SWARCO

OMNIA

Installation Guide

The Better Way. Every Day.

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CONTENT

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ABOUT THIS DOCUMENT

Objectives

This document describes the OMNIA installation.

This document can be used for any OMNIA installation.

Document Properties

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Versions

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01	18-05-2017	First version	Fabio D'Aprile, Antonella Barletta
02	12-02-2018	Various updates	Antonella Barletta
03	14-03-2018	Pre-updating sanatorium and revisions	Antonella Barletta
04	16-04-2018	Minor updates	Antonella Barletta
05	11-05-2018	Section of creation db user and Omnia Server 1001 error	Antonella Barletta
06	23-05-2018	Section OmniaConfigManager.exe	Antonella Barletta
07	14-06-2018	Various updates	Antonella Barletta
08	04-07-2018	Third party and WCM Service changes	Antonella Barletta
09	10-09-2018	Minor updates	Antonella Barletta
10	27-09-2018	Minor updates	Antonella Barletta
11	09-11-2018	Updates on OmniaConfigManager tool	Antonella Barletta
12	15-05-2019	New template and minor changes	Antonella Barletta, Giuseppe Caramazza
13	19-09-2019	Adding of new third parties: .NET 4.8 and .NET Core 2.2 and new Microservices component	Antonella Barletta
14	18-12-2019	General database installation: Omnia, Mistic and Core db	Antonella Barletta
15	06-11-2020	OmniaServer changes	Antonella Barletta

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16	23-12-2020	New microservices packages added	Antonella Barletta
17	02-03-2021	Minor updates	Antonella Barletta
18	22-04-2021	Minor changes	Antonella Barletta

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Definitions

DB	Database
DBMS	Data Base Management System
DOS	Disk Operating System
DSN	Data Source Name
DTD	Document Type Definition
ESS	Environment Sensors System
FEP	Front End Processor
HW	Hardware
LAN	Local Area Network
LU	Logical Unit
MISTIC	Mizar Software for Traffic Information Centre
MIZAR	MIZAR Automazione S.R.L.
MoM	Minutes of Meeting
MS	Microsoft®
MS SQL	Microsoft SQL Server™
OCX	OLE Control eXtension
ODBC	Open Database Connectivity
OLE	Object Linking and Embedding
OSI	Open Systems Interconnection
RMC	Road Management Centre
SQL	Structured Query Language
SRT	Short Receive Telegram
SW	Software
TCP	Transmission Control Protocol
TSS	Transport Sensors System
UAC	User Account Control
UDP	User Datagram Protocol
UI	User Interface
URL	Uniform Resource Locator
VMS	Variable Message Sign
WCM	Web Connection Manager
XML	eXtensible Markup Language

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Introduction

This guide intends to aid technicians involved with the installation or update of OMNIA.

The installation phases are described in this document in three main chapters which refer to three different installation scenarios:

- A brand new installation
- Update OMNIA installed using setup packages
- Update OMNIA previously installed manually

Refer to the specific section of the document according to your needs.

In this document you can find also reference to Omnia with “Microservices Architecture". It is a type of installation that involves a different system architecture, but it is out of scope of this guide.

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Technologies used and compatibility

OMNIA can be installed on physical or virtual servers equipped with Microsoft Windows Server 2008 R2 / 2012 / 2012 R2 / 2016.

It is fully compatible with 64-bit operating systems.

OMNIA system databases are based on the relation database Microsoft SQL Server. Versions 2012 / 2014 / 2016 of Microsoft SQL server are supported.

The business engines for the OMNIA were implemented using Microsoft Visual Studio 2010 / 2015.
They stand over the .NET Framework 4.0 and extensions.

These engines also use an "Open Database Connectivity" (ODBC) fully supported by “SQL Server”.

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1 OMNIA Environment

According to the specific system requirements, OMNIA can be installed in different approaches.

The two most common use cases described in this guide are:

- A distributed installation over multiple server
- A “stand alone” installation over a single server

1.1 Distributed installation over multiple servers

A typical distributed installation requires the following three servers (physical or virtual):

- Database Server
- Applications Server
- Web Server

The following names are suggested for the servers mentioned above:

Server	Default Name
Database Server	OMN-DBS-SRV
Applications Server	OMN-APP-SRV
Web Server	OMN-WEB-SRV

The use of these names is not mandatory since the setup packages allow using different names; it does not affect the installation process.

It is strongly advised, however, the use of the given default names in order to establish a standard installation procedure that aims to provide an answer to all possible questions that may arise during the installation process.

In case of requiring this type of installation, please refer to the specific note regarding the applicability of this particular case in the following chapters.

1.2 Single server installation

A single server installation means that the three main components of OMNIA: Database, Applications and Web components; will be installed onto one single server.

Follow the installation steps described in the following chapters concerning this case.

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2 OMNIA Installation Prerequisites

2.1 Operating System

OMNIA supports the operating system Microsoft Server 2008 R2 / 2012 / 2012 R2 / 2016.

The physical or virtual machines that make up the environment must have previously installed the above operating systems. Then, a user with ***full administrator rights*** must be allocated on all the machines and network disks required. This User shall be used during the installation process of the Platform.

Windows 2012 operating systems:
The user must be Administrator and not belong to the group; otherwise, if the user belongs to the group, the UAC (User Account Control) must be disabled from the policy manager.

In order to disable the UAC from the policy manager, the policy of active directory must be changed.

Use Case: For all Environment Variations
You must assign the suitable roles available to the servers according to the windows platforms in order to carry out the tasks of Database Server, Application Server and Web Server.

2.2 Third party packages

The kernel applications of OMNIA use some libraries created by third parties.
These packages are available from the SWARCO Mizar Download Center and are distributed to simplify the installation of the Omnia on the machines that comprise the environment:

1. IIS
2. Microsoft .Net Framework
3. ASP.NET MVC 4 for Visual Studio 2010 SP1 and Visual Web Developer 2010 SP1
4. .NET Core 3.1
5. Postgresql 11.5 ✋ **Only in case of Omnia with “Microservices Architecture"**

Apps and Web machines must have previously installed the **Microsoft.NET** Framework versions **4.0** or higher **before installing setup components**.
It is a standard component of the Windows operating system and the above version can be retrieved and installed through the Omnia Installer program from the SWARCO Download Center (Mizar Release server) or directly downloaded from Official Microsoft Download Centre using the provided links https://www.microsoft.com/en-us/download/details.aspx?id=42642; however it is necessary to refer to the Microsoft website in order to download updates and / or language support.

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Also important for web server installation is **Microsoft Internet Information Services (IIS)**, a standard component of the Windows operating system.
Please refer to the Microsoft official Support centre for information regarding the installation of the Microsoft Framework and related software.

For new functionalities in case of Omnia with “Microservices Architecture" you have to install on the system Postgresql 11.5.

2.3 Network Configuration

Use Case: Single server installation

Since there is only one system server, then the only concern would be to give a primary valid IPV4 IP address to the machine.

Use Case: Distributed installation over multiple servers

As mentioned before, the system is installed over three servers:

Server	Default Name
Database Server	OMN-DBS-SRV
Applications Server	OMN-APP-SRV
Web Server	OMN-WEB-SRV

The above names are only suggestions as the installation packages allow to define different names as it has been previously stated into this guide.

Allocate to every machine a valid IPV4 primary address.

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2.4 Database Server prerequisites

This manual does not cover how to install Microsoft SQL Server. Please refer to the official Microsoft support centre for information about it. This chapter only covers the features necessary in order to install Omnia.

Use Case: dedicated Database server machine or unique system server

Install Microsoft SQL Server 2008 R2 or higher in English with all the features available either on a dedicated server (distributed installation) or on the unique system server (single server installation).

It is suggested to install SQL Server with “named instance" under the name "**SQLOMNIA01**".

The database instance name is required throughout the setup of a MS SQL Server authentication; this is the instance name given to the TCP / IP port. The name of the database can contain a maximum of 128 characters.

By default, the name of the instance is "**MSSQLSERVER**" (non-express edition) or "**SQLEXPRESS**" (express edition). This has to be changed to "**SQLOMNIA01**".

In MS SQL Server in order to install OMNIA databases you have to use an user “db_owner” roles. For example:

Login: *omniauser*
Password: *omnia123*

If you don’t have a dedicated machine, it needs to use an administrator database user.

2.4.1 Server name and engine instance name

Default names have been suggested for the default SQL Server instance. Although these are only suggestions and should not represent a constraint; there is however, a restriction between the instance name and the name of the Database Server machine.

Restriction: Both names cannot be contained one inside the other.
For example:

	No ✗	**No** ✗	**Yes** ✓
Server Name	DBOMNIA	SQLOMNIA_PC	OMNIASERVER
SQL Server Name	SQLDBOMNIA	SQLOMNIA	SQLOMNIA01

For the server machine the suggested name is: “OMN-DBS-SRV”.
For the SQL instance the suggested name is: “SQLOMNIA01”.

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Special Use Case: Multiple instances of Omnia with a unique Database Server

In case of having to install multiple instances of SQL Server on the same server; it is suggested to use the names: “SQLOMNIA01”, “SQLOMNIA02”, and so on.

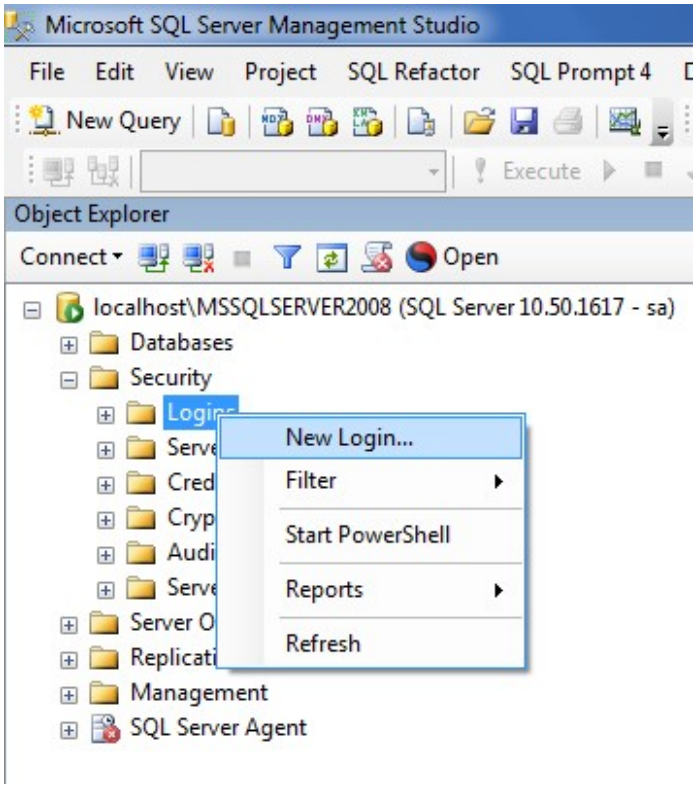
2.4.2 Setting up the SQL administrator user “omniauser”

In order to set up a new user, open “Microsoft SQL Management Studio” on the database server machine and follow these steps:

1. Connect to the server using <server name>\<instance name>
2. Right click over the directory “Security\Logins” and select “New Login”
3. From the left-hand side menu, click on the page “General” and enter “omniauser” as Login name followed by a password.
4. From the left-hand side menu, click on the page “Server Roles” to provide the permissions necessary for the new user (select “dbcreator”, “public”, “sysadmin”).
5. From the left-hand side menu, click on the page “User Mapping” to manage the relationship between the user and the databases. Map out the databases “master”, “model”, “msdb”, “tempdb” with the roles “db_owner” and “public”.

The following images show the steps described above.

Add the user “omniauser”:



Enter the username and password (Eg. “omniauser” and “omnia123”) respectively; and remove the option about “Enforcing password policy” from the checkbox:

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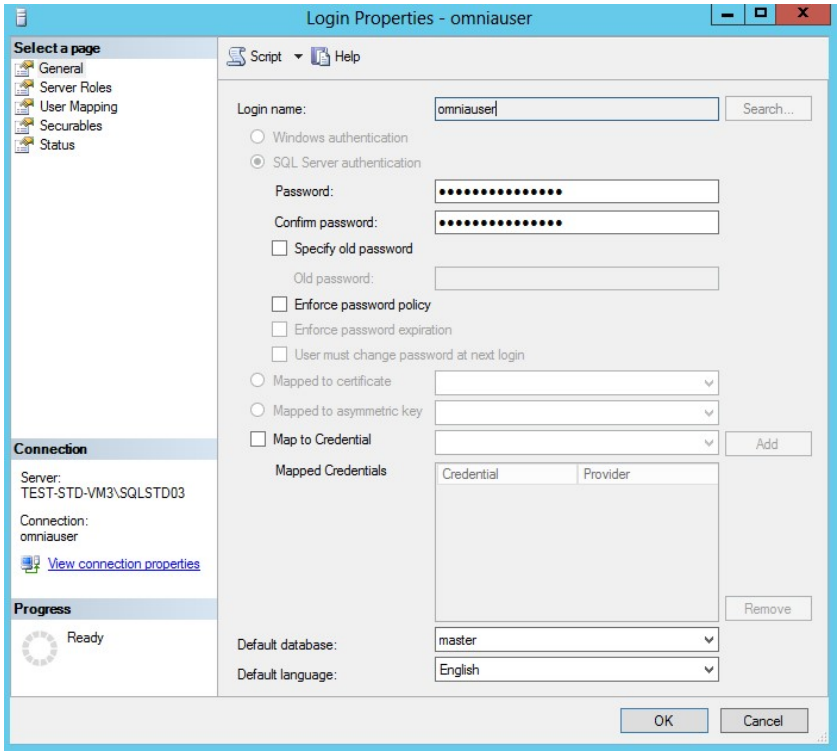
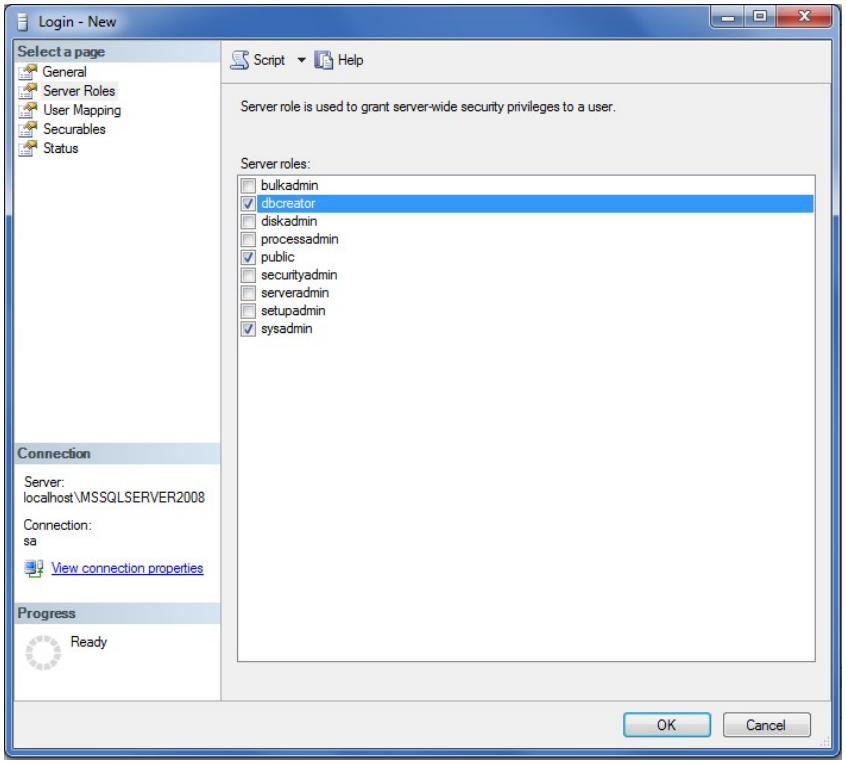


Allocate the roles on the server (“dbcreator”, “public”, and “sysadmin”):



Map out the user to the system databases (“master”, “model”, “msdb”, “tempdb”) and the roles “public” e “db_owner”:

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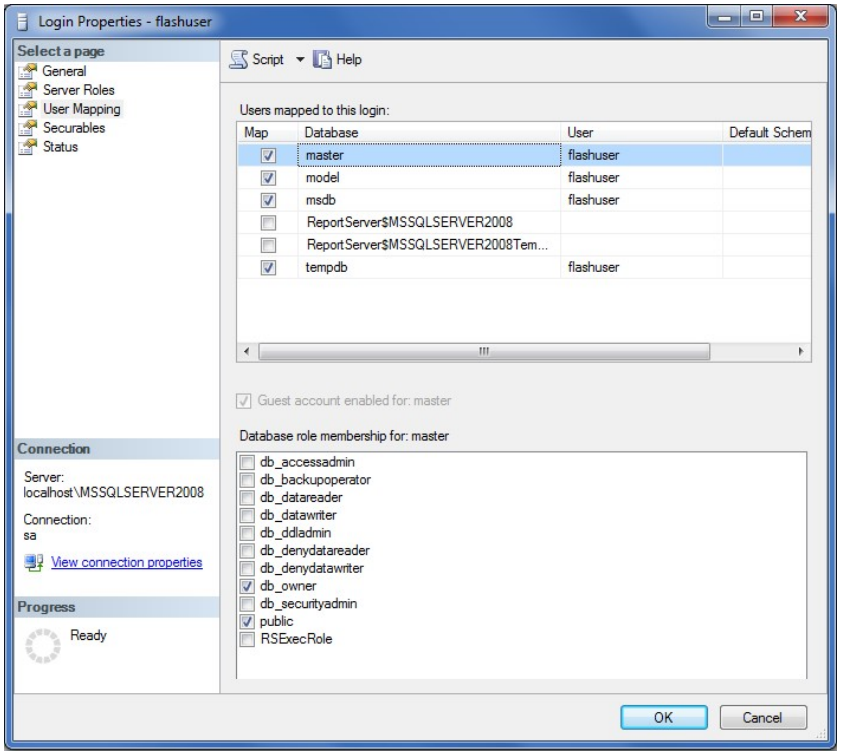

2.5 Omnia Application Server prerequisites

Use Case: dedicated Application Server machine or unique system server

The Server machine where the Omnia applications package is to be installed must be supplied with a physical disk for example identified with the letter "*C:*\" which is not compulsory but strongly advised. In this case the Omnia applications are installed into the directory *C:* \ *Omnia* \ *Apps.*

In case of setting up a distributed installation and in case of having the availability of a NAS, it is advised to make so, that all machines that are part of the system environment, point out to the disk "*C:*\" where the Omnia applications are.

