

eFLOW Web Stations

Implementation Guide

Version 5.2

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About the eFLOW Web stations

eFLOW Web stations represent the new generation of eFLOW manual stations. They can be accessed via web browsers and do not require client installations. Currently there are three eFLOW web stations.

Since eFLOW web stations are clients of the eFLOW server, they are configured in the eFLOW Visual Designer, like any other station in the application workflow.

Web Validate

Web Validate is the web version of the Validate station.

Web Validate receives data from the Recognize station. The exact data it receives depends on the Visual Designer definitions in the eFLOW Design module, with an emphasis on invalid or unrecognized data. When the user manually types in a letter to correct an unrecognized value, Web Validate automatically suggests alternatives via masks and lookup lists to accelerate the completion process.

You can customize the graphical user interface for each individual form and/or Web Validate station instance.

Web Scan

Web Scan is the web version of the Scan station. It provides the possibility to scan paper documents via a web browser.

You can customize the graphical user interface for each Web Scan station instance.

Web Front Office

The Web Front Office web application combines the functionality of the Validate and Organize stations.

This station is an enhanced version of the Web Validate station. In addition to basic validation, the user can organize forms, scan pages, and so on.

You can customize the graphical user interface for each individual form and/or Web Front Office station instance.

Installation

This section explains how to perform the eFLOW Web station server side installation.

Supported operating systems

eFLOW Web Validate, Web Front Office and Web Scan servers can be installed on any Windows operating system from Windows Vista and later.

See the *eFLOW Specifications* for a full list of supported operating systems.

eFLOW Web clients can run on any Windows operating system from Windows Vista and later.

The following web browsers are supported:

- Internet Explorer
- Google Chrome

Note: Cookies should be enabled in the Chrome browser.

- Firefox
- Opera
- Safari

Note: eFLOW web servers work both on 32-bit and 64-bit machines, but in production environments, we recommend using 64-bit machines only, to ensure the best possible performance. You can still use 32-bit machines for development and testing purposes.

Software prerequisites

Before starting an eFLOW Web station installation, you must check the presence of all the required software prerequisites. You can easily do this using the eFLOW Installation Launcher. See the *eFLOW Installation Guide* for more information on the Installation Launcher.

The following requirements should be met:

- [Full installation of .NET 4 or later](#)
- Required Windows Roles and Features. See the *eFLOW Specifications* for more information.

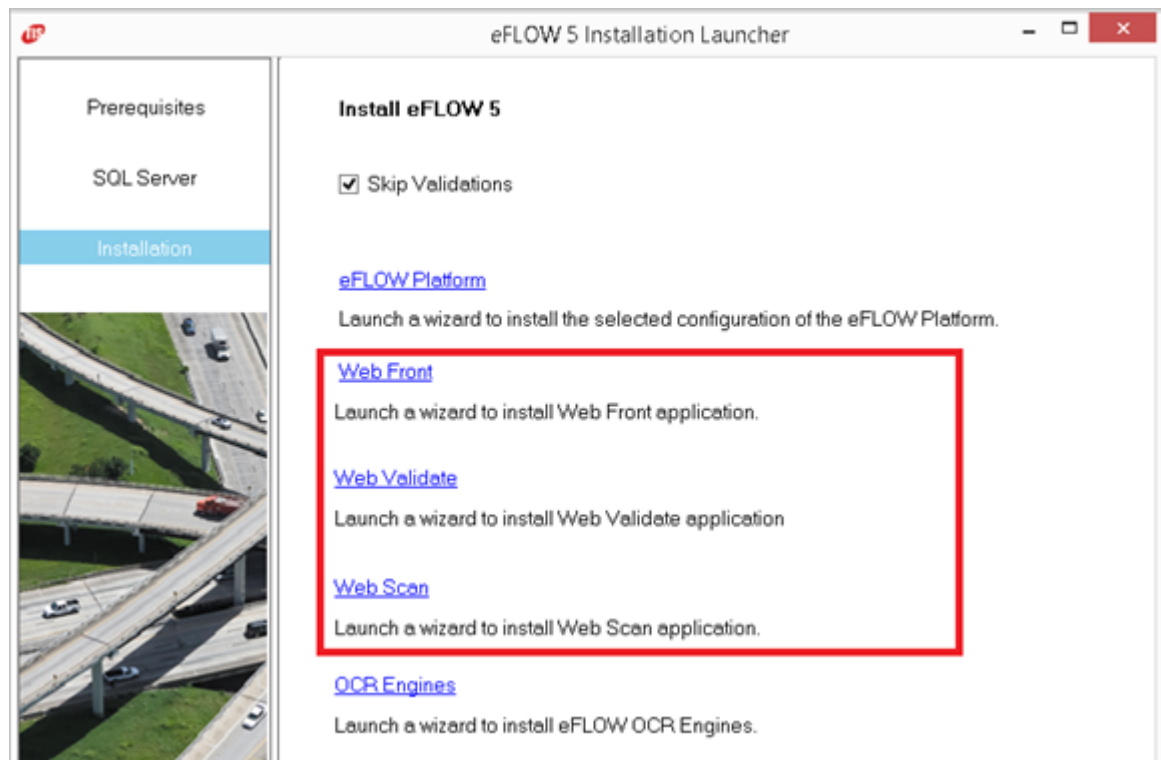
Installation procedure

The eFLOW Web stations are provided as separate installation packages. All eFLOW Web stations setup wizards share the same user interface, so the steps below are relevant for all of them.

We recommend installing the eFLOW Web station servers using the eFLOW Installation Launcher.

