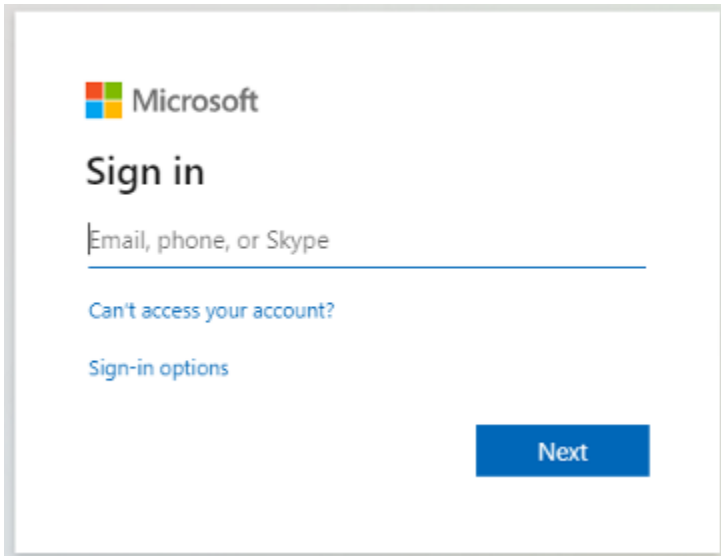
The {tenant-id} is unique to your organizations. [Click here](#) to learn how to find your Azure Active Directory tenant ID.

### 10.2 Example

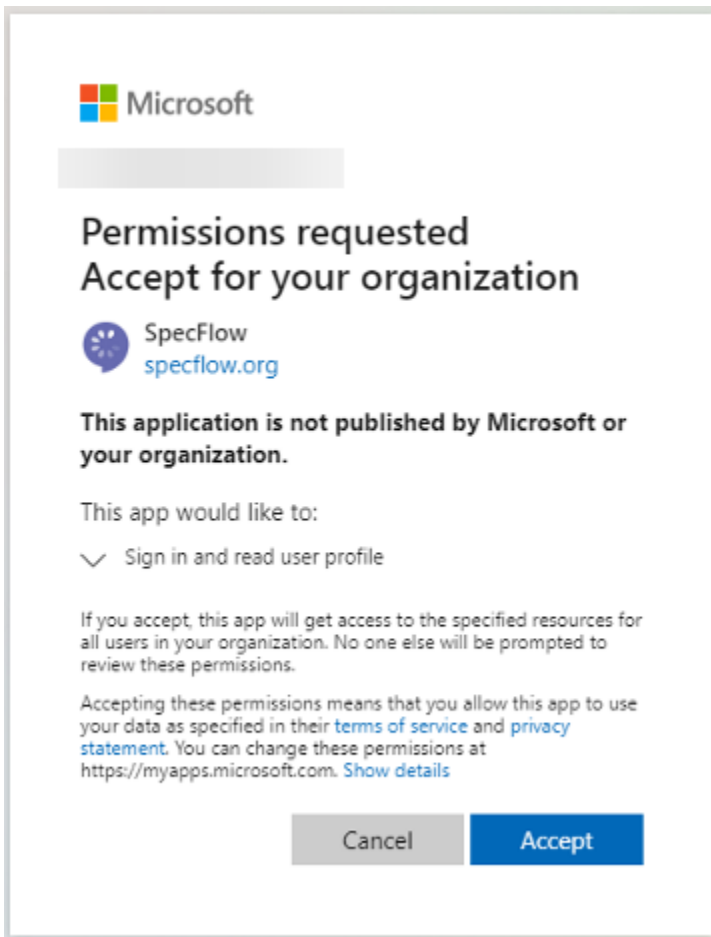
1- Admin constructs the URL as per information provided above and replaces the `tenant-id` in the link with the `tenant-id of the organization` e.g:

```
https://login.microsoftonline.com/{tenant-id}/adminconsent?client_id=e3d07a6c-7ef6-  
↪48fe-bde7-6d8f0384cc9e
```

2- Admin opens the link, and signs in as a user that is authorized to consent on behalf of the organization:



3- Consent is given by the admin for the organization to access the SpecFlow application by clicking "Accept":



4- A "Oh no! :( " message may pop up as per below, this is expected. Close the browser window.