The user in charge of setting up all machines of the Platform must have full Administration rights on the disks and computers involved.

This manual is not a reference to the Windows Operating System Guide. Please refer to the Microsoft official guide for information about disk configuration and use.

2.6 Omnia Web Server prerequisites

In order to install Omnia Web Server components, check the space available on Omnia Server Disks.

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Use Case: dedicated Web Server machine or single system server

The web server computer must be supplied with Internet Information Services (IIS) version 7 or higher.

Internet Information Services (IIS) is a standard component of the Windows operating system. Setup files (where needed) are available directly in the operating system disk.

Please make sure that ***all*** of the IIS features needed are installed since a Standard IIS installation will not contain all the features required by Omnia Web (refer to the specific chapter for the selection of them, section 6.3.3).

The web server engine can be customized by adding or removing modules. Integrate pipeline processing of IIS and ASP.NET. Please refer to the guide chapters for the correct configuration.

Use Case: Specific Web Server machine **with** disk C:\ within an array of shared hard disks (NAS) amongst Database/Application/Web Server or Single System Server installation

The Omnia web components are installed into the directory *C:* \ *Omnia* \ *Web*, the web commons components directly in the *C:* \ *Omnia* directory.

It is not compulsory but strongly advised to install these components into the drive *"C:* *"*, particularly for this use case.

Use Case: Specific Web Server machine **without** a disk unit C:\ into an array of hard disks and the drive C:\ is shared amongst Database/Application/Web Server

Omnia Web components are installed in the directory *<drive>:*\ *Omnia* \ *Web* \, the web commons components directly in the *<drive>:*\ *Omnia* directory.

The chapter dedicated to the installation of web and web commons components of this guide describes how to set up the above installation directory.

2.6.1 Automatic actions carried out by the Installation package

In addition to the creation of the system environment and installing web and web commons components (directory and Web applications) the installation package performs the following actions:

1. Creates an Application pool in IIS named "AP – Omnia Web"
2. Creates an Application pool in IIS named "AP – Omnia Web Commons"

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3 New Installation

This type of installation applies to systems that do not have any components of Omnia installed; that is on servers that only comply with the Microsoft packages required:

1. Microsoft SQL Server
2. Microsoft Internet Information Services (IIS)

It is out of the scope of this guide to describe the installation process of the above packages. Please refer to the official Microsoft support centre for information on how to install any of the above software components.

These programs must be previously installed and must be working properly before installing OMNIA.

3.1 STEP 1 – Download Setup Packages

Use Case: Single server installations

The "STEP 1 - Download Setup Packages" must be applied on the server where Omnia is to be installed.

Use case: Distributed installations

The "STEP 1 - Download Setup Packages" must be repeated on each server that takes part of the distributed environment.

Special Use Case: Isolated Server or Server not connected to Internet
Download the packages on a computer connected to the network and then copy all the downloaded content from the folder *C:* \ *InstallOmnia* onto the destination server into another folder called *C:*\ *InstallOmnia*.

Make sure that all the downloaded content was fully copied into the destination folder C:\InstallOmnia of the appointed server.

Preliminary Actions before downloading the Setup packages

Create the “InstallOmnia” folder on the C: \ drive of your server (C: \ InstallOmnia)

From the Browser of your choice, go to the SWARCO Mizar Download Center page: http://products.miz.it/DownloadCenter/OmniaPackages/lastrev.html as it is shown in the following screenshot:

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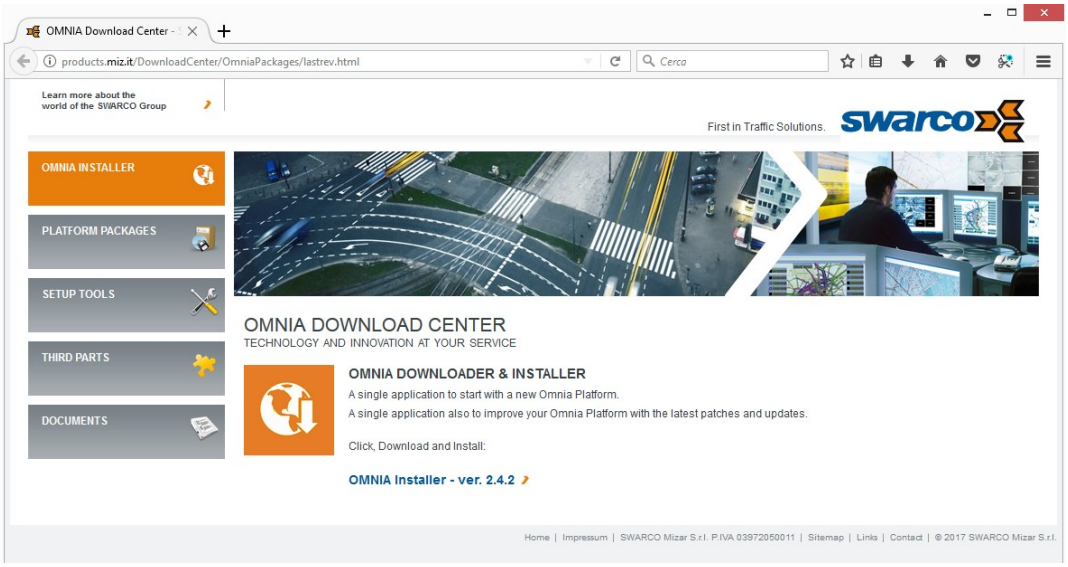
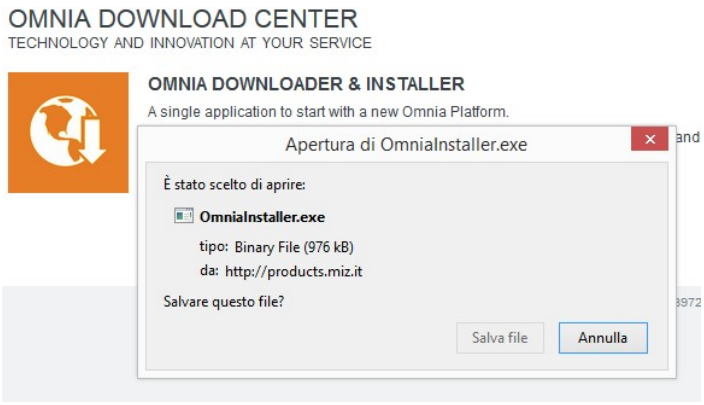


Download the program **OmniaInstaller.exe** by clicking on the corresponding link and save it into the folder “C: \ InstallOmnia”.

The link to the Download Center will always return the last updated version of this application.



Note:
Prior to executing any action to update Omnia (once an initial installation was performed), make sure that the current version of OmniaInstaller.exe is the same as the one available on the download page. To know the version of OmniaInstaller.exe program right click on it and Properties/Details.
In case the version in use is older than the one available at the Download Center, first download the latest version and then replace (overwrite) the old one (in C:\InstallOmnia\ OmniaInstaller.exe) with the new one.

Launch the program OmniaInstaller.exe.

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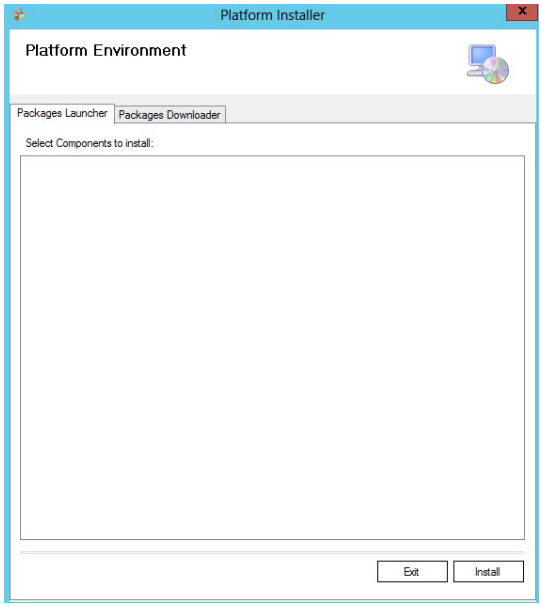
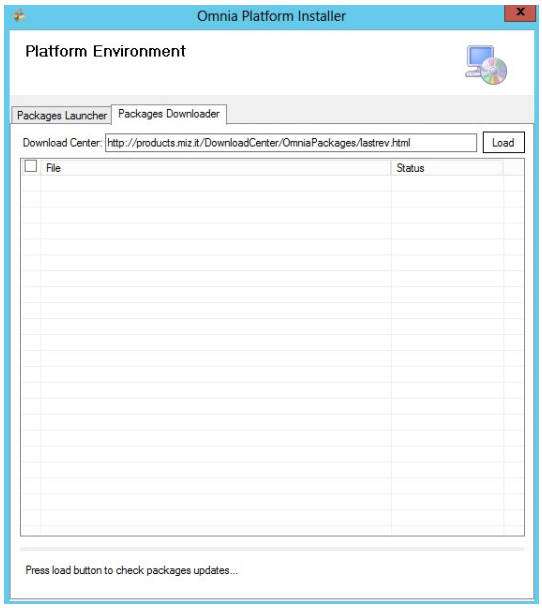
3.2 STEP 2 – Running the OmniaInstaller application

Use case: Installation from Scratch – Installation packages unavailable

The program OmniaInstaller.exe will display an empty list of components since such packages have not been downloaded yet from the SWARCO Mizar Download Center.



Click on the “Packages Downloader” tab for downloading the most up to date versions and released packages from the SWARCO Mizar Download Center.



Click the "Load" button to populate the list of updated files.

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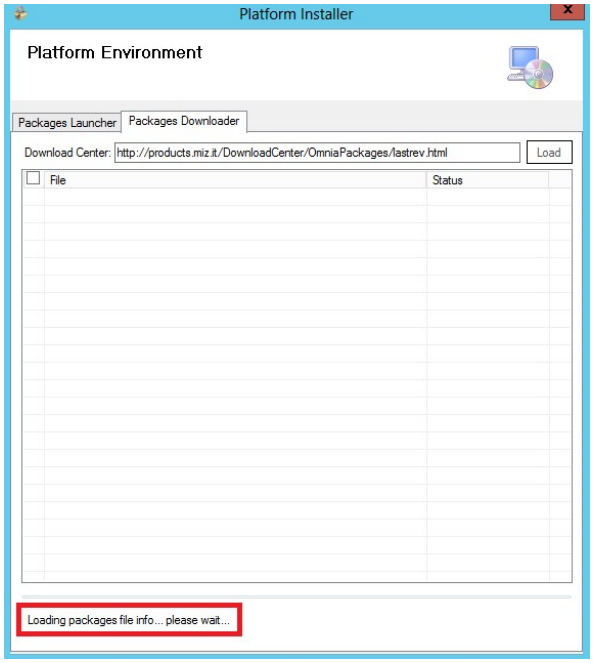
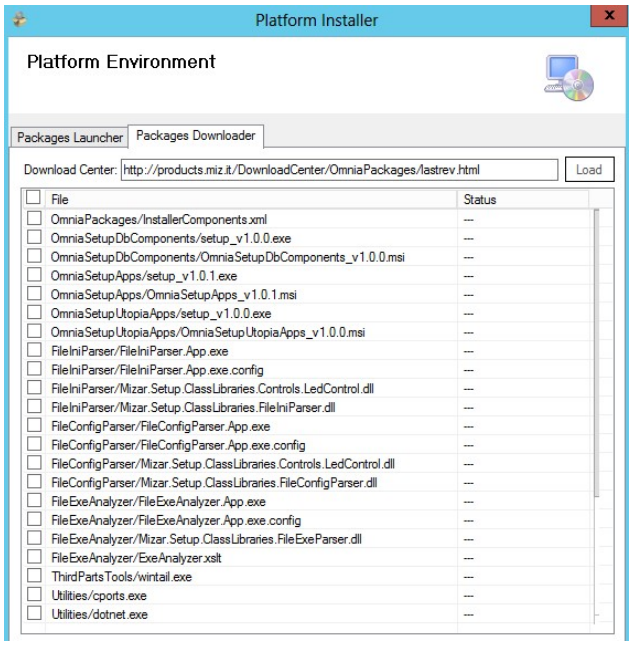


After a few seconds of downloading, depending on your internet connection speed, the program will display a list of files and updated installation packages available for download; as it is shown on the following image:



Select either all or individual files to be downloaded by clicking into the boxes on the left hand side.

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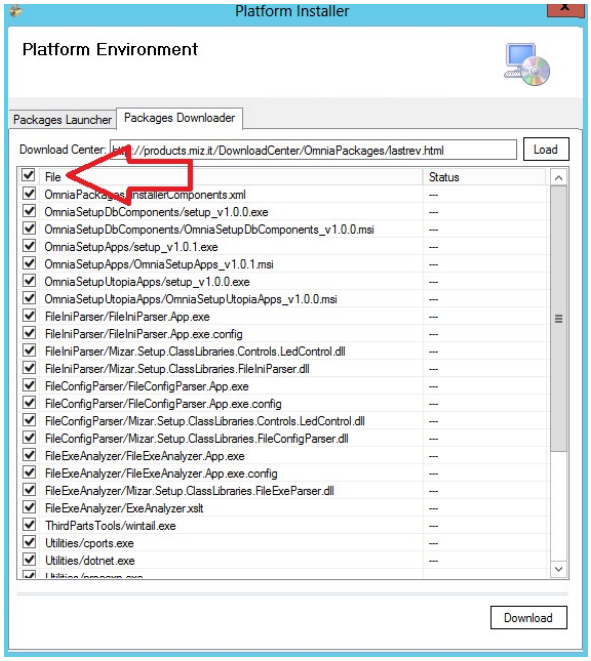
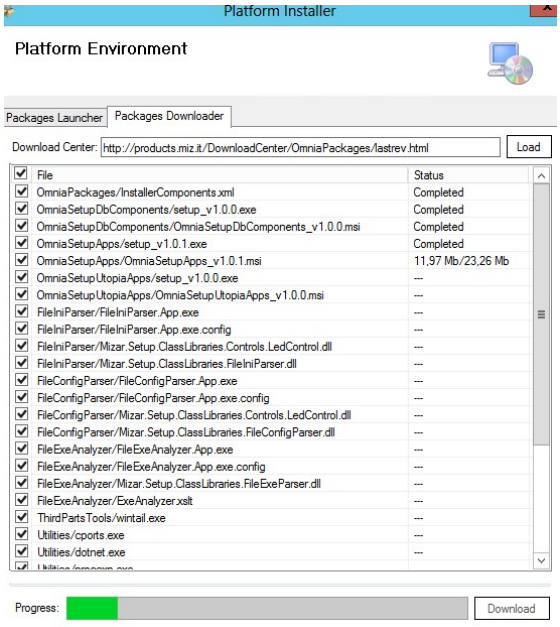


Click on the "Download" button:



Wait for the download process to be completed.

Note:
The application OmniaInstaller.exe displays the list of all files available on the SWARCO Mizar Download Center; however, only the files not yet updated locally will be downloaded.

At the end of the download process, the Platform Installer will display the following:

- Tab “Packages Downloader” will show the status of “Completed” for all files
- Tab “Packages Launcher” will display the list of packages to be installed.

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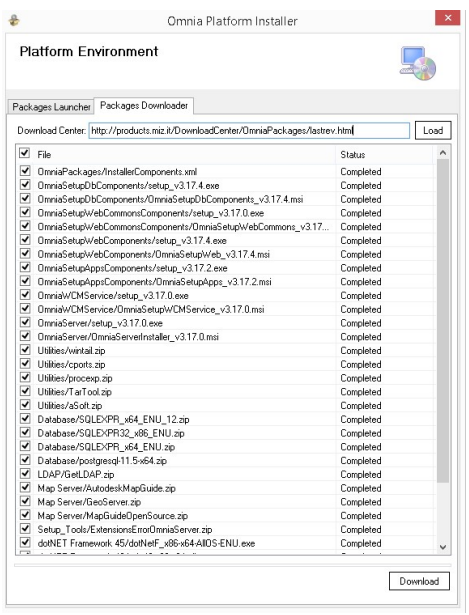

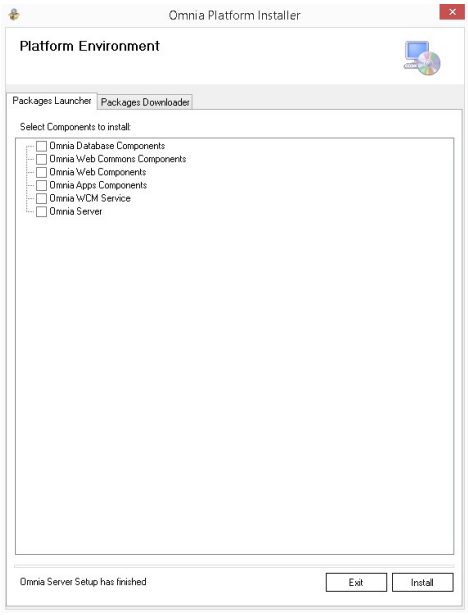

Do not close the OmniaInstaller application until the end of all installation activities. Incorrect closing of the application, however, does not cause any problems.