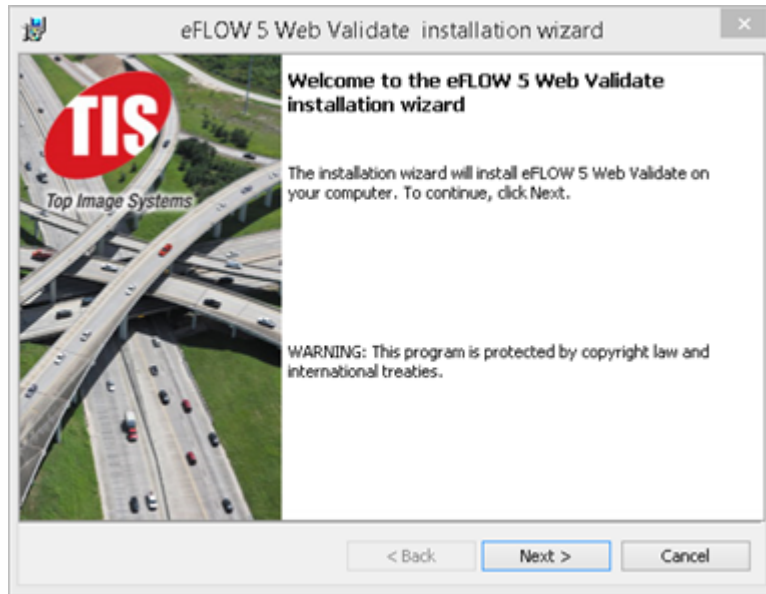
Installation Launcher

1. In the eFLOW installation folder, in the *Installation Launcher* subfolder, run as administrator the *eFLOW Launcher.exe* file.
2. Click on **Prerequisites** and perform the prerequisites check, if necessary.
3. Click on **Installation** and select the eFLOW station type you want to install.



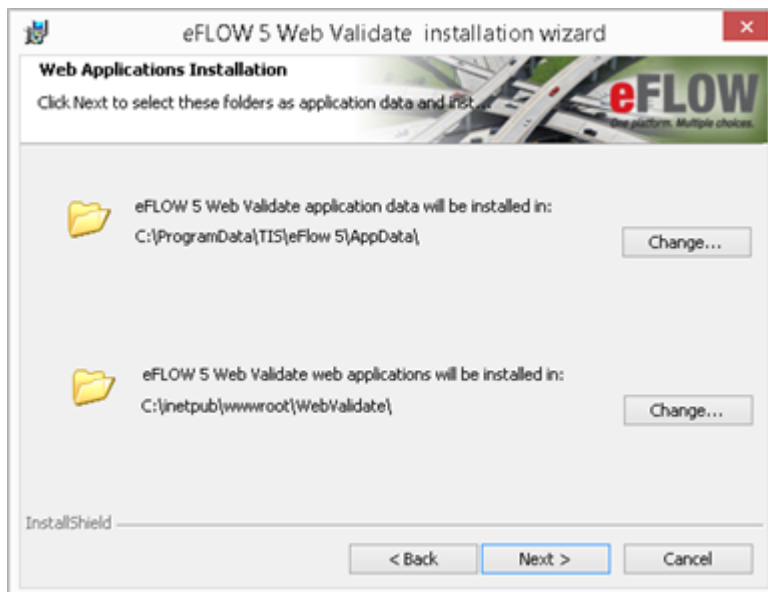
Setup wizard

1. The setup wizard of the selected Web station will appear. Click **Next** to start installing the Web station server.



2. Proceed with the license agreement dialog.
3. Select the installation folders.

Note: Usually TIS web applications are created under the default web site, but of course you can configure them according to project requirements.

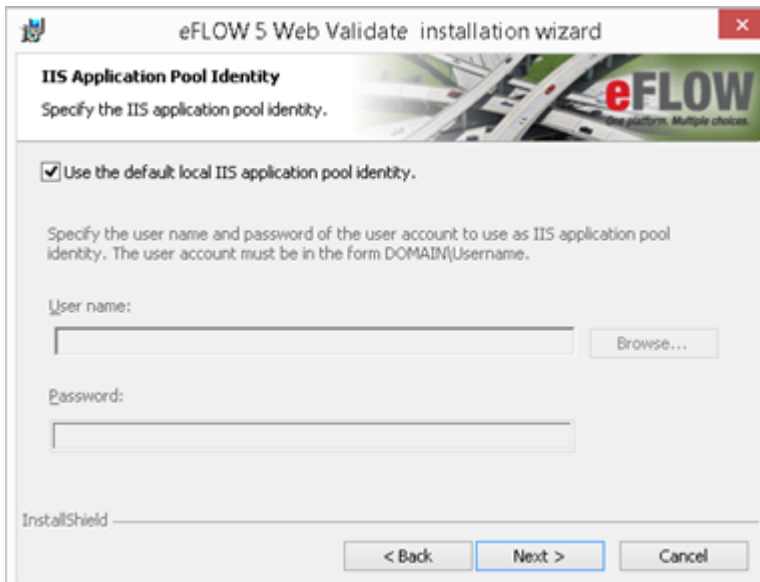


4. Select the eFLOW server name and communication parameters.

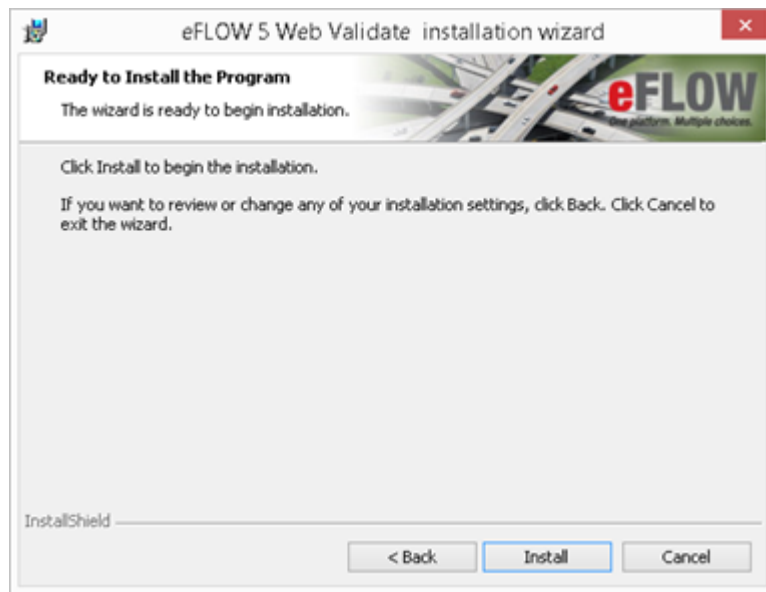
This step is required by any eFLOW client installation, including the Web stations. We recommend using the default communication parameters unless you are absolutely sure that these values need to be changed.