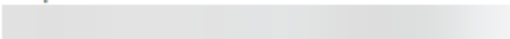
# Oh no! :(

It seems like some problems occurred in the sign-in process.  
Please try again.

Do you need further help?  
Please contact us at [support@specflow.org](mailto:support@specflow.org)






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[Details](#)

Request-ID:  


5- Proceed to the **Enterprise applications** page in Microsoft Azure portal. You will see SpecFlow in the list of your applications. You can view further details here and enable your organization's users to sign in and create SpecFlow accounts:

 Save  Discard  Delete |  Got feedback?

Enabled for users to sign-in? ⓘ	<input checked="" type="radio"/> Yes <input type="radio"/> No
Name ⓘ	SpecFlow
Homepage URL ⓘ	<input type="text" value="https://specflow.org/"/> 
Logo ⓘ	
Application ID ⓘ	<input type="text" value="e3d07a6c-7ef6-48fe-bde7-6d8f0384cc9e"/> 
Object ID ⓘ	<input type="text"/> 
User assignment required? ⓘ	<input type="radio"/> Yes <input checked="" type="radio"/> No
Visible to users? ⓘ	<input checked="" type="radio"/> Yes <input type="radio"/> No
Notes ⓘ	<input type="text"/> 

### 11.1 Now

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#### 11.1.1 In Progress

- Auto-complete for SpecFlow Gherkin editor.
  - Auto-complete suggestions based on existing steps to help you write Gherkin feature files faster and recycle existing steps easier.

#### 11.1.2 Discovery

- Write and edit Gherkin feature files directly from a Git repository.
  - We will enable a way to connect, write, edit and save Gherkin feature files directly from a Git repository without the need of using an IDE.
- Real-time collaboration for Gherkin feature files.
  - We will enable a way to simultaneously write and edit the same Gherkin feature file at the same time together with your team and stakeholder.

### 11.2 Later

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- Write and edit Gherkin feature files directly on a Backlog Item.
    - We will enable a way to write, edit and save your Gherkin feature files directly in the work item details page of Azure DevOps.
-

- Sign-up for your SpecFlow account using GitHub.
  - We will enable the sign-up with GitHub for your SpecFlow account. Register once and get the most out of SpecFlow. Use [SpecFlow+ Runner](#), [SpecFlow+ LivingDoc](#) (only needed for Azure DevOps) and SpecMap completely for free, no license costs.

## 11.3 Shipped

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- Support for .NET 6.
  - We will support the upcoming release of .NET 6 for SpecFlow.
- SpecFlow Gherkin editor assistant.
  - AI assistant helping you keep your Gherkin structure in line with the standards when using the editor.
- Sign-up for the [SpecFlow Gherkin Editor](#) without the need of a Microsoft account.
  - We will enable the sign-up for your SpecFlow account with email and password.
- Draft and [collaborate on Gherkin feature files directly in your browser](#).
  - We will enable a way to [write, edit, save and share Gherkin feature files](#) directly in your browser without the need of using an IDE.
- Working with Bindings and Gherkin Feature Files in [JetBrains Rider](#).
  - We will improve the navigation to and from bindings and will enable the generation of skeleton code including step definition methods from feature files. Here you can download and install the latest version: [SpecFlow for Rider Plugin](#).
- Understanding why certain scenarios or steps fail during test execution.
  - We will enable the output of screenshots for failed scenarios and steps and display them in [SpecFlow+ LivingDoc Generator](#).
- Dark Mode support for the [SpecFlow Gherkin Editor](#).
  - We will enable a way to switch between light and dark theme in order to increase the adoption across Developer and Tester.
- Visual Studio 2022 Extension.
  - We will update our SpecFlow extension in order to support the upcoming release of [Visual Studio 2022](#).

## 11.4 Feature Requests and Feedback

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Help us shape our roadmap by submitting your [feature requests](#) and joining our [inner circle](#).



## CHAPTER 12

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### Frequently Asked Questions

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