Special Use Case: Isolated Server or Server not connected to Internet
Download all packages on a computer with internet connection. When download is completed, copy all packages to the “C:\InstallOmnia” folder of the isolated server and follow the installation instructions in the next chapter without internet connection.

3.3 STEP 3 – Installing third party components

Use Case: Single server installation

Third party components must be installed on the system machine.

Use Case: Distributed installation
All the third-party components must be installed on the Web Server machines. On the Application Server you need to install the ASP.NET MVC 4 libraries.

Actions
Use the OmniaInstaller.exe to select the option “Third Parts Components” and click on the “Install” button.

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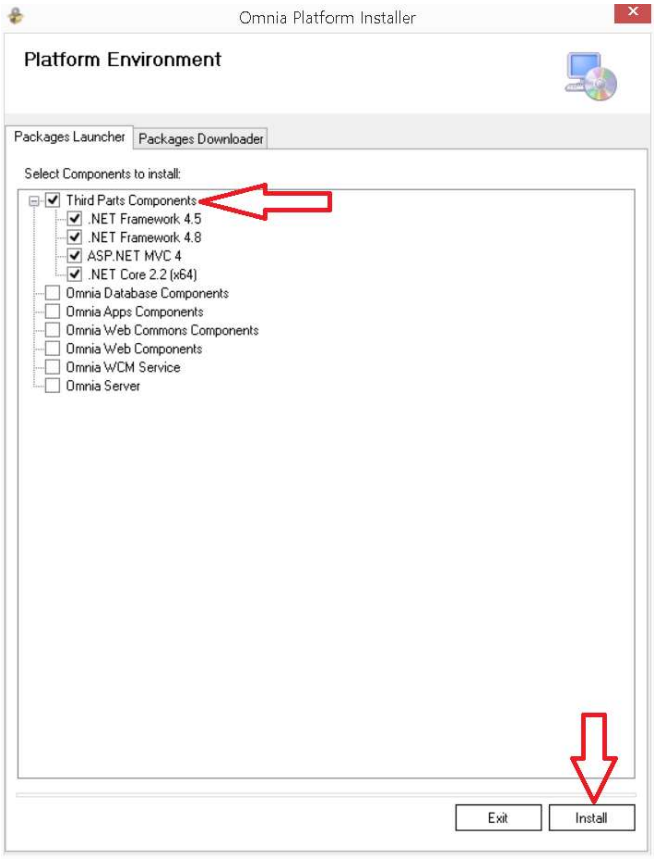

The following installation packages will be sequentially launched if not present on the system:

1. Microsoft.NET Framework 4.8
2. ASP.NET MVC 4 for Visual Studio 2010 SP1 and Visual Web Developer 2010 SP1
3. .Net Core 3.1
4. Microsoft Internet Information Services (IIS)
5. Postgresql 11.5 ☝ **Only in case of Omnia with “Microservices Architecture"**

For specific installation of these components see the official manuals of single products. Below are reported some examples.

3.3.1 .NET Framework on Windows 2012 and above

It should be noted that the .NET Framework components on Windows 2012 Microsoft operating systems and above represent "server roles"; can be enabled from Server Manager.

Please check if you have also these components installed on Operative System (you can use the tool ASoft .NET provided on the Download Center official site)

When the OmniaInstaller launches the installation of the Framework packages, a warning is displayed saying that this must be done through the Server Manager tool.

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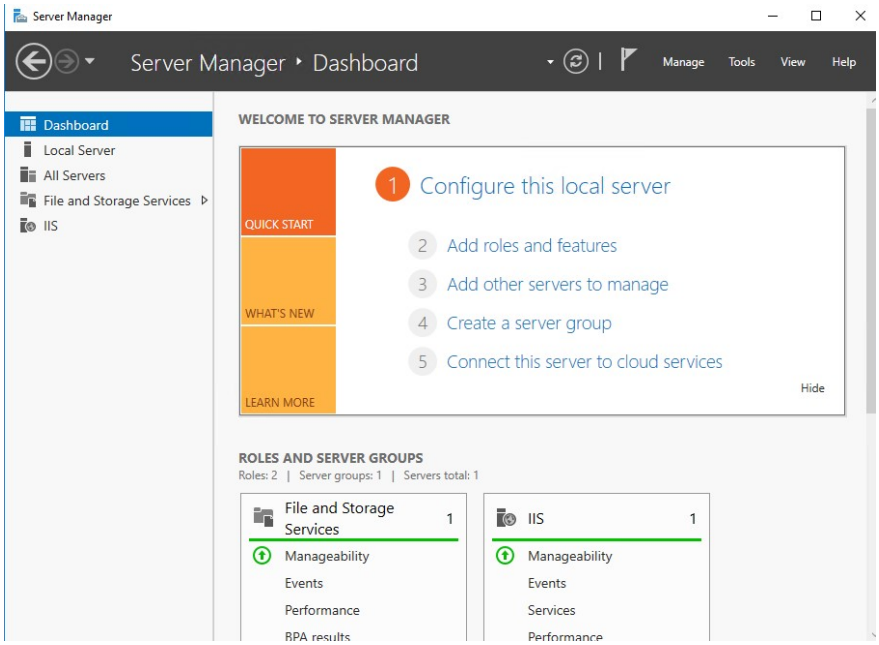
When this happens, proceed with the installation of the remaining components (automatically launched) by pressing the "Close" button.

Manual Installation example of the Framework components over Windows 2016

On Windows 2016, use the "Server Manager" tool in order to install the Framework components, as follows:

Go to the Server Manager:



Select “Add roles and features”:

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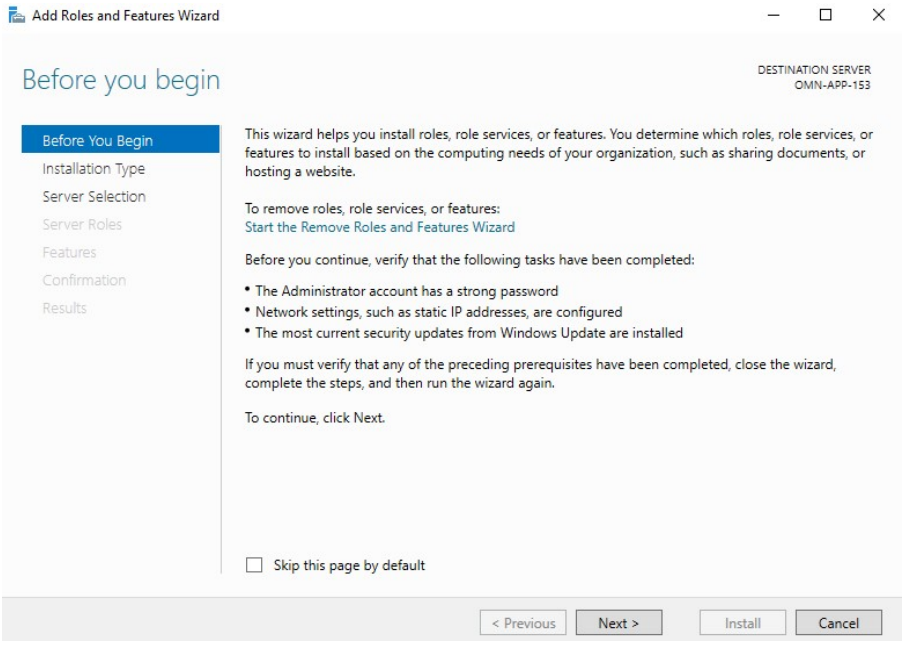
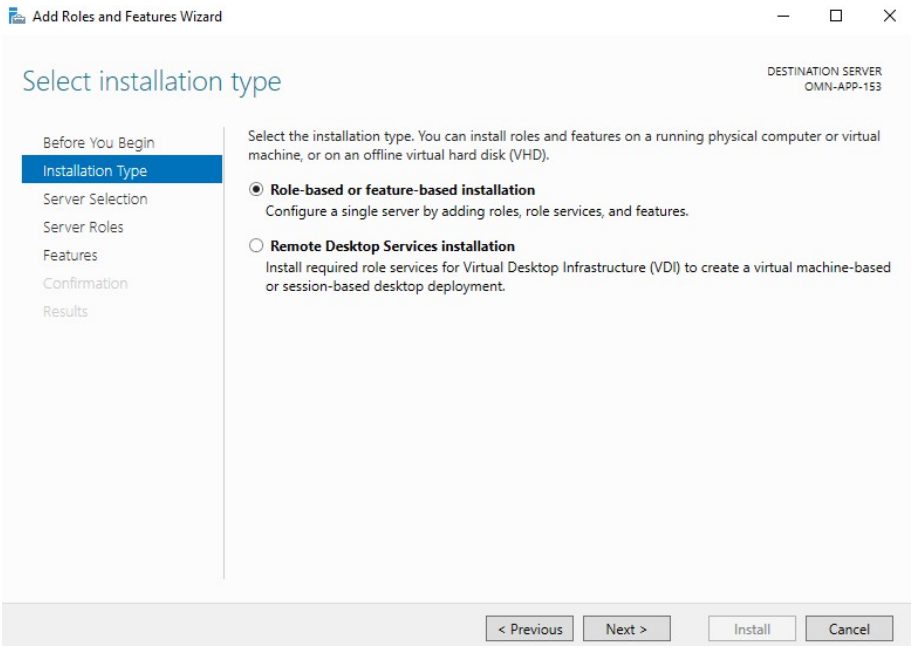


In the step "Installation type" select the option “Role-based or feature based installation”:



Go through the steps “Server Selection” and “Server Roles” to get to the “Features” screen:

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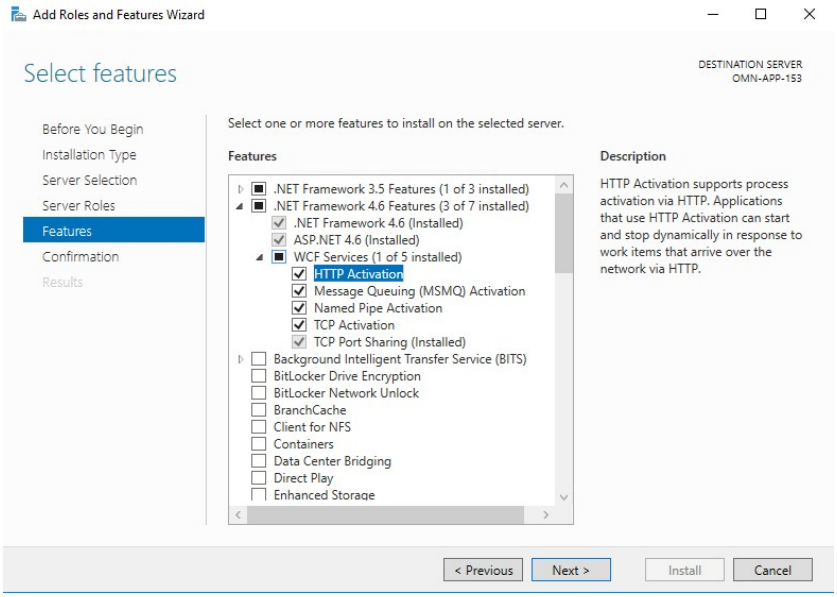

Select the options “.NET Framework 3.5 Features” and “.NET Framework 4.6 Features” and then click “Next”.
Remember to check the “HTTP Activation” option as shown in the image above.

Once the installation process has finished click on the “Close” button.

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3.3.2 ASP.NET MVC 4

For this third-party tool you can follow the default installation option until the end. No custom options are needed.

3.3.3 .NET Core 3.1

For this software it is not necessary any recommendation. Please proceed with default installation.

3.3.4 Manual Installation example of the server roles of IIS over Windows 2012

On Windows 2012, use the "Server Manager" tool in order to install the Framework components, as follows:

1. Start the “Server Manager” from the “Application bar”.
2. Open the “Dashboard” view and select “Quick Start”L

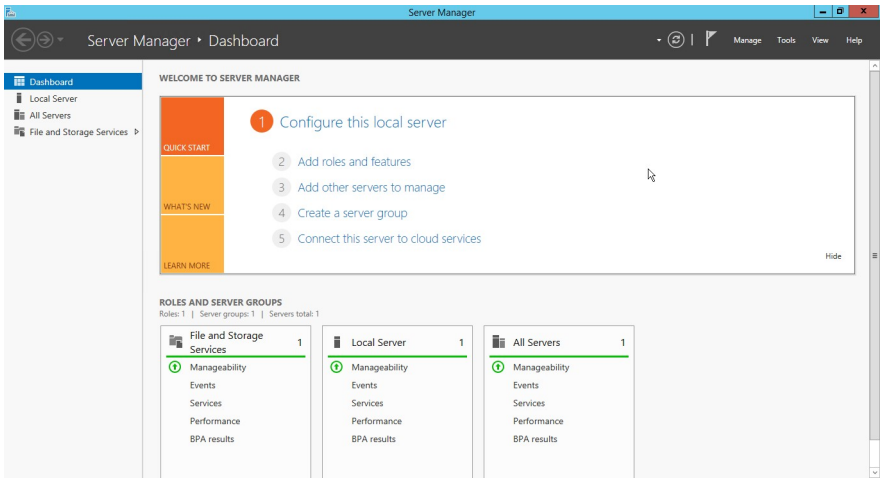

Figure 1: Server Manager

3. Click on “Add roles and features” to open the “Add Roles and Features Wizard”

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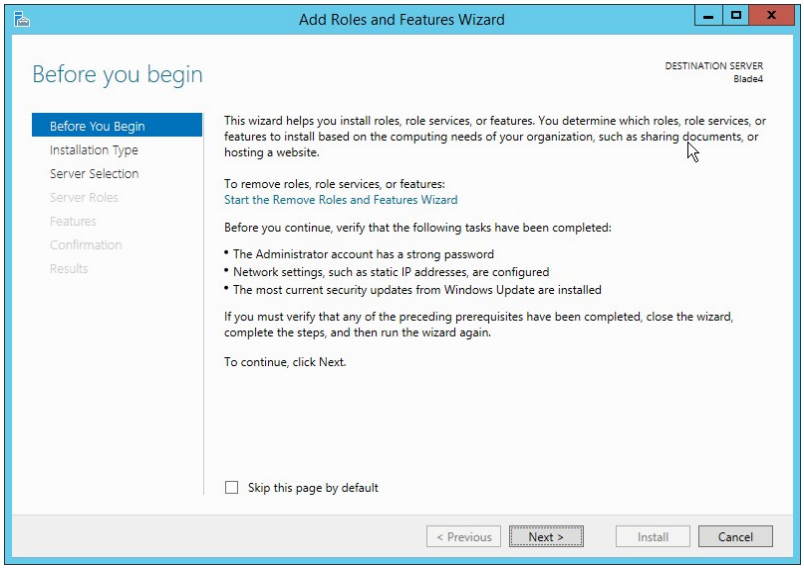

Figure 2: Add Roles and Features Wizard

4. Select “Role-base or feature-based installation” and next to continue the configuration of the Server Roles for selected server

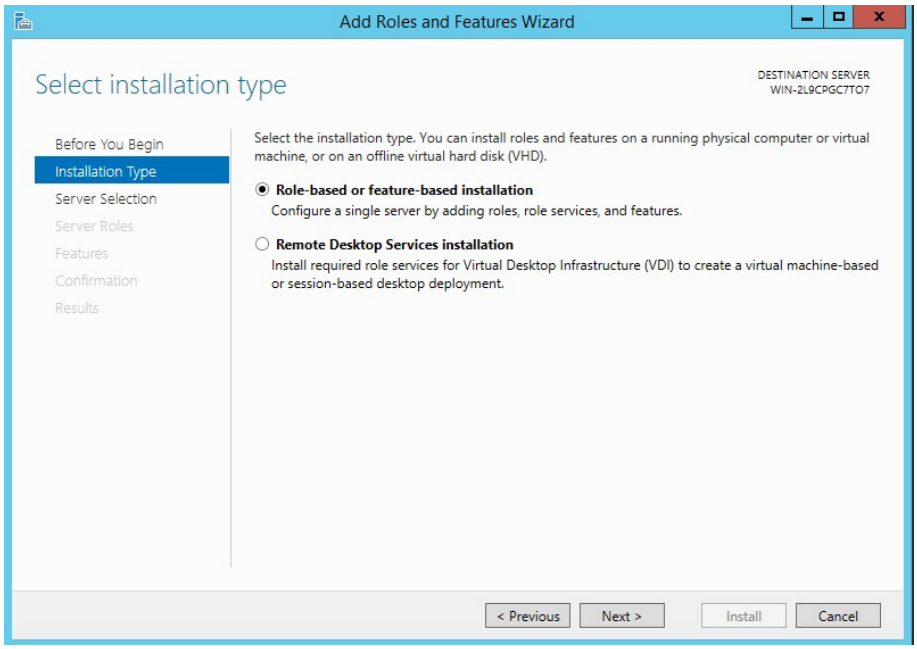

Figure 3: Select installation type

5. Click “Next” to start the Server Selection, select the server from the Server Pool and next to start the configuration of the Server Roles only for selected server