5. Configure the application pool identity. By default, all TIS web application pools are configured to run under the **AppPoolIdentity** created by IIS, but you can select another application pool identity according to project requirements.



6. The next dialog allows you to either return and change the settings or to start the installation.



Configuration

This section describes various aspects of the eFLOW Web stations configuration.

Authentication modes

By default, the eFLOW Web stations are configured to work in Forms Authentication mode. It is also possible to work in Windows Authentication mode. This section describes how to switch between authentication modes.

Important: Regardless of whether the Web station is configured to work in Forms Authentication or Windows Authentication mode, the station user should be defined in the STS. If the TIS default STS is used, the `...AppData\Server\System\Setup\DomainSecurity.xml` file should contain the relevant user definitions. See the *eFLOW Implementation Guide* for more information on STS.

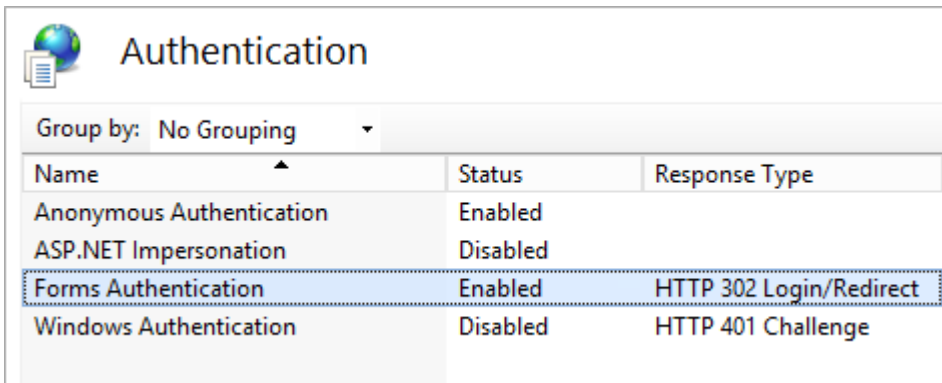
To learn more about IIS 7 authentication, see [Configuring Authentication in IIS 7](#).

Forms Authentication

This is the default eFLOW web applications authentication mode. Authentication is performed by eFLOW internal security mechanisms, and the user is not required to be an Active Directory member.

Note: eFLOW Web stations are fully configured to work with Forms Authentication after the installation. Normally, there is no need for configuration changes if the station user is already defined in STS.

If an eFLOW web application uses Forms Authentication, then Anonymous Authentication should be also enabled. Anonymous Authentication allows visiting of public pages and Forms Authentication is used to hide the pages from those not logged into an eFLOW web application. By setting a *loginUrl* in the *Web.config* file, you are instructing the web application that the login page is OK to visit for anonymous users. If the user tries to visit a page other than the *loginUrl*, they will be redirected to the *loginUrl*.



Name	Status	Response Type
Anonymous Authentication	Enabled	
ASP.NET Impersonation	Disabled	
Forms Authentication	Enabled	HTTP 302 Login/Redirect
Windows Authentication	Disabled	HTTP 401 Challenge

The `<authentication>` section in the station's *Web.config* file should look as follows:

```
<authentication mode="Forms">
  <forms name="valid" loginUrl="~/Management/Login" timeout="2880" />
</forms>
</authentication>
```

Windows Authentication

Windows authentication is used when you want clients to authenticate using the NTLM or Kerberos protocols. To learn more about IIS 7 Windows authentication, see [http://technet.microsoft.com/en-us/library/cc754628\(v=ws.10\).aspx](http://technet.microsoft.com/en-us/library/cc754628(v=ws.10).aspx).

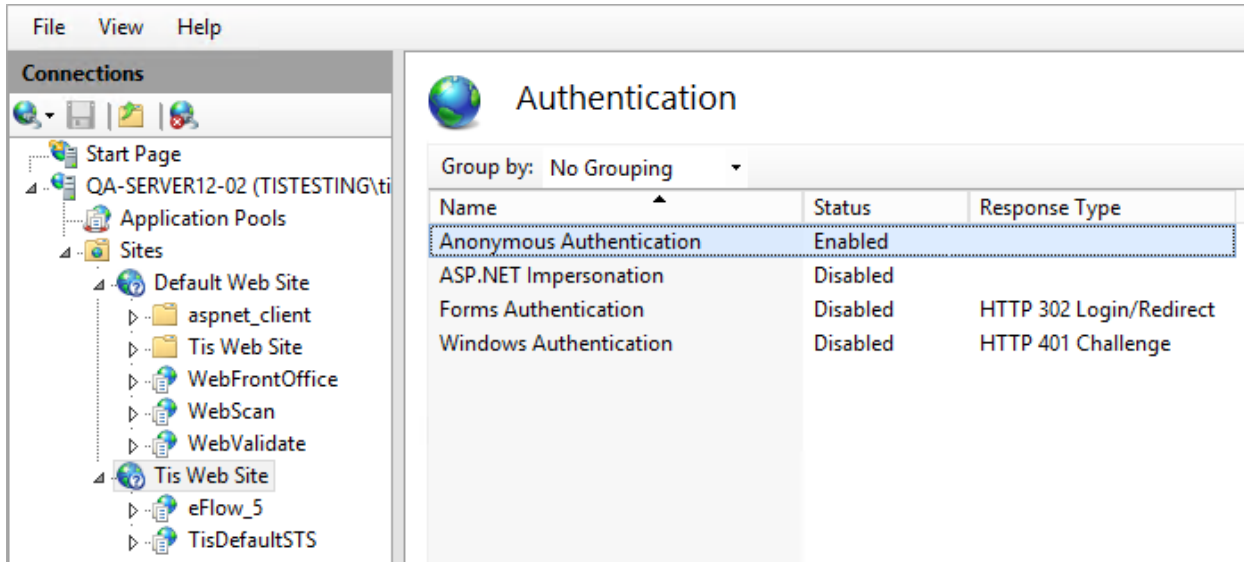
Switching to Windows Authentication mode requires the following changes in configuration files and network settings.

