



How to Start Development

In this lesson we will explain how to prepare the computer for development of Plugins. We will focus on Plugins for integration of external systems, which are the most difficult ones.

Preparation of computer for Plugin development consists of several steps. The first one is installation of local C4 System, in which the Plugins will be developed and tested.

After installation of local C4 System, a developer needs to create his own account, with permissions at least at the level of an engineer. Based on the name and password created for this account, it must be possible to identify activities of the particular Driver within the C4 System.

The next step in case of Plugins integrating external systems is to acquire at least a demo set of an external system. It's needed for development and testing of implemented functions ensuring communication.

This demo set needs to be requested from the external system manufacturer. They should also provide you with all the necessary permissions for integration, for example an official approval of integration. Some manufacturers also require signing an NDA for protection of sensitive product information, or using an official developer support package in the form of SDK.

Once you have all necessary permissions, you can activate, configure and prepare the demo set for integration to the C4 System.

Gamanet developed applications, which emulate external systems and serve as virtual Demo Devices for development of Demo Drivers. They are used for illustration purposes in training videos and developers can use them for better understanding of development process.

These applications are available for download on my.c4portal.com/downloads, section "Tools".

Download and install the Demo Device application. Set up the required parameters such as language or installation directory. Once the installation is completed, Demo Device is ready to be used for testing a Demo Driver.



Installed Demo Device application contains a complete Visual Studio project with source codes for Demo Driver for the particular Demo Device. In the next lessons we will learn how to develop such Driver.

The next step is setting up the development environment. Plugins for the C4 System are developed in Visual Studio (2022 version or newer).

Support libraries and SDKs developed by Gamanet are located on Gamanet NuGet server (*nugets.C4portal.com*). It is available to all developers for free. A developer must register the NuGet server to Visual Studio, in order to be able to reach and use the libraries and SDKs for development.

After registration, Visual Studio is ready for development of Plugins for the C4 System.

The last step is installation of Developer Console.

As we already know from the previous lessons, there are several types of Plugins hosted by different parts of the C4 System. That's why Gamanet developed an application called Developer Console. It provides unified development environment for all types of Plugins. It serves as a host for the Plugins during their development and it is the only place where it's possible to run and test Plugins without licensing.

Developer Console installation package can be downloaded from your local installation of the C4 Server. If you want to open the website from other computers, enter the IP address of your C4 Server into the Internet browser.

After specifying all the necessary parameters for installation, such as language or installation folder, setup will install the Developer Console.

By default, Developer Console is installed to folder *Program Files\Gamanet\C4 Plugin Developer*.

C4 System allows Plugins to run in different platforms (32 bit or 64 bit) and engines (.NET Framework or .NET Core). Therefore, Developer Console is installed in four versions. All of them use the same *gamanet.config* file.

A developer chooses the version he will use for development of his Plugin according to the API provided for the external system. If the external system doesn't require a specific version of the .NET library, Gamanet recommends to



use .NET Core. This version provides greatest variability for deployment of the Driver by customers.

When launching the Developer Console for the first time, a developer needs to enter his login details, and the console will be logged in to the local C4 Server.

Successfully installed Developer Console can be found in the Agents tab within the C4 Client.

Once the Developer Console is installed, the computer is ready for development of Plugins.