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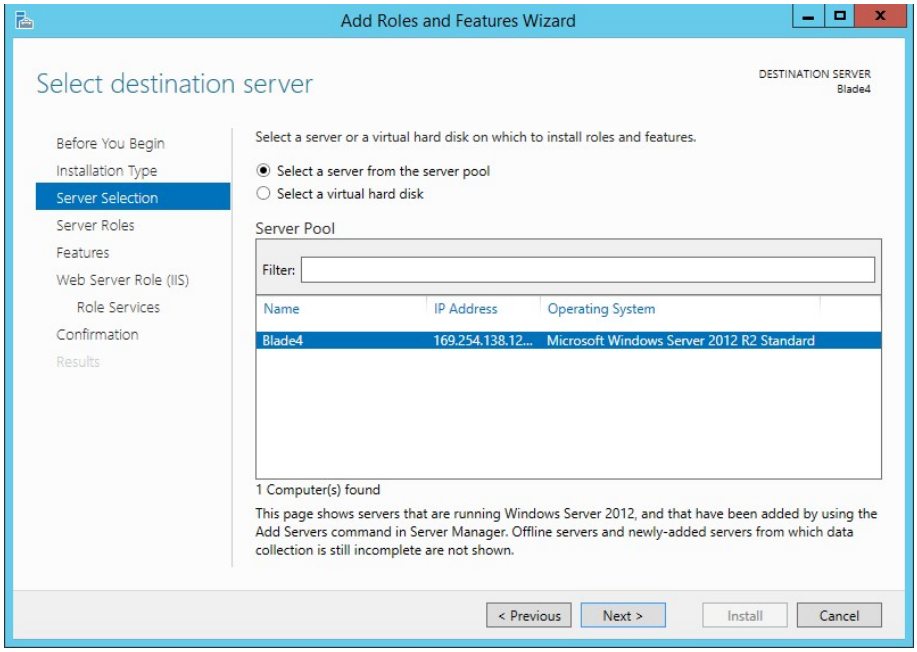

Figure 4: Select destination server

6. From the Roles list, select “Web Server IIS”, “Add Roles and Features Wizard” is displayed

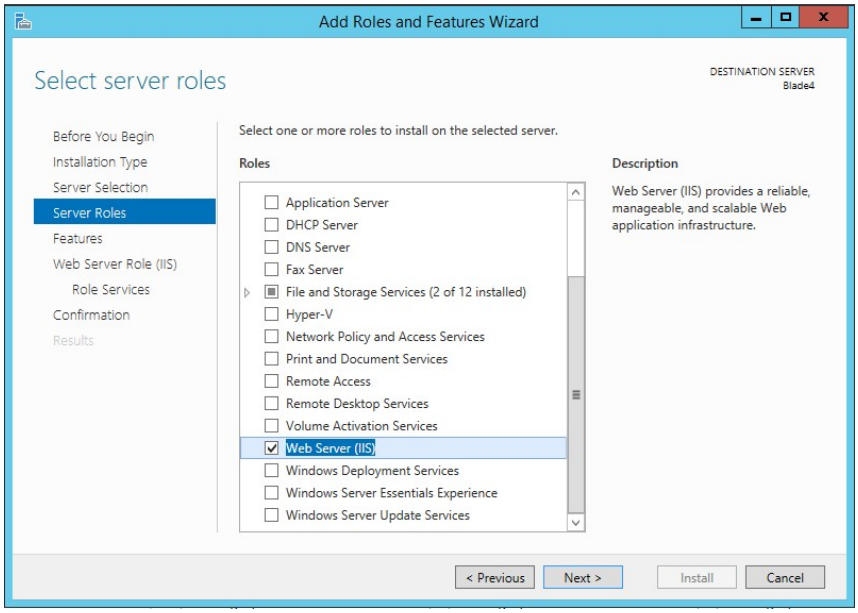

Figure 5: Select Web Server (IIS) Role

7. “Add Roles and Features” window will appear to include “Management Tools”, click “Next”

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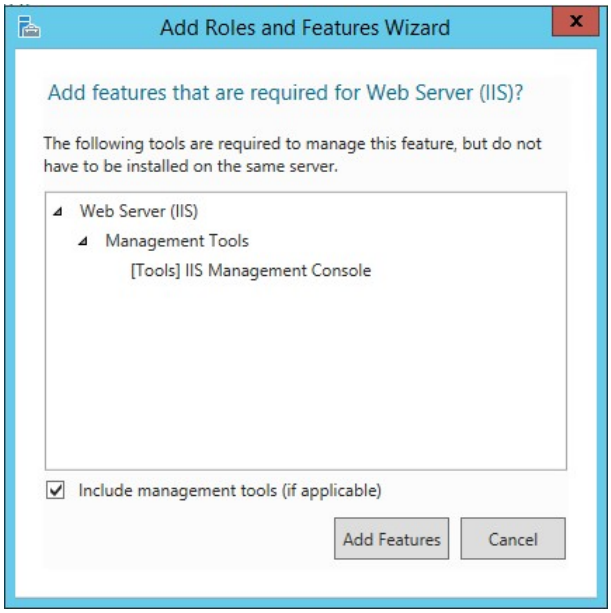

Figure 6: Add Roles and Features Wizard – IIS Management Console

8. Confirm the option to include management tools and click “Add Features” button to proceed

9. In the “Add Roles and Features Wizard”:
   a. add all .NET Framework 4.5 Features (all features)

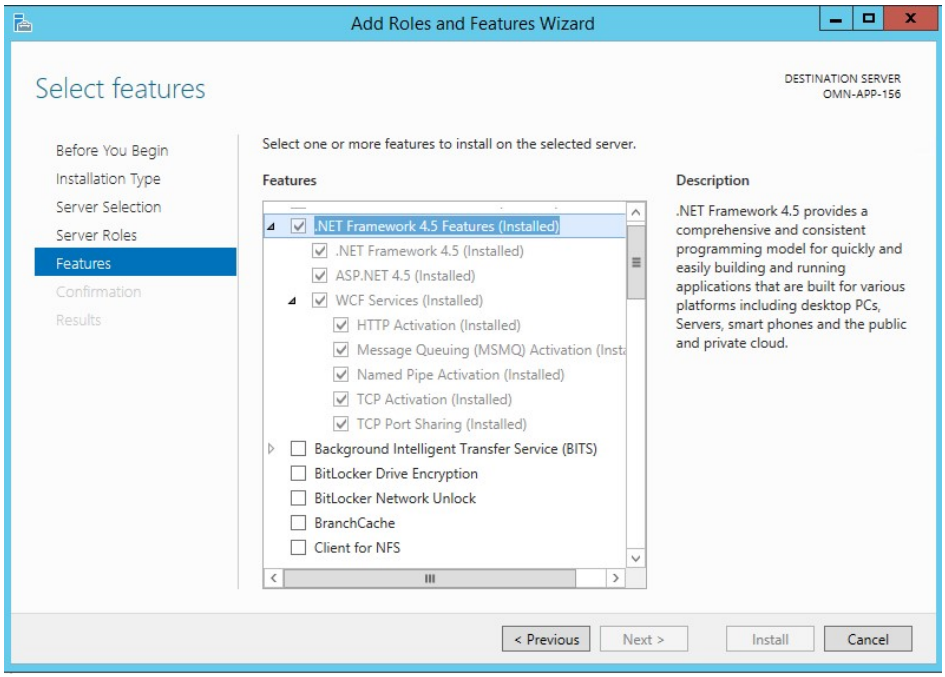

Figure 7: Add Roles and Features Wizard – Features

10. Click Next to proceed to “Role Services” configuration

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a. locate “Application Development” section and enable ASP, ASP.NET 4.5 and WebSocket Protocol
b. Click “Next” to continue

11. Click “Install” in the Confirmation installation selections window

Once the installation process has finished click on the “Close” button.

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3.4 STEP 4 – Installing the Omnia Components

Different actions must be performed depending on whether OMNIA is installed on a “single server” or “over multiple servers”.

Continue with the STEP “A” or “B” depending on the type of installation.

It is suggested to keep the “OmniaInstaller” application open until the end of all installation activities. Closing the application mistakenly, however, does not affect the correct installation of the platform.

3.4.1 STEP 4A – Single server installation

It is possible to install OMNIA on a single server if the service to be provided is compatible and supported by the available hardware.

The evaluation of an optimal environment for OMNIA as well as the necessary hardware will be performed in advance by a qualified SWARCO technician.

Actions

After downloading the individual installation packages on the server, follow the next steps in the order listed below:

- install the “Omnia Database Components” package
- Run the DbBuilder applications to construct the databases on MS SQL Server: OmniaDbBuilder.exe for OMNIA and MisticDbBuilder.exe for MISTIC
- install the “Omnia Web Commons Components” package
- install the “Omnia Web Components” package
- install the “Omnia Apps Components” package
- install the “Omnia WCM Service” package
- install the “Omnia Server” package
- install the “Omnia Microservices Components” packages **(in case of Omnia with “Microservices Architecture")**

Please refer to the appropriate chapters within this guide for every step. The specific actions to be followed that correspond to any Use Case can be found there.

3.4.2 STEP 4B – Distributed installation over multiple servers

After downloading the installation packages on all servers that belong to the system environment, it is required to perform the following installation steps in the order stated below. This must be repeated for every dedicated server:

Database Server

- install the “Omnia Database Components” package

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- Run the DbBuilder applications to construct the databases on MS SQL Server: OmniaDbBuilder.exe for OMNIA and MisticDbBuilder.exe for MISTIC

Omnia Application Server
- install the .NET Framework “Third party” components
- install the “Omnia Apps Components” package
- install the “Omnia Server” package
- install the “Omnia Microservices Components” packages **(in case of Omnia with “Microservices Architecture")**

Omnia Web Server
- install all the “Third party” components
- install the “Omnia Web Commons Components” package
- install the “Omnia Web Components” package
- install the “Omnia WCM Service” package

Please refer to the appropriate chapters within this guide for every step. The specific actions to be followed that correspond to any Use Case can be found there.

Install the components for every server of the platform in the following order:
1. Database Server
2. Application Server
3. Web Server

SPECIAL Use Case 1: Distributed Installation using only two servers grouping Application and Web into one server

Even when Omnia installation is done into a single server, it is required to install its components in the correct order.

Firstly, install the database components into the Database server as stated into the appropriate chapter.

Then, it is required to install the Omnia apps components package followed by the web components package into the same server (Application and Web machine). Please refer to the appropriate chapter in the guide to do so.

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3.4.3 STEP 4.1 – Installing the Database Components Management

This packet copies Omnia, Mistic and Core database tools and files in the system.

Use Case: Single server installation

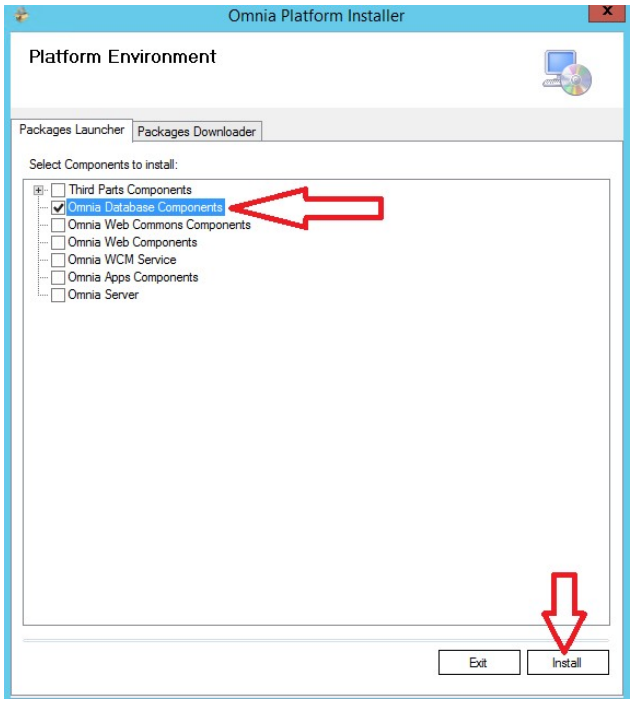
This package must be installed on the single system machine.

Use Case: Distributed installation

This package must be installed on the “Database Server” machine; this is the server where MS SQL server is installed.

Actions

Use the “OmniaInstaller” application from “C: \ InstallOmnia” and select the "Omnia Database Components" option, then click on the "InstallOmnia" button.



This will open the setup Welcome screen:

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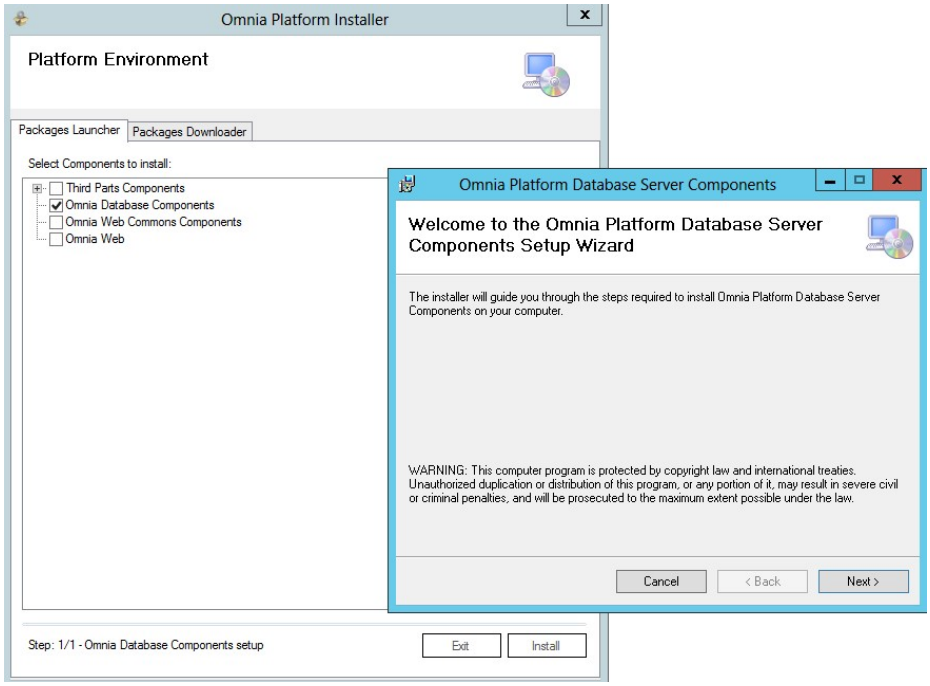
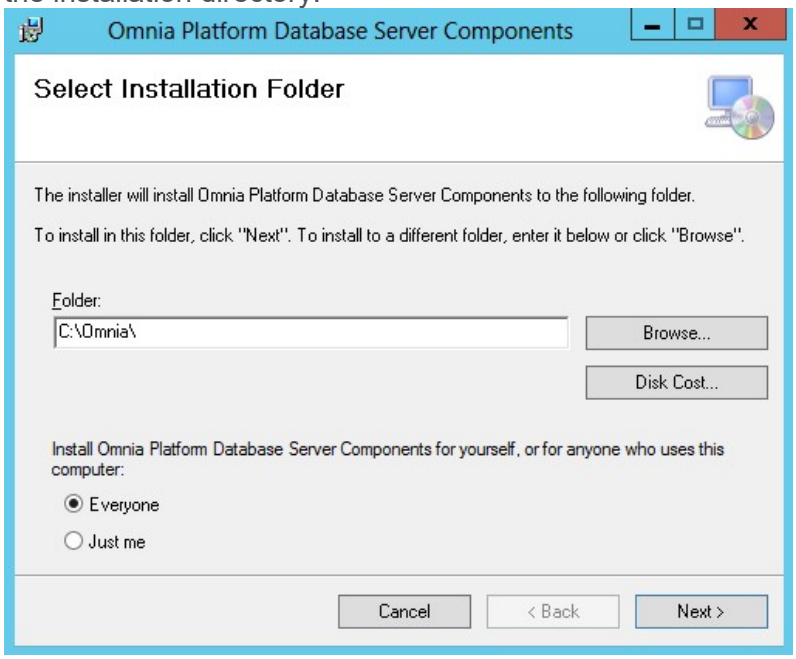


Press the "Next" button at the bottom of the screen to continue with the window for selecting the installation directory:



Press "Next" and on the next input form, please edit information about:

- Database Server Name – name of the machine where the installation is taking place
- Database Server IP Address – primary IPV4 of the machine
- SQL Server Instance Name –SQL Server instance name

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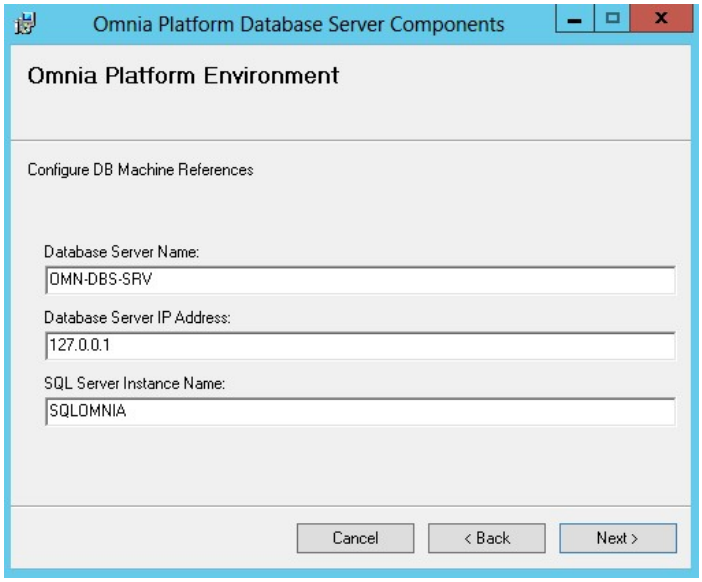
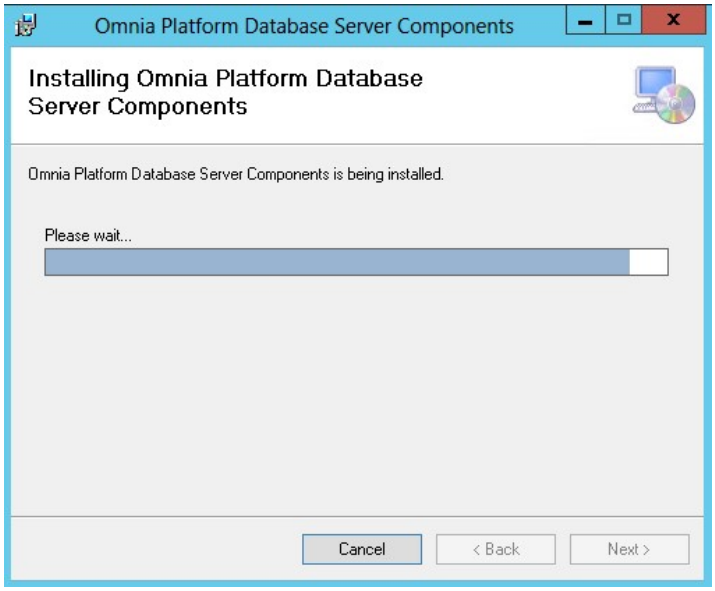


Click on the “Next” button to begin the installation.