Active Directory Management

- a. Open the eFLOW server machine properties in the Active Directory management tool.
- b. Set **Trust this computer for delegation to any service (Kerberos only)**.

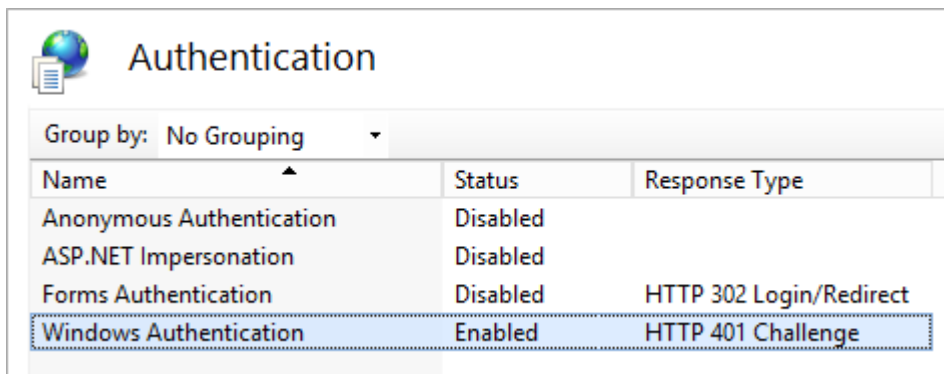
eFLOW Server Authentication

Make sure that **Anonymous Authentication** is enabled for **Tis Web Site**.



eFLOW Web Station Server Authentication

Enable Windows Authentication for the eFLOW web station and disable other authentication types.



The following section will appear in the station's *Web.config* file:

```
<authentication mode="Windows">
```

ClaimsService configuration

Edit the ClaimsService configuration in the *C:\inetpub\wwwroot\[Web Station Name]\bin\ConfigSources\BindingSection.config* file.

Instead of:

```
<bindingConfiguration="ws2007eFlowSts_Windows" >
<identity>
<dns value="localhost" />
</identity>
```

Use:

```
<bindingConfiguration="ws2007eFlowSts_Windows">
<identity><servicePrincipalName value="host/[eFLOW SERVER NAME]" />
</identity>
```

Note: The configuration should contain the eFLOW server name and not its IP address.

Web Station URL

When accessing the eFLOW Web stations from the client browser, the URL should contain the computer name and not the IP address, for example : *http://TIS-QA-777/WebScan*.

Web Validate and Web Front Office setup


eFLOW Web stations are configured in the eFLOW Design module, like any other eFLOW client. This section explains how to configure the eFLOW Web Validate and Web Front Office stations. See the *eFLOW Design User Guide* and the *Layout Designer User Guide* for more information on the Design module.

Important: Both Web Validate and Web Front Office are based on the Validate station type and share the same configuration in Design.


To configure Web Validate or Web Front Office station, follow the procedures below.

Application workflow

To add Web Validate or Web Front Office stations to the application workflow:

1. Open the eFLOW Design module.
2. Click the **Workflow Designer** button .
3. Click the **Manual** tab and add a new Validate station to the workflow, or select the existing one.
4. In the station properties, check the **Enable WEB** check box.

This property differentiates between desktop Validate and Web Validate (or Web Front Office) stations. It must be set to make the station accessible via an Internet browser.

- Click in the **Station Configuration** field, then click the ellipsis  button to open the station configuration.

In addition to the standard Validate configuration properties, the Web Validate and Web Front Office station configuration dialog box contains the **Web Settings** and **Web Commands** tabs.

The **Web Settings** tab contains properties that are relevant for web stations only.

Property	Description
Layout scenario	The name of the selected Web Validate layout scenario.
AutoGetPut	Set this property to True to get the next available collection automatically after saving the current one.
CustomJsFile	The name of the custom JavaScript file attached to Web station. Custom code examples can be found in <code>\Scripts\Customer.js</code> in the Web Validate deployment folder. See Customization for more information.

The **Web Commands** tab contains a list of default commands that are ready for use by typists. You can:

