



DyVisual
Dynamic Visualization and Interaction



Installation and Administration Guide

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Introduction

This document provides administrative information about the specific enabler (SE) DyVisual which was developed in the context of the FITMAN project. The document describes the installation procedures for the setup of DyVisual as well as for the prototypical implementations of the FITMAN use cases in which DyVisual was deployed.

1. Software License

DyVisual builds on the FI-WARE¹ generic enabler (GE) XML3D² and FiVES³, which is DFKI's implementation of the synchronization⁴ GE. DyVisual therefore inherits the license restrictions from XML3D and FiVES.

The additional code for the prototype implementations and the generic applications of DyVisual is provided subject to terms of the GNU LGPL v3 license. Please refer to the LICENSE file for more information.

All third-party libraries come with their own licenses. Details about third party licenses are given in the Readme file in the third party folder, and on the project webpages of the different projects.

2. Installing the Software

2.1. System Requirements

Operating system: Windows 8, 8.1, 10

Standard PC system where performance is better if graphics card and CPU are performant.

XML3D and FiVES can be deployed in a Linux environment. However, DyVisual was developed and tested in a Windows environment only.

2.2. Download

The sources for the TRW and Whirlpool prototype implementations are available from: <http://sourceforge.net/projects/dyvisual/>

2.3. Installation and Configuration

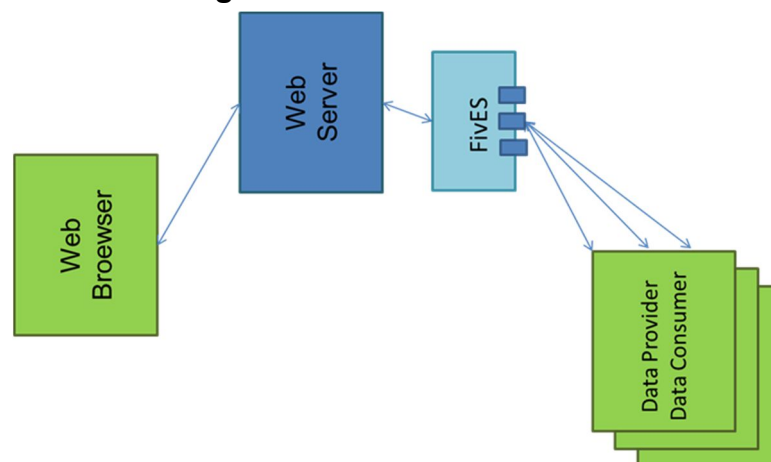


Figure 1: Basic set-up for DyVisual applications

¹ <https://www.fiware.org/>

² <http://catalogue.fiware.org/enablers/3d-ui-xml3d>

³ <https://github.com/fives-team/fives>

⁴ <http://catalogue.fiware.org/enablers/synchronization>

Figure 1 shows the basic set-up for DyVisual applications. Regarding the Web browser and server any reasonable choice is possible (except Microsoft Internet Explorer™ for the Web browser. However, for development and testing of DyVisual Google Chrome⁵ and Tomcat⁶ (we recommend version 8.0) were used for the Web browser and server, respectively. Installation of Google Chrome and Tomcat is straightforward.

For Google Chrome you need to download the installation exe and execute it on your Windows machine.

Regarding Tomcat you download the zip archive and extract it to a directory that is not too deeply nested in the directory structure (for path length restrictions in Windows). If you do not already have it you also need to install at least a Java™⁷ runtime environment. After you installed Java you need to set the environment variables JAVA_HOME and JRE_HOME accordingly. You do this in the advanced setting of “System” in the Windows control panel. For the installation of FiVES it is easiest to download the zip-file with binaries from the FiVES administration pages^{8,9} and unzip it on your local machine in a folder that is not too deeply nested in the file system. In the folder which is named after the release of FiVES, you find the folder WebClient. Copy this folder to the webapps folder in the folder of the tomcat server.

When you are finished with the download and install so far, you can start the basic setup of DyVisual. You should start Tomcat using the start.bat file in the bin folder of Tomcat. Then you start FiVES using FiVES\FiVES.exe. When the server is up it displays a command line prompt.

You are now set for doing the sanity check or run the prototype apps.

If you want to use DyVisual for different applications, you need dig deeper into how to do application development with FiVES and XML3D. You can find lots of documentation about how to do that on the respective home pages of XML3D and FiVES.

2.4. Sanity Check

2.4.1. Google Chrome

Visit your favorite Web site.

2.4.2. Tomcat

Start Tomcat by using the start.bat batch procedure. Open Google Chrome and visit “localhost:8080” (without quotes).

2.4.3. FiVES

Start Tomcat and after that start FiVES. Open Google Chrome and navigate to “localhost:8080/WebClient/client.xml” (without quotes)

3. Administration Procedures

System administrator privileges are required for the installation of Google Chrome, Tomcat, and Java. FiVES can be installed on a user account and if the install was done from the zip archive no special privileges should be needed. However, if a user compiles his or her own FiVES binaries administrator privileges are necessary to run the resulting binary.

In principle it is possible to run several instances of DyVisual on the same machine but the configuration of each instances has to be carefully specified because of port numbers which

⁵ <https://www.google.de/chrome/browser/desktop/>

⁶ <http://tomcat.apache.org/>

⁷ <https://www.java.com/en/>

⁸ https://forge.fiware.org/plugins/mediawiki/wiki/fiware/index.php/FiVES_-_Installation_and_Administration_Guide

⁹ <https://forge.fiware.org/frs/download.php/1632/fives-fiware-4.3.zip>

are used by the Web and FiVES server. However, in the development of DyVisual such setting have not been tested and are therefore out of scope for this document. If you want to access a FiVES application which is connected to a remote Web server, you need to modify the file kiara/fives.json in the Web client which you are using. In this file you need to replace “localhost” by “IP-Address-of-Server” where IP-Address-of-Server of course means that you enter the IP address of the server on which the Web server is running.