At the end of the installation, it is possible to verify the presence of the components installed by opening the "Start" menu in Windows.

The following options become available:

- Omnia \
  - OmniaDbBuilder
- Mistic \
  - MIsticDbBuilder

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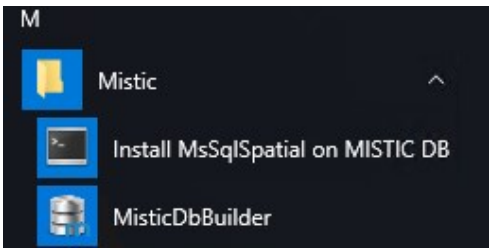

3.4.4 STEP 4.2 – Building up databases

3.4.4.1 Building up Omnia database using OmniaDbBuilder

Use Case: Stand Alone installation

The system storage (multiple databases) is built up into the single system machine.

Use Case: Distributed Installation

The system storage (multiple databases) is built up using the “Database Server”. Perform the required actions on the database server machine.

Actions

After having installed the necessary components to build up the database, it is then possible to build up the database for Omnia.

From the "Start" menu in Windows, launch the OmniaDbBuilder application through the menu item:
Omnia \

- OmniaDbBuilder

The application OmniaDbBuilder will be displayed with the input fields correctly filled in with the default values that correspond perfectly to the environment to be installed.

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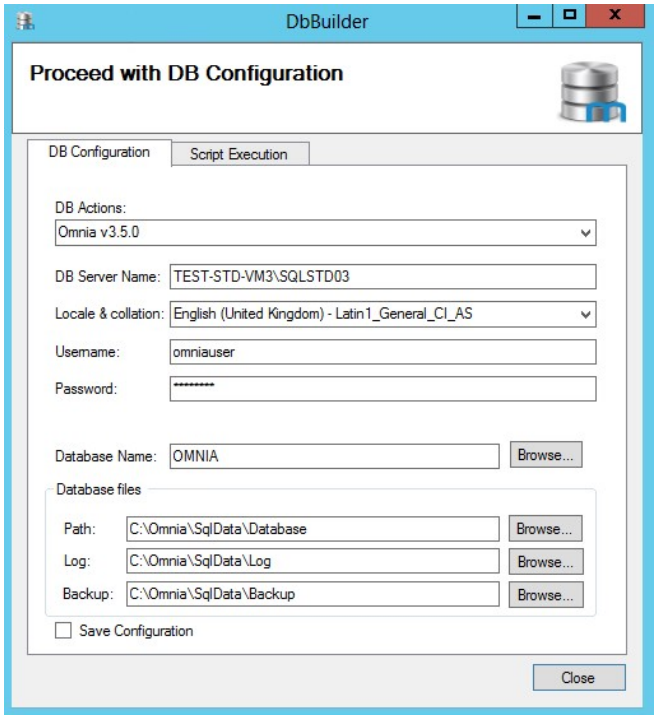

If necessary, change the installation paths of the database files, otherwise are used the default paths.

Default:
Database Path: C:\Omnia\SqlData\Database
Log Path: C:\Omnia\SqlData\Log
Backup: C:\Omnia\SqlData\Backup

At the creation of a new database, you can write the name of it and chose the collation to use for it. Remember that for the creation of a new database you have to use a “sysadmin” user (e.g. the user “omniauser” created before). At the updating operation you can select the one existing database, clicking on the button associated to the database name.

Open the tab “Script Execution” and click the button “Launch” to launch the scripts associated to the last database revision:

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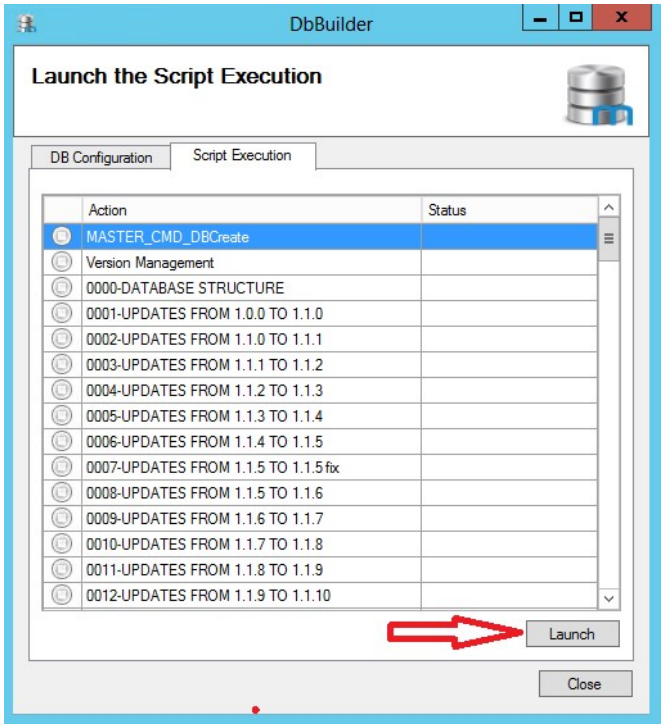
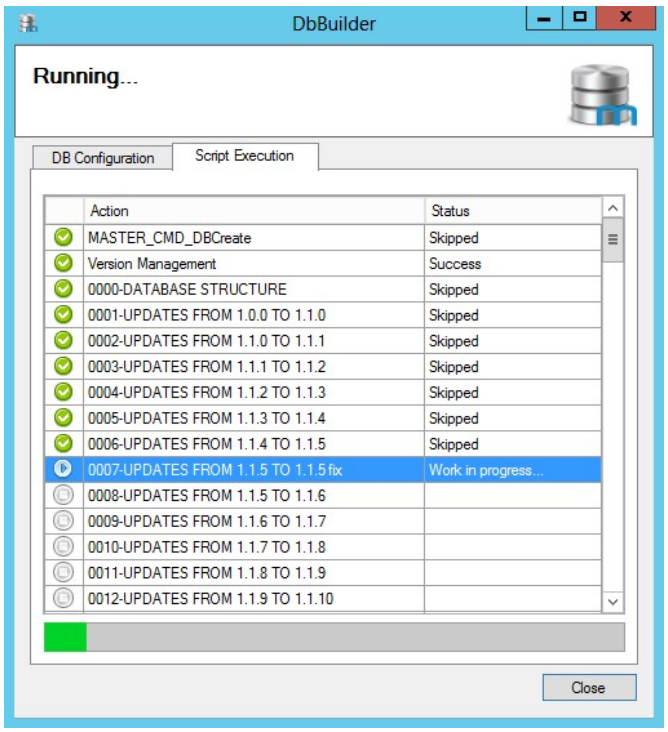


Scripts will be executed for the construction of the database components contained in the solution. A progress bar will show the status of the work.
This phase takes a few minutes, depending on the hardware used.



Errors can be easily identified by the presence of a red icon on the left hand side. Error details are also available through the button "Show Log".

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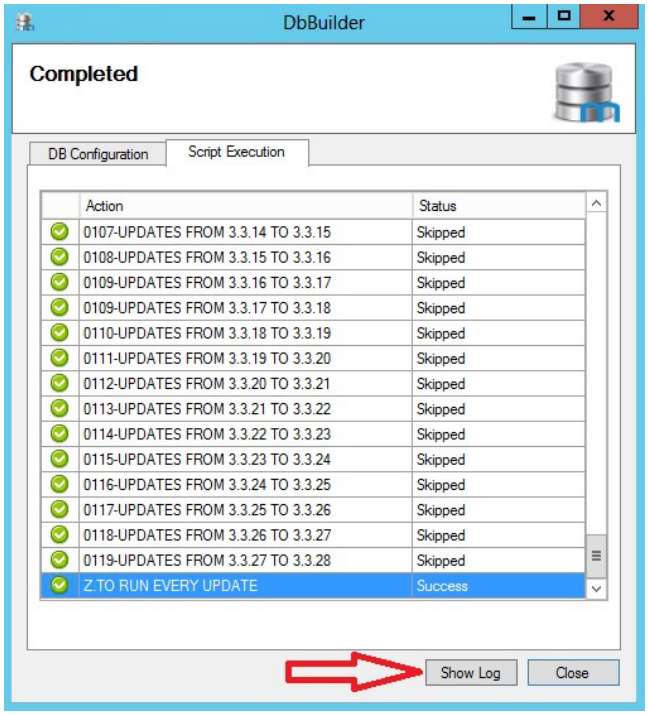
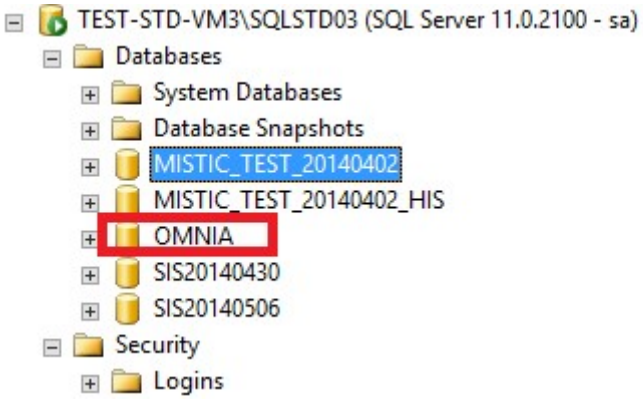


At the end of the construction phase of the database, the application OmniaDbBuilder can be closed by clicking the "Close" button.
The list of databases that comprise Omnia can be seen from SQL Server Management Studio.



The database that belong to Omnia is:

- Omnia

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3.4.4.2 Building up Mistic databases using MisticDbBuilder

Use Case: Stand Alone installation

The system storage (multiple databases) is build up into the single system machine.

Use Case: Distributed Installation

The system storage (multiple databases) is built up using the “Database Server”. Perform the required actions on the database server machine.

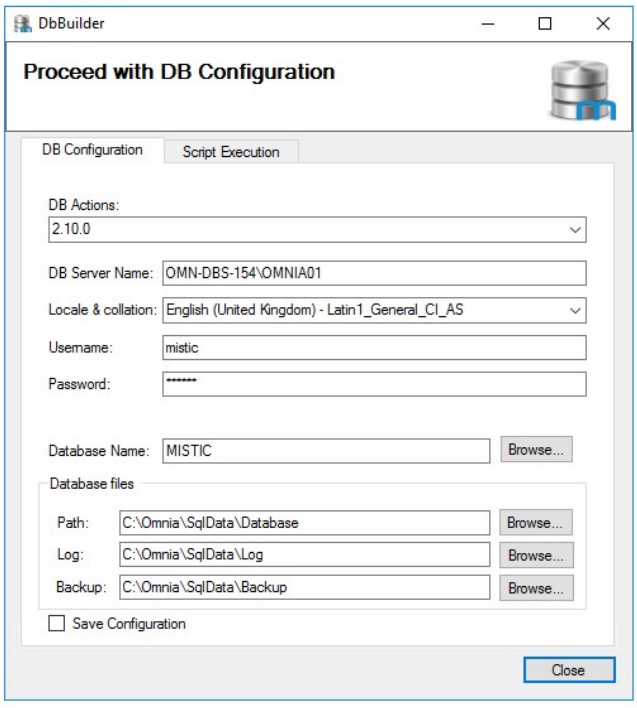
Actions

After having installed the necessary components to build up the database, it is then possible to build up the database for the Mistic Platform.

From the "Start" menu in Windows, launch the MisticDbBuilder application through the menu item:
Mistic \
- MisticDbBuilder

The application MisticDbBuilder will be displayed with the input fields correctly filled in with the default values that correspond perfectly to the environment to be installed.

Insert the SQL Server Instance, Database Name, User and Password



If necessary, change the installation paths of the database files.

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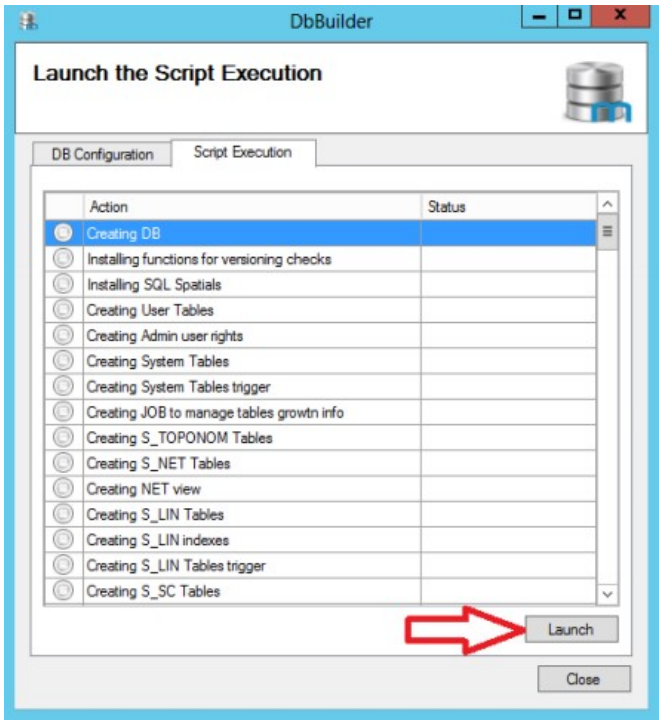
Default:
Database Path: C:\Omnia\SqlData\Database
Log Path: C:\Omnia\SqlData\Log
Backup: C:\Omnia\SqlData\Backup

Open the tab “Script Execution” and click the button “Launch” to launch the scripts associated to the last database revision:



Scripts will be executed for the construction of the database components contained in the solution. A progress bar will show the status of the work.
This phase takes about 12 minutes long, depending on the hardware used.

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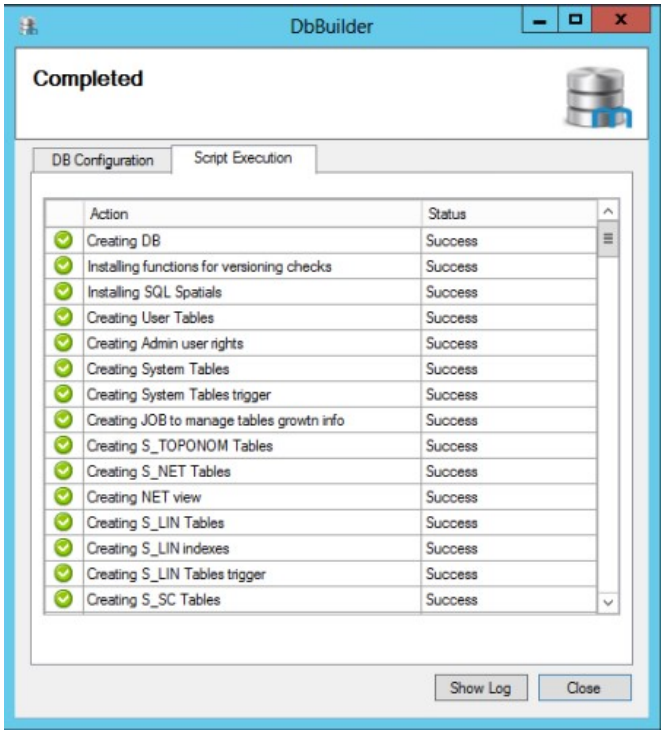
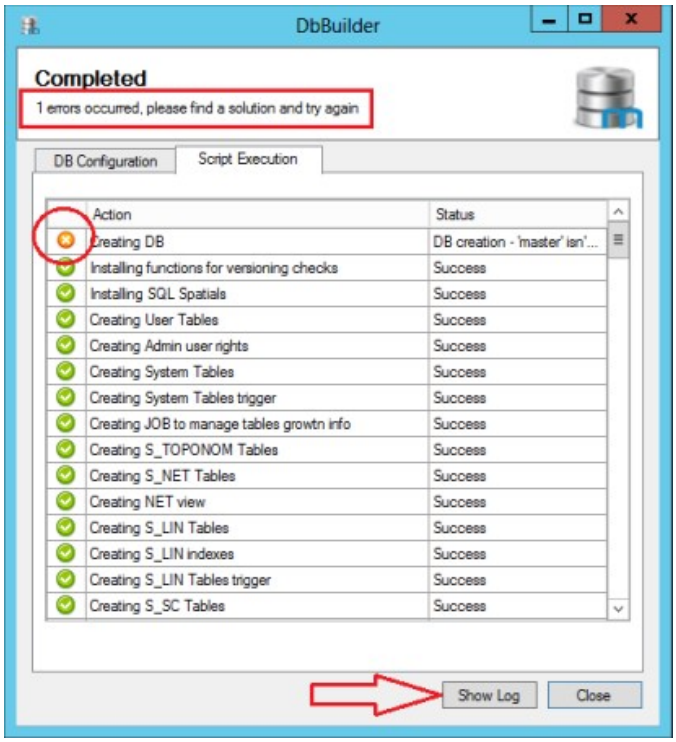


Errors can be easily identified by the presence of a red icon on the left hand side. Error details are also available through the button "Show Log".



At the end of the construction phase of the database, the application MisticDbBuilder can be closed by clicking the "Close" button.
The list of databases that comprise the Mistic Platform can be seen from SQL Server Management Studio.