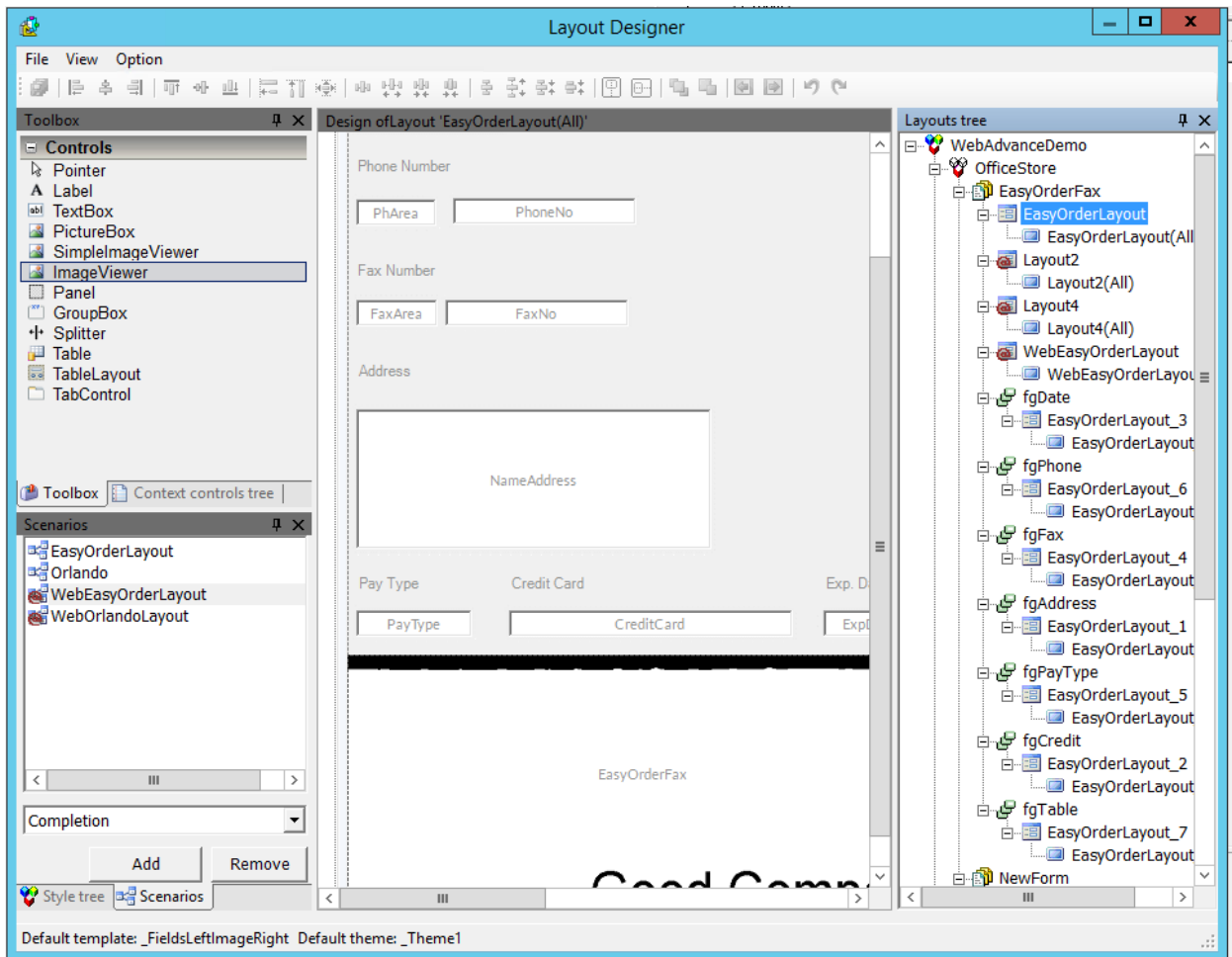
- Add or remove commands from the toolbar.
- Make commands invisible or disable them.
- Change the default command shortcuts.

Web layouts

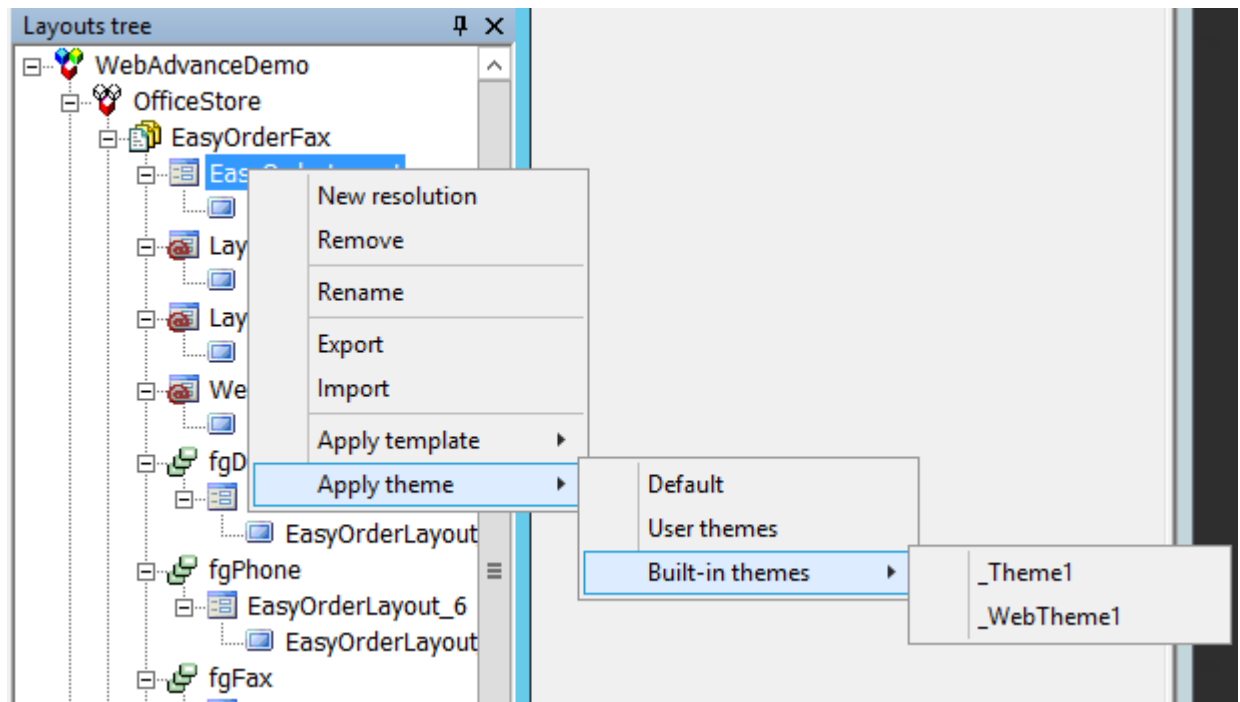
To create a new Web Validate or Web Front Office layout:

- Open the eFLOW Design module.
- If necessary, click the **Application Designer** button . By default, the Application Designer is displayed when you open the eFLOW Design module.

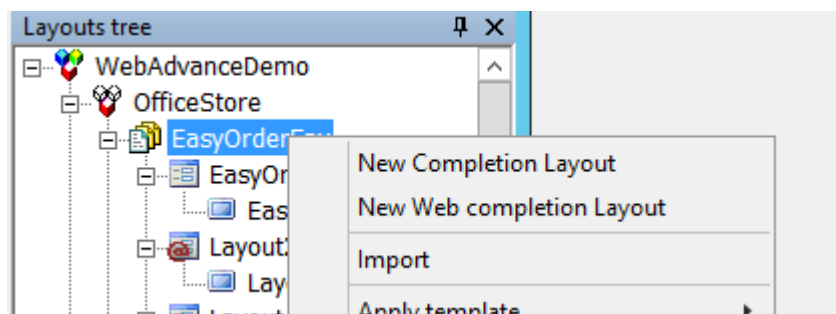
3. In the Application Tree, right-click on the relevant form and select **Edit Screen Layout**.



- In the **Layouts tree** tree, set **_WebTheme1** as the default theme.



- Add a new **Web Completion** layout. This is similar to a standard Validate layout, but in addition you can add multiple tab controls per layout, as well as buttons and check boxes.



- Edit the layout. This layout can be opened both by Web Validate and Web Front Office stations.

Important: It is possible to create different layouts for these stations, but there is no option to block the usage of a layout designed for Web Validate in the Web Front Office station, and vice versa.

- Save the layout.

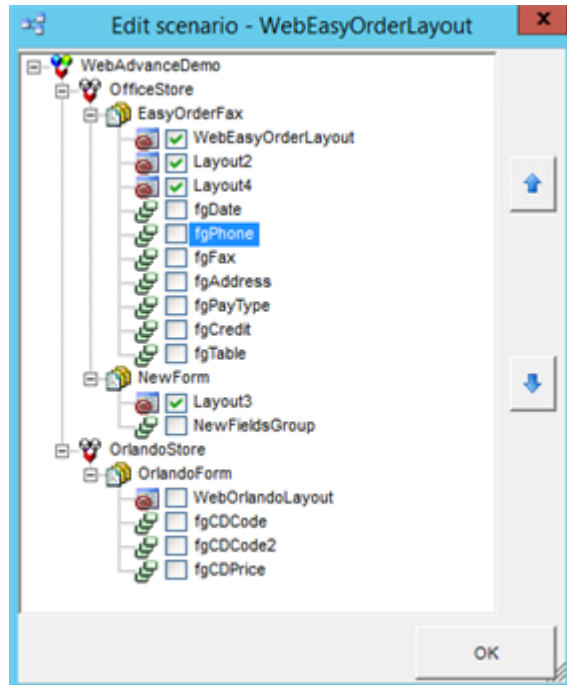
Web layout scenarios

To add a new Web Validate layout to the Web Scenarios:

- In the **Scenarios** pane, in the selection list, select **Web Completion**.
- Click the **Add** button.

3. Add the new **Web Validate** layout to the **Web Completion** scenarios.

Use the arrow buttons to set the order of the layouts.



Web Scan setup


This topic explains how to configure eFLOW Web Scan station.

Note: Since the Web Scan station is the lightweight version of the Scan station, it is not expected to fully duplicate its functionality.


To configure Web Scan, follow the procedures below.

Application workflow

eFLOW Web stations should be configured in Visual Design exactly as any other eFLOW client. To configure the Web Scan station as a part of the application workflow:

1. Open the eFLOW Design module.
2. Click the **Workflow Designer** button .
3. In the **Portal** tab, add a new **Scan** station to the workflow, or select the existing one.
4. Set the **Enable WEB** property to **true**.

This property differentiates between desktop Scan and Web Scan stations. It must be set to make the station accessible via an Internet browser.


- Click in the **Station Configuration** field, then click the ellipsis  button to open the station configuration.

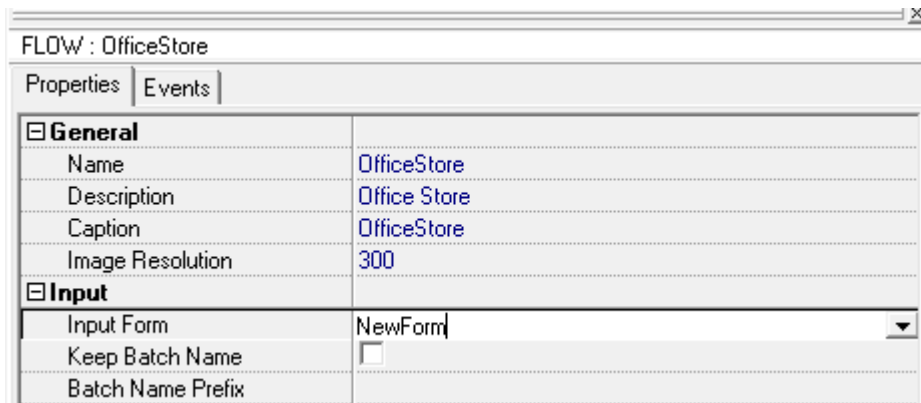
The only property that is used by Web Scan is **Show Input Form Before Batch**. This property defines whether an input form will be shown before or after scanning. By default, the input form is shown before scanning.

Input form

An input form is a virtual form that is filled by the Scan station user and contains generic information about the collection. For example, the input form can contain the name of the scanner, or the date when the document was scanned.

To define an input form:

- Open the eFLOW Design module.
- If necessary, click the **Application Designer** button . By default, the Application Designer is displayed when you open the eFLOW Design module.
- Create a new form and add a new page.
- Create a layout for the new page, but do not attach an EFI.
- In the Application tree, click on the flow.
- In the flow properties, in the **Input Form** field, select the new form from the list.



FLOW : OfficeStore	
Properties Events	
General	
Name	OfficeStore
Description	Office Store
Caption	OfficeStore
Image Resolution	300
Input	
Input Form	NewForm
Keep Batch Name	<input type="checkbox"/>
Batch Name Prefix	

Note: An input form can perform all validations supported by the Validate station, but it does not support JavaScript client-side customization.