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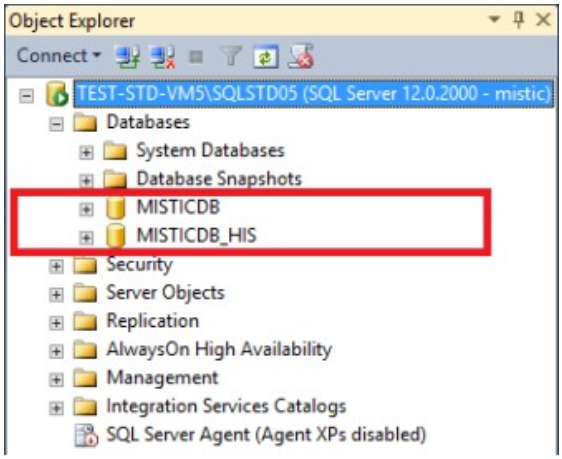

The databases that belong to the MISTIC Platform are:

- MISTICDB
- MISTIC_HIS

3.4.4.3 Building up Core database using third party Postgresql

This procedure is necessary in case of Omnia with “Microservices Architecture".

In folder /Omnia/Databases/Core/Scripts there are Core script files. Launch them by the third party Postgresql 11.5 application that you have previously installed and then update your Core database.

In the folder /Omnia/Databases/Core/Procedures you can find the scripts to delete old real-time measurement data from Core database.

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3.4.5 STEP 4.3 – Installing the web components

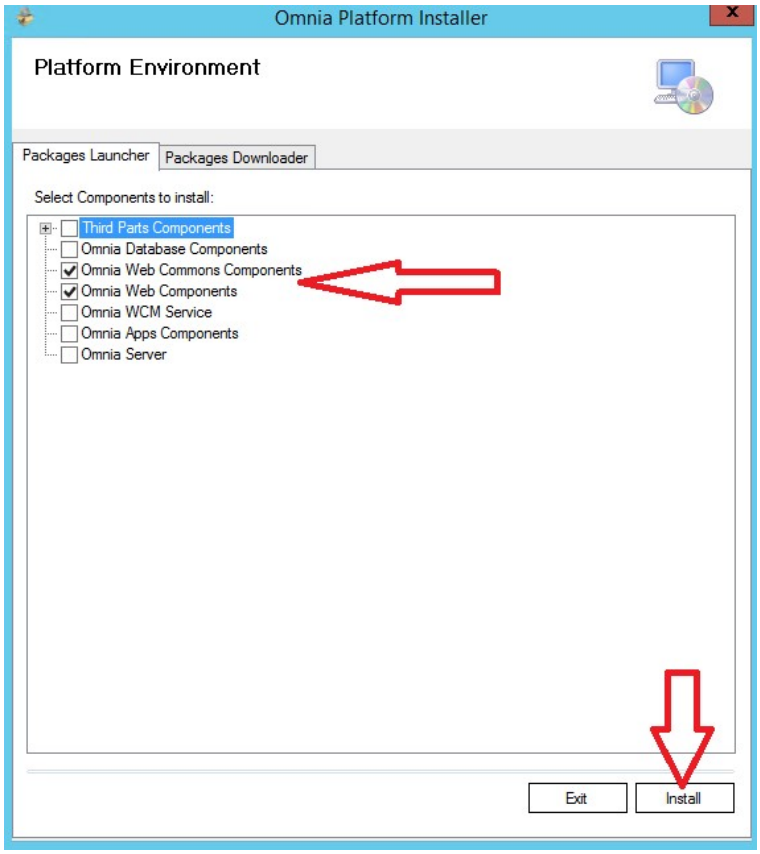
Use Case: Stand Alone installation

The web components will be installed onto the single system machine.

Use Case: Distributed Installation

The web components will be installed on the Web Server machine.

Using the OmniaInstaller.exe application, select the option “Omnia Web Components” first and “Omnia Web” then and click the install button.



The corresponding installation program will be launched.

This is the Welcome screen of the installation package for the web components (web Commons and Web components):

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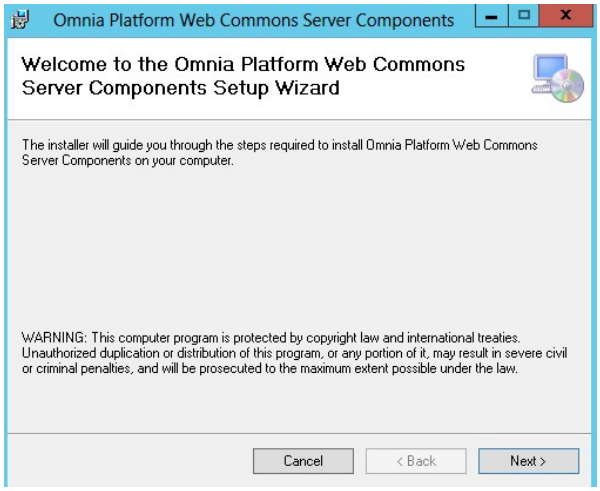
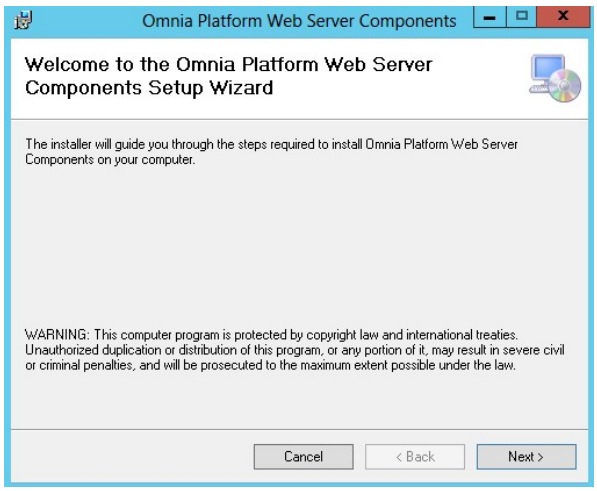
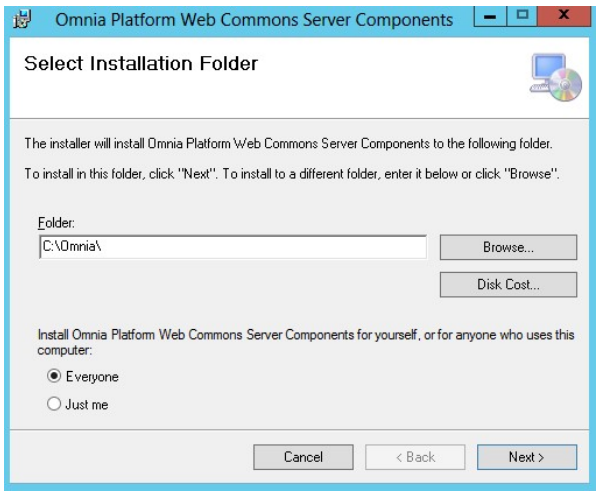
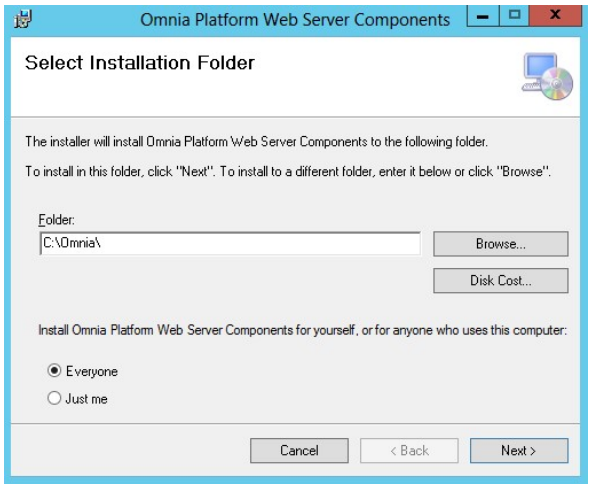




When the installation directory is prompted click “Next”.





The installation of web components is very similar to the one of the kernel applications; hence, enter the reference to the machines that make up the system environment.

For web components therefore, three input forms will be displayed to enter the connection to the installation machines.

- Database Server (Name, IP address, SQL Server instance name)
- Application Server (Name, IP address)
- Web Server (Name, IP address)

If this is an installation on a single server machine, it is required to enter the same references for the entries:

Database Server Name = Application Server Name = Web Server Name
Database Server IP = Application Server IP = Web Server IP

Continue until the end of the installation wizard.

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Restart the server after the installation.

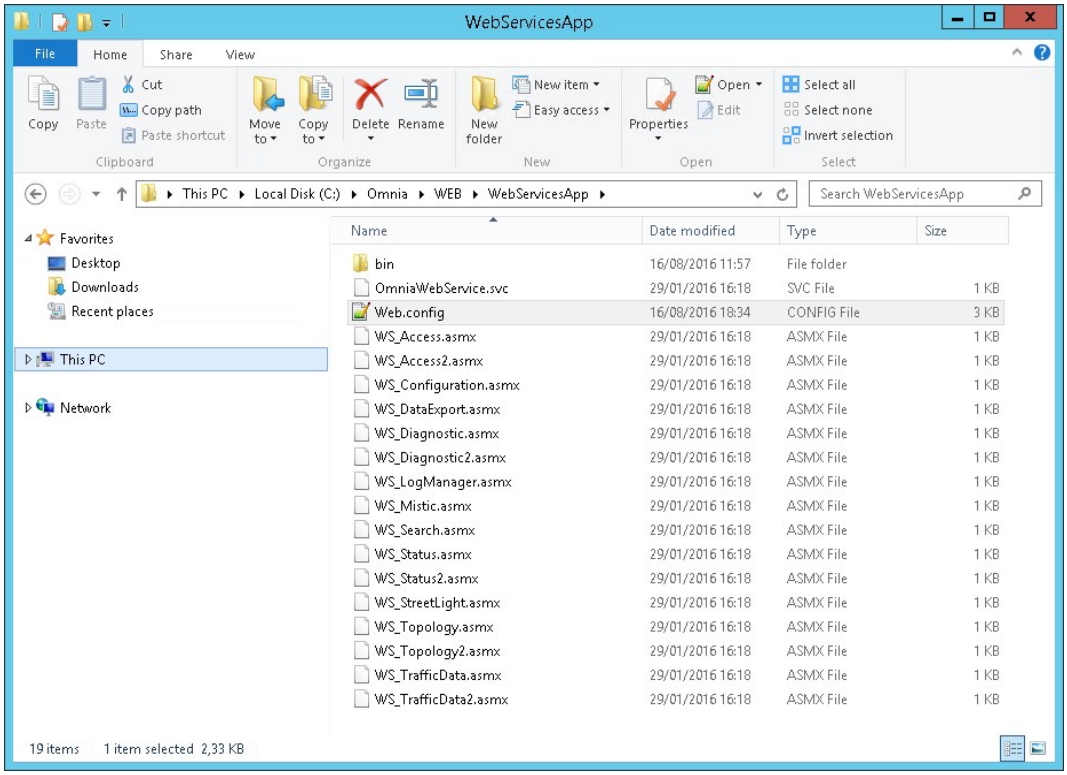
The automated installation provides to assign the correct database server name and instance name in the Omnia connection string in the config file but doesn't change the name of database if it is different from the default "Omnia".

3.4.5.1 WEB Services configuration

After the Web Components installation, you must update the file web.config in the OMNIA folder *Web\WebServicesApp* to change the OMNIA and MISTIC database connection.
To do this you can choose to work manually on it or to use an appropriate tool provided by the setup: **OmniaConfigManager.exe**.

3.4.5.1.1 Manual configuration

1. Open Windows Explorer and browse the destination (local or network) disk where the setup of the Web Services has been performed (i.e. *C:\Omnia\Web\WebServicesApp*)
2. Open the "web.config" file in the `WebServicesApp` directory using any textual editor



3. In the section `<connectionStrings>` update the "Catalog" parameter of the key "connectionString" with the database name and other parameters:

DATABASE NAME	Name of the Omnia or MISTIC Database installed on the DBMS

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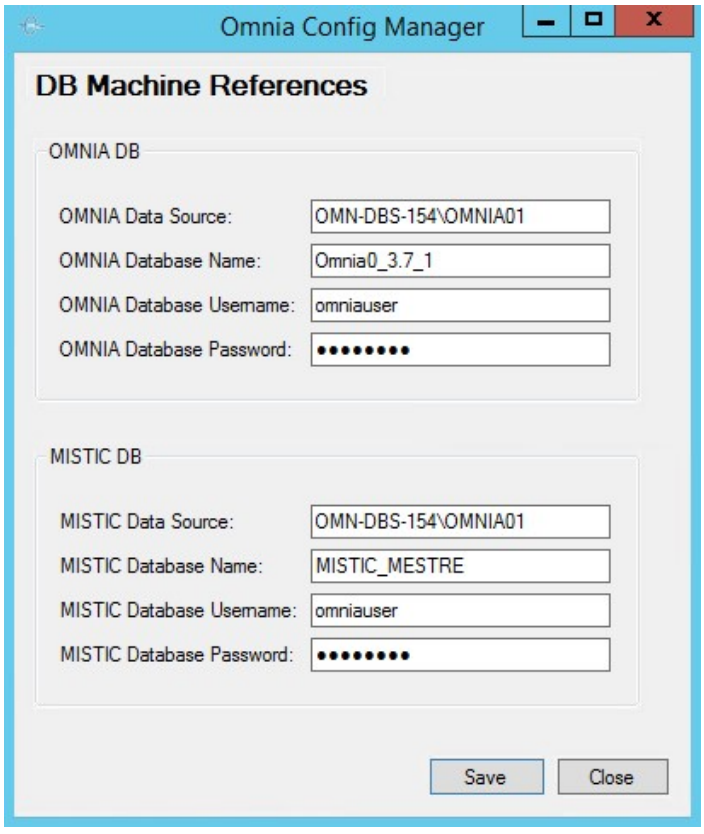
```
<connectionStrings>
      <!-- // MISTIC -->
      <add name="MisticDb"
      connectionString="Data Source={MISTIC DATABASE SERVER};Initial
      Catalog={MISTIC DATABASE NAME};Integrated Security=False;User
      ID={MISTIC USERNAME};Password={MISTIC PASSWORD};"
      providerName="System.Data.SqlClient"/>

      <!-- // OMNIA -->
      <add name="OmniaDb"
      connectionString="Data Source={OMNIA DATABASE SERVER};Initial
      Catalog={OMNIA DATABASE NAME};Integrated Security=False;User
      ID={OMNIA USERNAME};Password={OMNIA PASSWORD};"
      providerName="System.Data.SqlClient" />
  </connectionStrings>
```

3.4.5.1.2 OmniaConfigManager.exe tool configuration

1. Open Windows Explorer and browse the destination (local or network) disk where the tool provided by setup is located (i.e. *C:\Omnia\WinApps\OmniaConfigManager.App*)
2. Launch the OmniaConfigManager.exe application



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3. The values presented in the form are the default values of the section <connectionStrings> of the key "connectionString" of the file *C:\Omnia\Web\WebServicesApp\web.config* which refer to the Omnia and Mistic database:

```
<connectionStrings>
      <!-- // MISTIC -->
      <add name="MisticDb"
      connectionString="Data Source={MISTIC DATABASE SERVER};Initial
      Catalog={MISTIC DATABASE NAME};Integrated Security=False;User
      ID={MISTIC USERNAME};Password={MISTIC PASSWORD};"
      providerName="System.Data.SqlClient"/>

      <!-- // OMNIA -->
      <add name="OmniaDb"
      connectionString="Data Source={OMNIA DATABASE SERVER};Initial
      Catalog={OMNIA DATABASE NAME};Integrated Security=False;User
      ID={OMNIA USERNAME};Password={OMNIA PASSWORD};"
      providerName="System.Data.SqlClient" />
  </connectionStrings>
```

4. Change these values as you need and save the results (clicking on the "Save" button)

Note: OmniaConfigManager.exe tool changes also the database connection string keys in the map.ini file and in the Omnia Server configuration if the Apps Components and OmniaServer Packages are previously installed. So we recommend to launch this tool after the installation of all packet.

3.4.5.1.3 WEB Services test

1. From the "Internet Information Services" Manager, open the Web Sites tree to the deep level of the "Omnia\WebServicesApp".
2. Click on "WebServicesApp" to display the list of files in the "WebServicesApp" directory
3. In the list of files, locate the file "WS_Access2.asmx", select it and then right click to open the drop-down menu, then select "Browse".