Batch and form separation

Web Scan does not apply any batch or form separation settings.

It always creates one-page forms and collections are created when the user decides to send the scanned pages to the scanner.

Customization

The eFLOW Web stations can be customized according to project requirements. You can apply both Web station server side and client side customizations.

eFLOW Web Validate / Web Front Office server side customization

The eFLOW Web Validate / Web Scan stations support server-side customizations similar to any other eFLOW client.

Customization DLLs are saved on the eFLOW server as part of the eFLOW setup and are copied to the Web Station server when required.

Server side customization DLLs should be written in C#.

Customization DLLs should be attached to relevant events in Visual Designer.

The following events are supported:

- OnLogin
- OnLogout
- OnPreGetCollections
- OnPostGetCollections
- OnPreSaveCollections
- OnPostSaveCollections
- OnPreDiscardCollections
- OnPostDiscardCollections
- OnPrePutCollections
- OnPostPutCollections
- OnPreQuery (lookup tables event)
- OnPostQuery (lookup tables event)

eFLOW Web Validate / Web Front Office client side customization

Web client-side customizations must be written in JavaScript. Some knowledge of [Web Technologies](#) is essential for writing client-side custom scripts.

The eFLOW Web stations support several techniques for creating client-side customizations. To select the customization method that suits the requirements of the specific project in the best possible way, read carefully the descriptions of the available customization methods described below.

Single JavaScript customization file



Web station customization based on a single JavaScript customization file is used in simple projects that do not require extensive customizations.

Important: Single file JScript customization will be applied to all eFLOW applications running the relevant eFLOW Web station.

Each eFLOW web application folder has a *Customer.js* file in the *Scripts* folder. This file contains customization samples that can be reused with minor changes.

You can also create a new JScript customization file instead of modifying the existing *Customer.js*.

To apply customizations in the Web Validate / Web Front Office station, follow these steps:

1. Prepare your customization file:
 - a. Make changes in *Customer.js* or create your own JavaScript file.
 - b. Make sure that your customization file is located in the *Scripts* folder in the relevant web application physical location. For example, the Web Validate application is installed by default in `C:\inetpub\wwwroot\WebValidate\`.
2. Add the customization definition to the setup:
 - a. Open the eFLOW Design module.
 - b. Click the **Workflow Designer** button .
 - c. Click in the **Station Configuration** field, then click the ellipsis  button to open the station configuration.
 - d. In the **Web Settings** tab, set the full path to the customization file as a *CustomJsFile* property value.
 - e. Save your changes.

HTML customization file with multiple customization links

Advanced customization can be implemented using another mechanism that allows you to link multiple customization files.

In this case, the customization file in CSHTML format (Razor view file) is created per eFLOW application or station in the folder `\Views\Customer\{ApplicationName}\{StationName}`.

Important: CSHTML customizations will be applied at the application or station level, depending on the location of the file.

You can add any HTML/JS/CSS reference to this file, and it will be a part of the application HTML of the specific station. Below is an example of the *Customer.cshhtml* file that contains links to CSS and JScript files:

```
<!--Adding a new CSS style -->
<link href="@Url.Content("~/Views\Customer\SimpleDemo\ScanPortal\Content\MyCss.css")" rel="stylesheet" type="text/css" />
```

```
<!--Adding a new JScript -->
<script src="@Url.Content("~/Views/Customer/SimpleDemo/ScanPortal/JS/MyJavaScript.js")" type="text/javascript"></script>
```

Troubleshooting

This topic explains how to diagnose and fix common eFLOW Web stations problems.

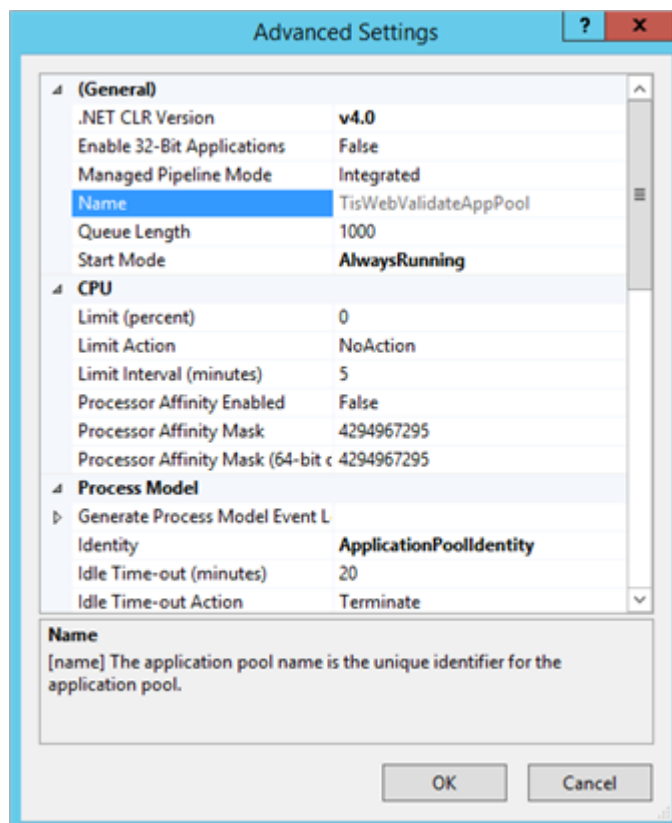
IIS configuration

The Web stations installation creates the relevant web applications and application pools, and defines the required permissions and settings.