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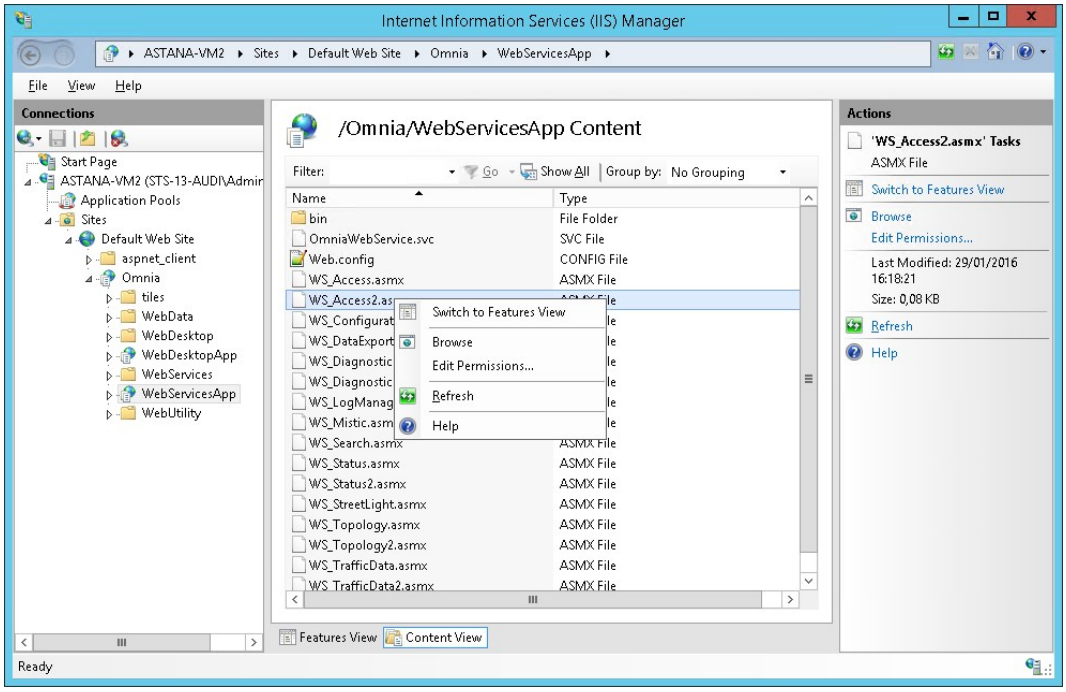
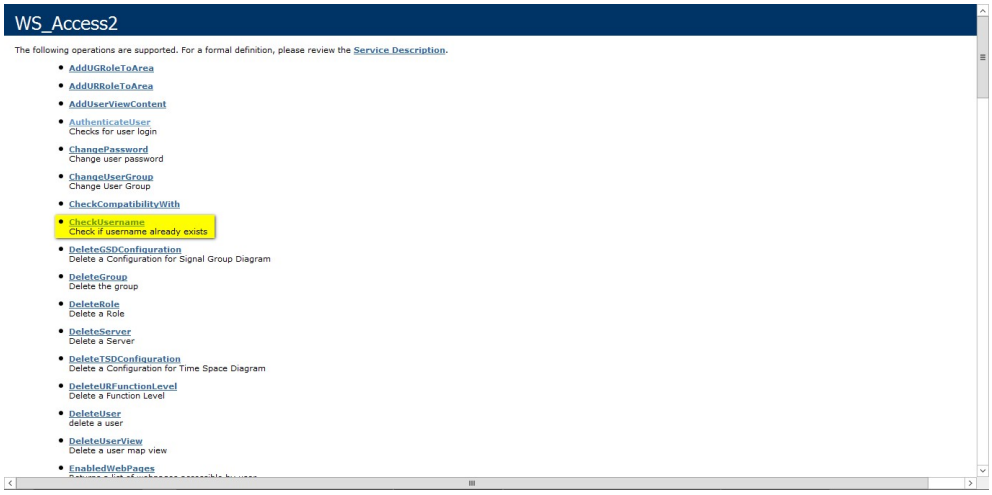
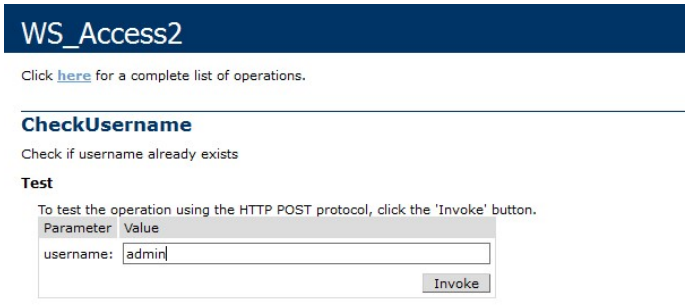


4. In the WS_Access2 Web Service view, click on the “CheckUsername” link.



5. Fill the username field using the default administrator user (username=admin), then click “Invoke” button.



6. If everything is correct, the request will return value 1

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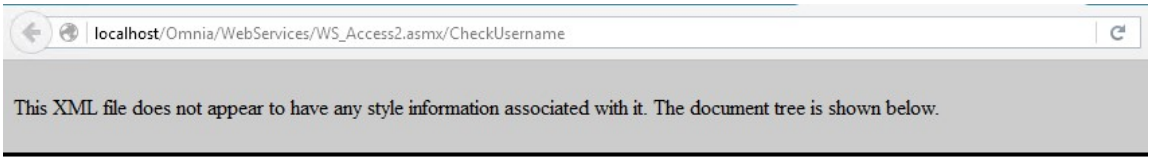
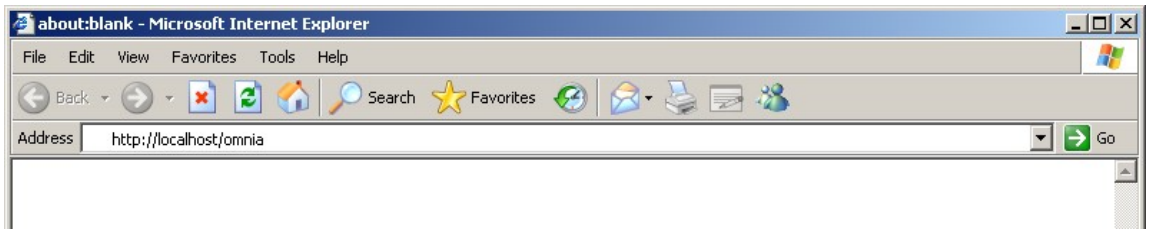
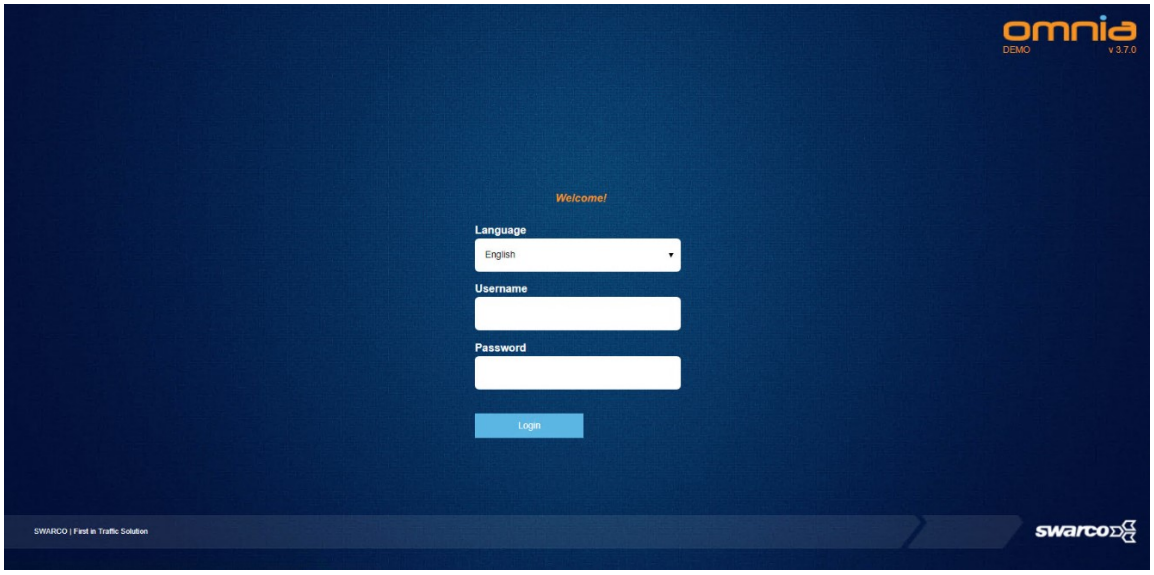


3.4.5.2 Graphical User Interface test

1. Start Microsoft Internet Explorer and test the installation at http://localhost:[PORT]/omnia



2. If everything is correct, the OMNIA login page is displayed (In the image the old GUI interface).



3. Log in using the default username / password.

username admin
password admin

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4. if everything is correct, the OMNIA welcome page (the old GUI interface) is displayed.

3.4.5.3 OMNIA Custom Logo (optional)

OMNIA can be configured adding a custom logo.
When a custom logo is configured, it will be displayed on both Login page and Virtual Desktop. The following image displayed the login page with the old GUI interface (v1):

3.4.5.3.1 Custom logo preparation

To be able to configure and activate the custom logo in OMNIA, you should first of all prepare the custom logo.
Different logos for different customers will of course have different aspect ratio and they should be adjusted to proper fit in OMNIA login and welcome page.

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To ease the configuration, a SWARCO logo with the aspect ratio of 150x44 pixels is available in the "[TARGET DIR]\Omnia\Web\WebData\UI" directory of the installation folder.

3.4.5.3.2 Custom logo configuration.

To configure and activate the custom logo in OMNIA:

1. add a new key "`CustomLogo`" to the section `<appSettings>` of the WebDesktop Web.config file

```
<add key="CustomLogo"
value="..\WebData\UI\customlogo.png|||136|||40|||205|||60"/>
```

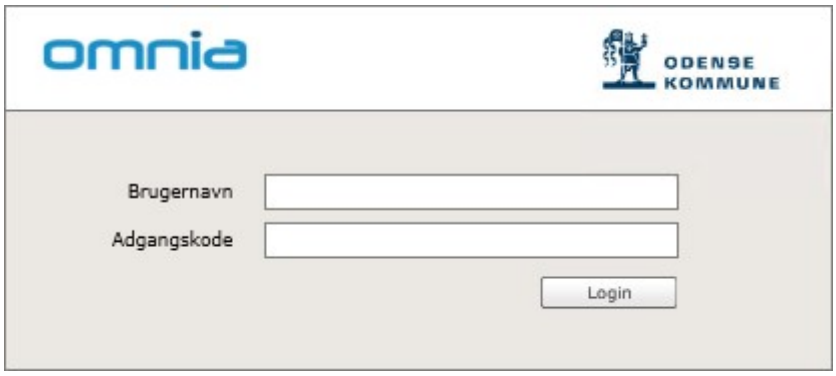
2. configure the "`CustomLogo`" key, setting the value as follows:
   - custom logo file relative path
   - aspect ratio login page
   - aspect ratio desktop

   all values separated by triple pipe `|||`

3.4.5.3.3 Custom logo test

1. Start the browser and connect to OMNIA

If everything is correct the custom logo is displayed in the Login page (with the old GUI interface).



2. Login using any active user credentials.

If everything is correct the custom logo is displayed in the welcome page (with the old GUI interface).

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3.4.6 STEP 4.4 – Installing the Application components

Please remember that, if necessary, the Apps Components can be installed on the machine through the UTOPIA installation packages (Please do reference to UTOPIA-Installation Guide). This installation saves the dbase folder that you use for the applications.

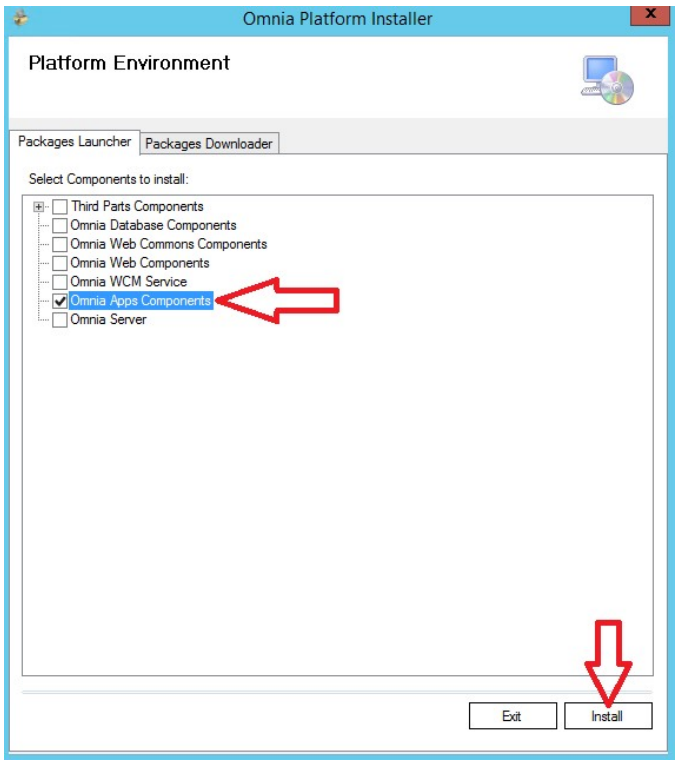
Use Case: Stand Alone installation

The applications will be installed onto the single system machine.

Use Case: Distributed Installation

The kernel applications will be installed on the Application Server machine.

Using the OmniaInstaller.exe application, select the option “Omnia Apps Components” and click the install button.



The corresponding installation program will be launched.

This is the Welcome screen of the installation package for the apps components and then click on “Next” button:

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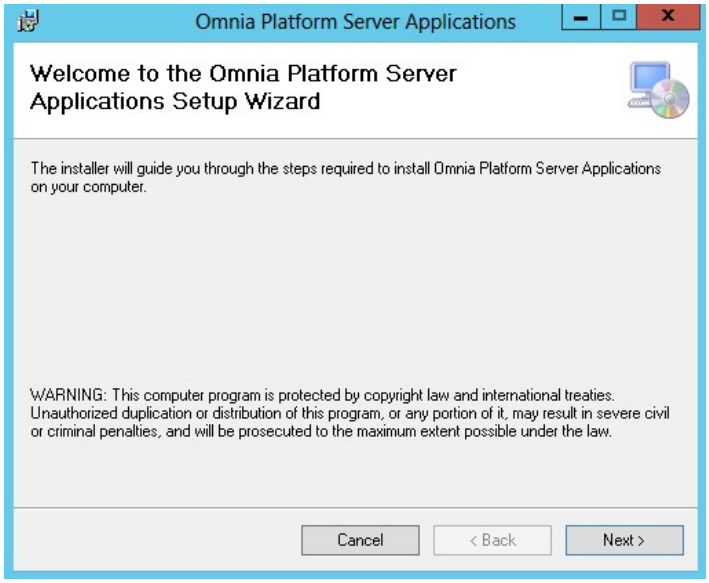


Next, three input forms will be displayed to enter the connection to the installation machines.

- Database Server (Name, IP address, SQL Server instance name)
- Application Server (Name, IP address)
- Web Server (Name, IP address)

If this is an installation on a single server machine, it is required to enter the same references for the entries:

Database Server Name = Application Server Name = Web Server Name
Database Server IP = Application Server IP = Web Server IP

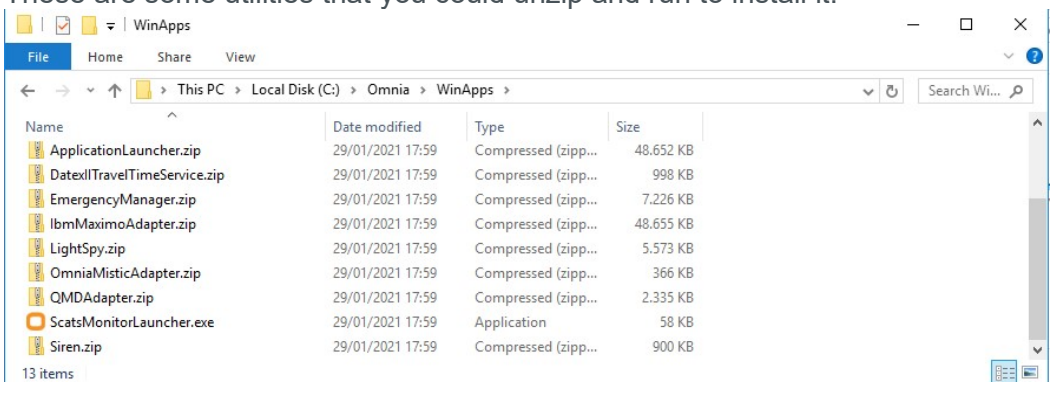
In case of distributed installation insert the different values and continue until the end of the installation wizard.

Restart the server after the installation.

At the end of the installation, it is possible to verify the presence of the some .zip or executable files available in the folder:

- `[installation directory] \ WinApps`

These are some utilities that you could unzip and run to install it.



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3.4.7 STEP 4.5 – Installing OMNIA Web Connection Manager (WCM)

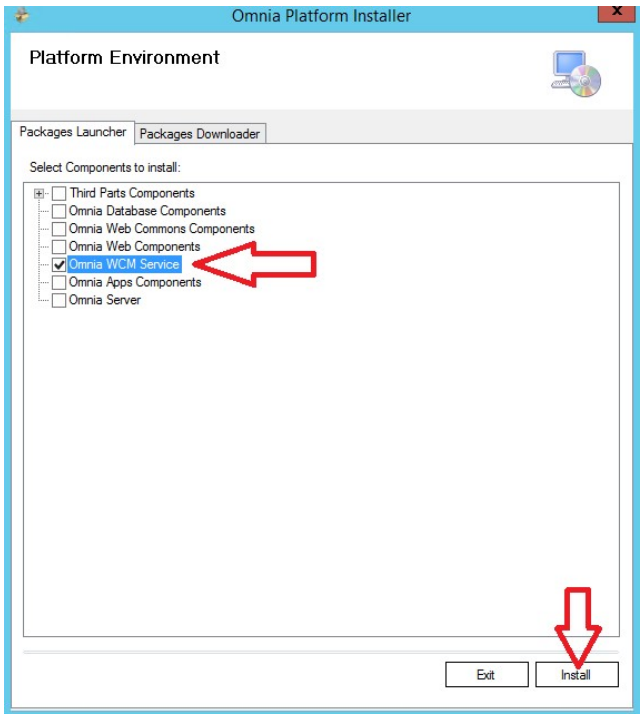
Use Case: Stand Alone installation

Omnia WCM Service will be installed onto the single system machine.

Use Case: Distributed Installation

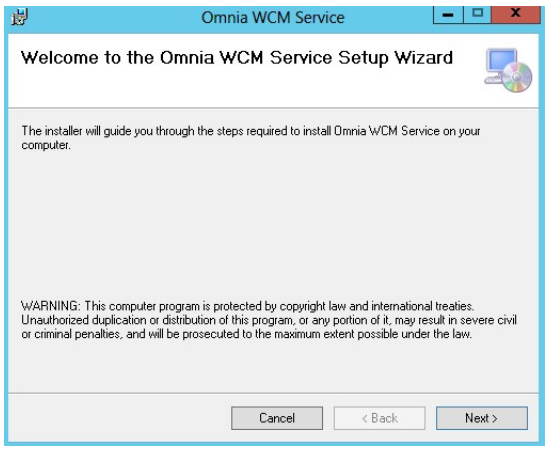
Omnia WCM Service will be installed on the Web Server machine.

Using the OmniaInstaller.exe application, select the option “Omnia WCM Service” first and click the install button.



The corresponding installation program will be launched.