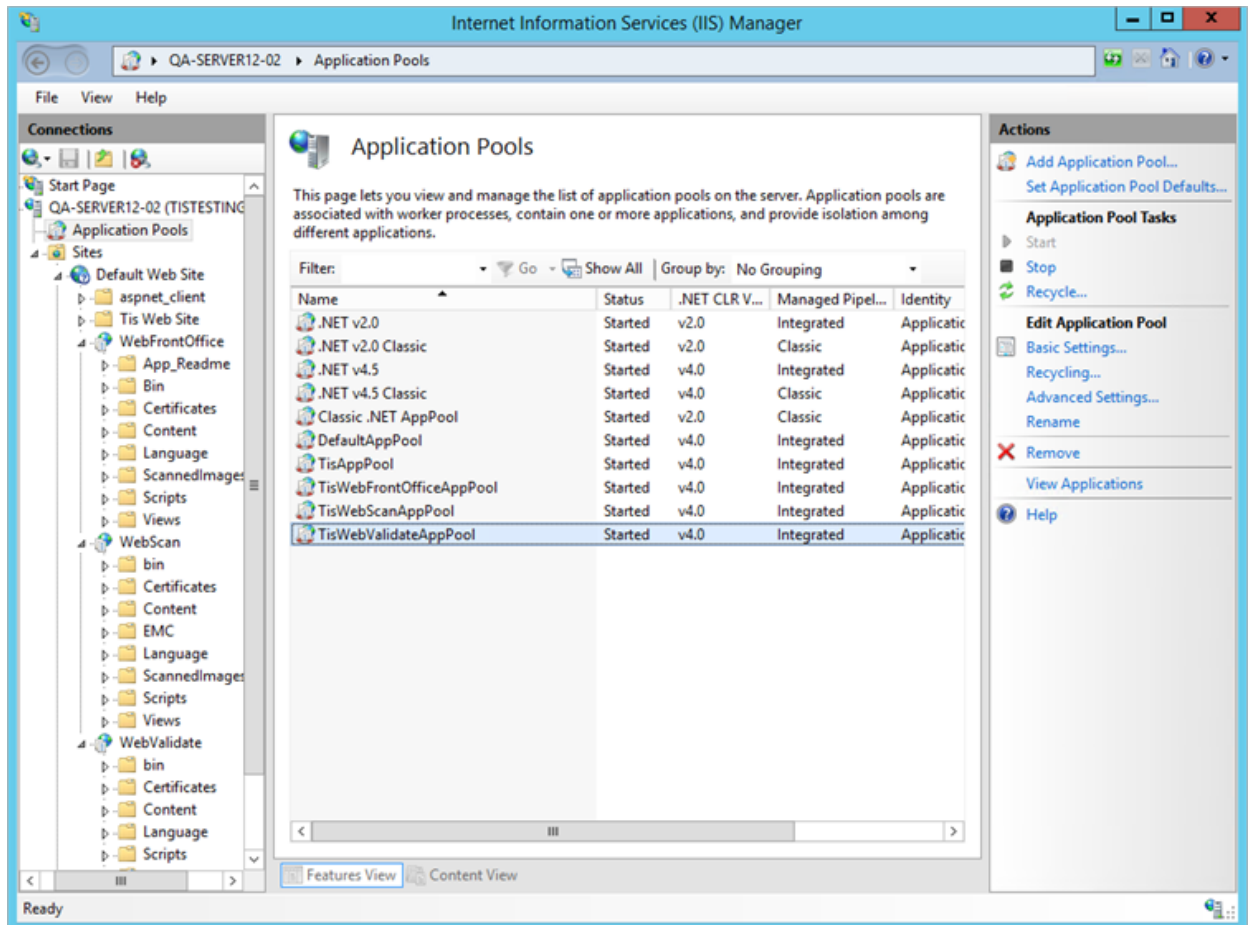
If, for some reason, the server side of one of the eFLOW Web stations does not work as expected, you must make sure that the IIS configuration is correct.

Open the IIS manager and follow the troubleshooting instructions below to pinpoint the problem.

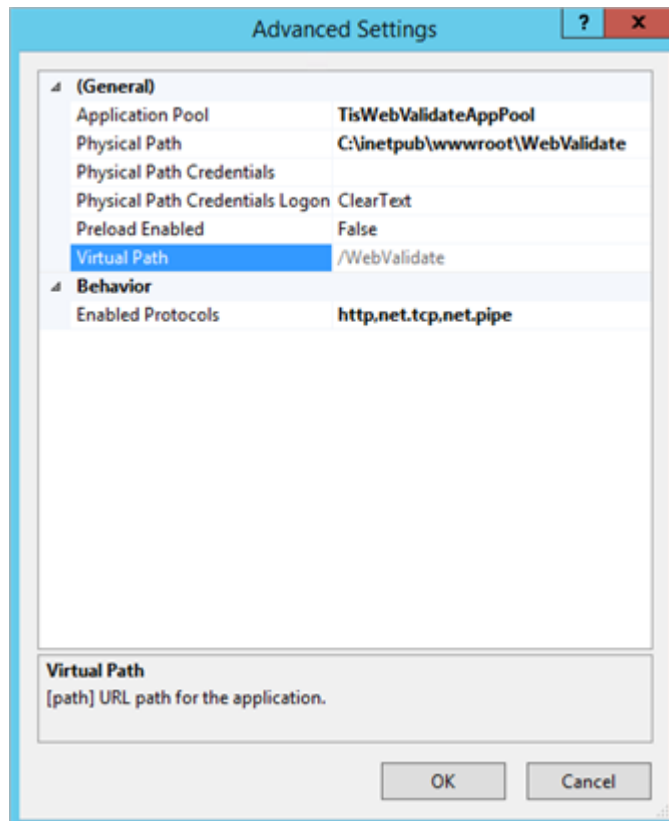
- Check that the relevant application pool is defined properly and running. If the application pool is required to run under the specific user identity, make sure that the *Identity* property is set correctly.



- Check that the relevant eFLOW web application is installed on the server.



- Check the application configuration: select **Application > Manage > Advanced Settings**. Each eFLOW web application should be connected to its own application pool.



Firefox browser settings

When using Windows authentication, the Firefox browser may sometimes return the message *You are not authorized to login*

In this case, you must change the Firefox preferences to allow NTLM automatic authentication, as described here:

<http://superuser.com/questions/664656/how-to-configure-firefox-for-ntlm-ss0-single-sign-on>.