This is the Welcome screen of the installation package for the Omnia WCM Service:



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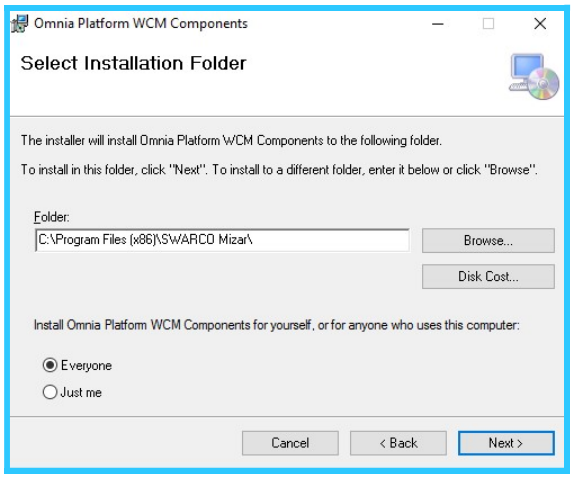
When the installation directory is prompted click “Next”.



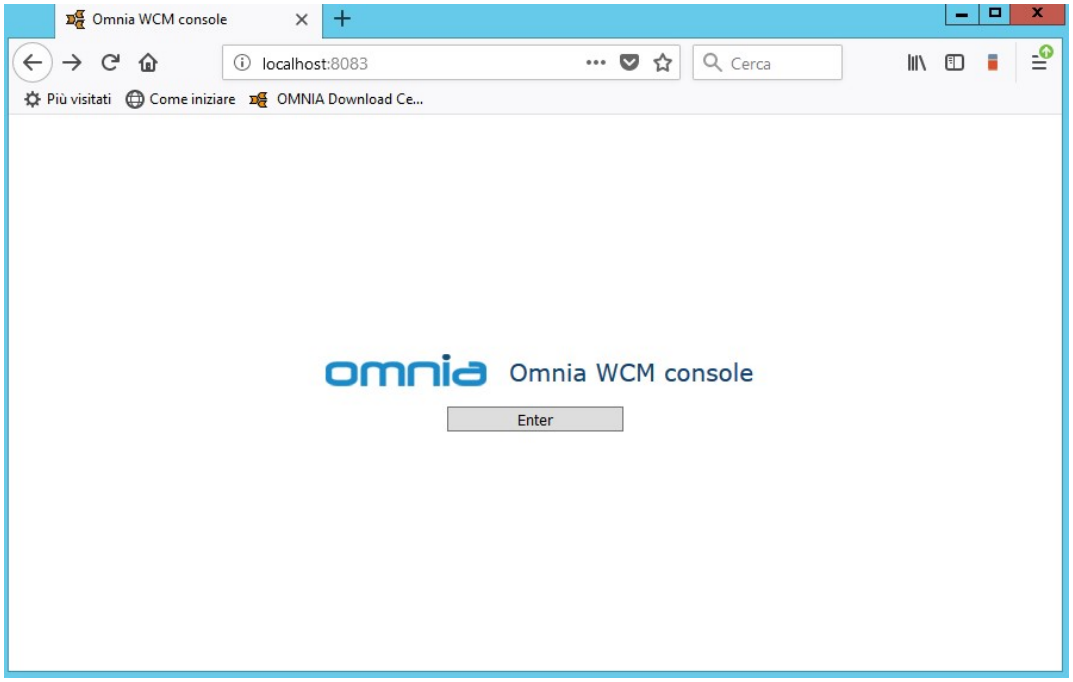
Continue until the end of the installation wizard.

Restart the server after the installation.

3.4.7.1 WCM configuration

OMNIA Web Connection Manager (WCM) is the server of the communications with all the web clients and dispatches messages between OMNIA functions and web clients.
Omnia Web Connection Manager (WCM) can be configured directly from the Omnia WCM console web interface.

1. Start Omnia Management Console opening the browser at http://localhost:8083



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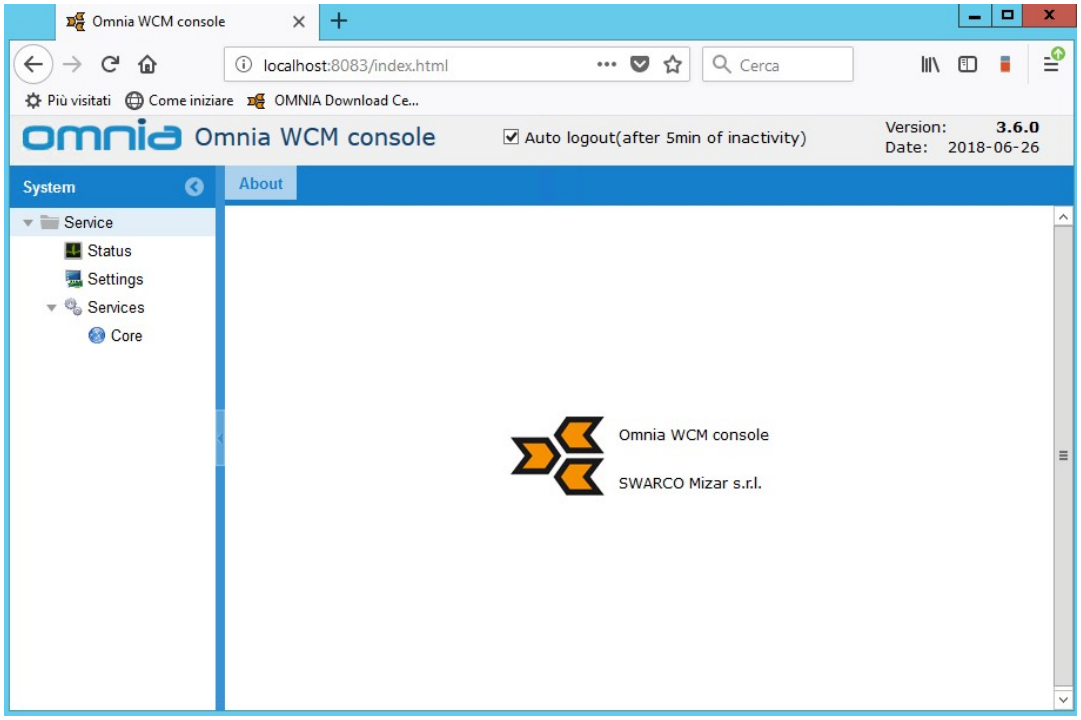
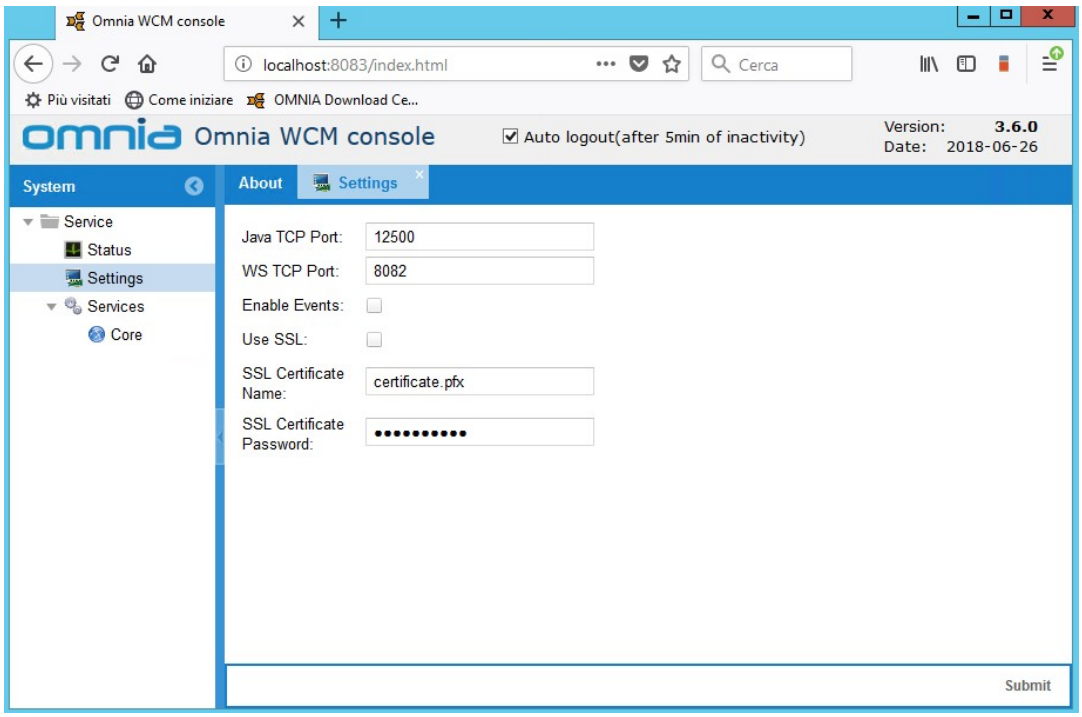
2. Click “Enter” to access Omnia WCM Console.



3. Click on “Settings” in the System panel to open the Settings tab.



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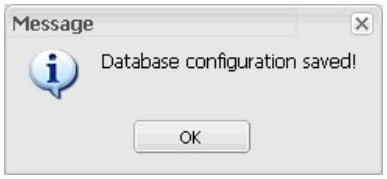
4. Fill the database settings according to the following table.

Java TCP Port:	IP port used for communications with Java applet
WS TCP Port	IP port used for communications with Web Socket

5. Click “Submit” to complete the configuration.
6. In the confirmation message, click “Ok” to complete the operation.



SPXTCP.DAT

IPC connections are used to interface only ‘INTERNAL APPLICATIONS’ (OMNIA managers). Detailed settings about the IPC connections with ‘INTERNAL APPLICATIONS’ are available in the ‘sysconf.ini’.

Example: TCP SGM

SPXTCP.DAT file is stored in the Web Communication Manager (WCM) folder (default: C:\Program Files (x86)\Swarco Mizar\Omnia WCM Service).

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3.4.8 STEP 4.6 – Installing OMNIA Server

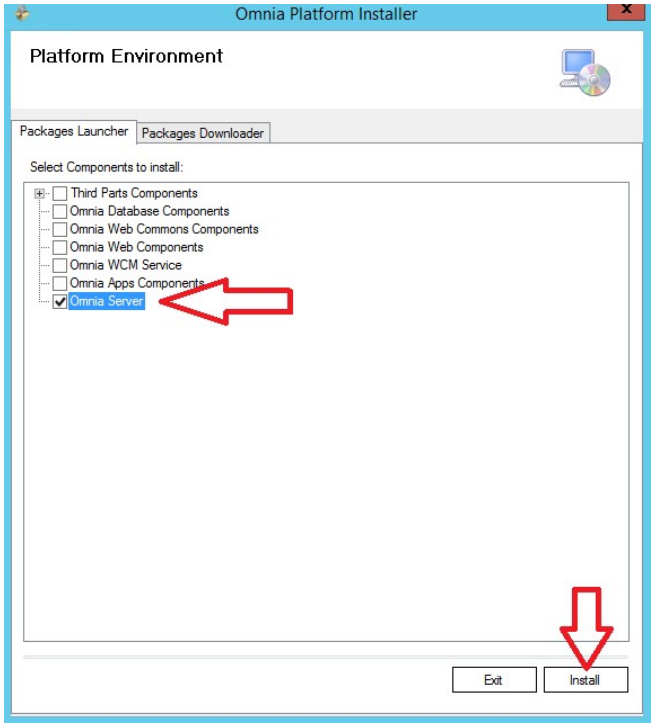
Use Case: Stand Alone installation

Omnia Server will be installed onto the single system machine.

Use Case: Distributed Installation

Omnia Server will be installed on the Application Server machine.

Using the OmniaInstaller.exe application, select the option “Omnia Server” first and click the install button.



The corresponding installation program will be launched.

This is the Welcome screen of the installation package for the Omnia Server components:

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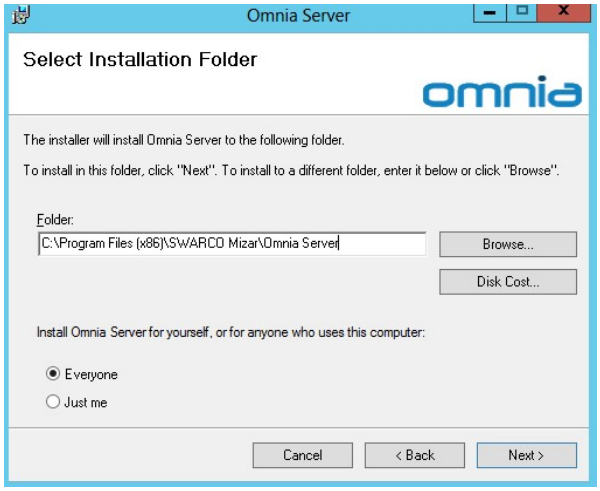
When the installation directory is prompted click “Next”.



Continue until the end of the installation wizard.

Restart the server after the installation.

3.4.8.1 Omnia Server 1001 Error

In case of the first installation of the Omnia Server application could happen an error “Error 1001: Unable to get installer types…”.

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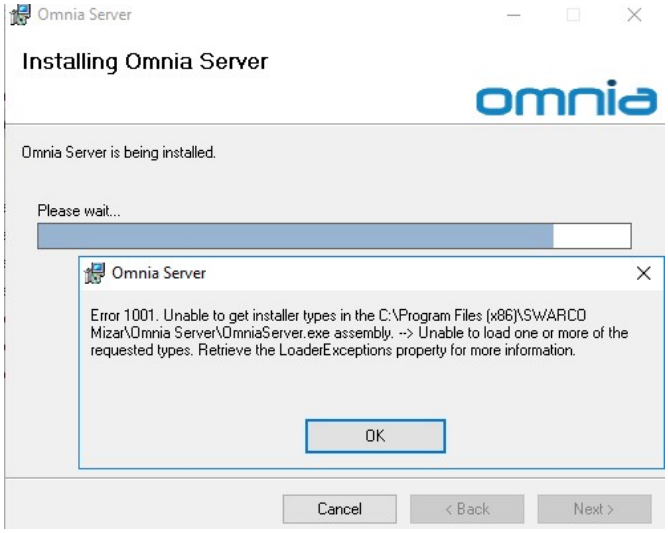
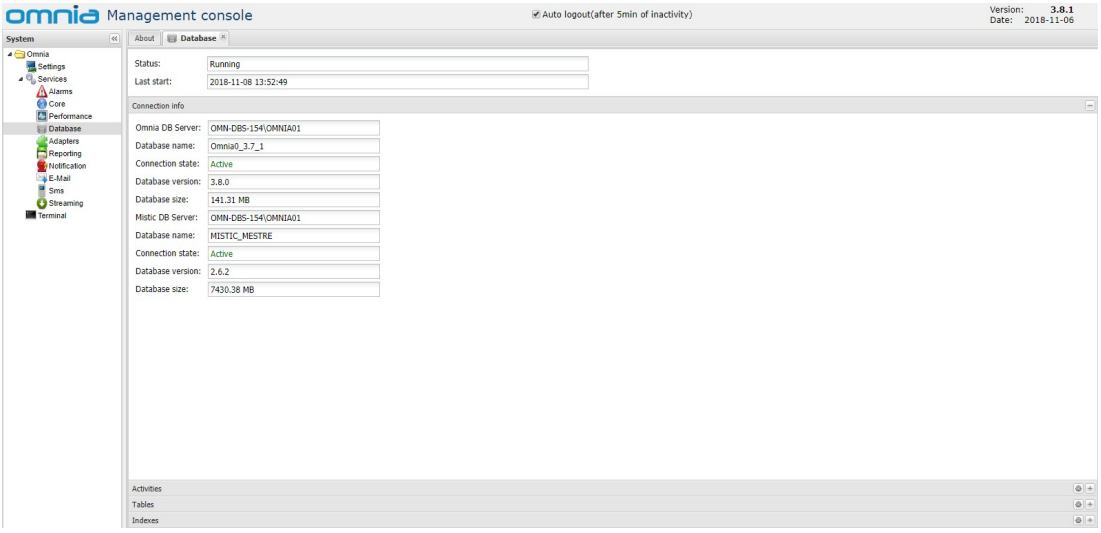


To solve this problem, you have to download the files available as "ExtensionsErrorOmniaServer.zip" in the "Setup Tools" section on the page of the SWARCO Download Center http://products.miz.it/DownloadCenter/OmniaPackages/lastrev.html.

Unzip it and launch the appropriate file batch, `install32.bat` or `install64.bat` according to the SO used and then proceed with the installation of Omnia Server.

3.4.8.2 Omnia Server test

1. Start Omnia Management Console opening the browser at http://localhost:8084
2. Click on "Services\Database" in the System panel to open the Database tab.



3. If the configuration is correct, Connection state field under Connection info section reports the state "Active".

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3.4.9 STEP 4.7 – Installing the Microservices Components

In case of Omnia with “Microservices Architecture" you can install on your system microservices packages you need using OmniaInstaller.exe application:

- Omnia Core Managers
- Omnia Data Sync
- Omnia Network Events
- Omnia Signal Groups
- Omnia SCATS Adapter
- Omnia QMIC Adapter
- Omnia PTV Adapter
- Omnia NTCIP 1209 Adapter
- Omnia NTCIP 1204 Adapter
- Omnia NTCIP 1206 Adapter
- Omnia ADAM Adapter
- Omnia GENETEC Adapter
- Omnia FLUX Adapter
- Omnia RMC Data Sync
- Omnia IVRIDispatcher Adapter
- Omnia Tattile Adapter
- Omnia MVDS Adapter
- Omnia Padova 2020
- Omnia RTMS Adapter
- Omnia SNAPS Adapter

Select from the list what you need and install on the Application Server machine or on the dedicated one and click on “Install” button; corresponding installation program will be launched.

Important
Please remember to close all currently running unnecessary applications as Services, Task Manager and other, because could compromise normally work of setup process and generate unexpected installation problems.

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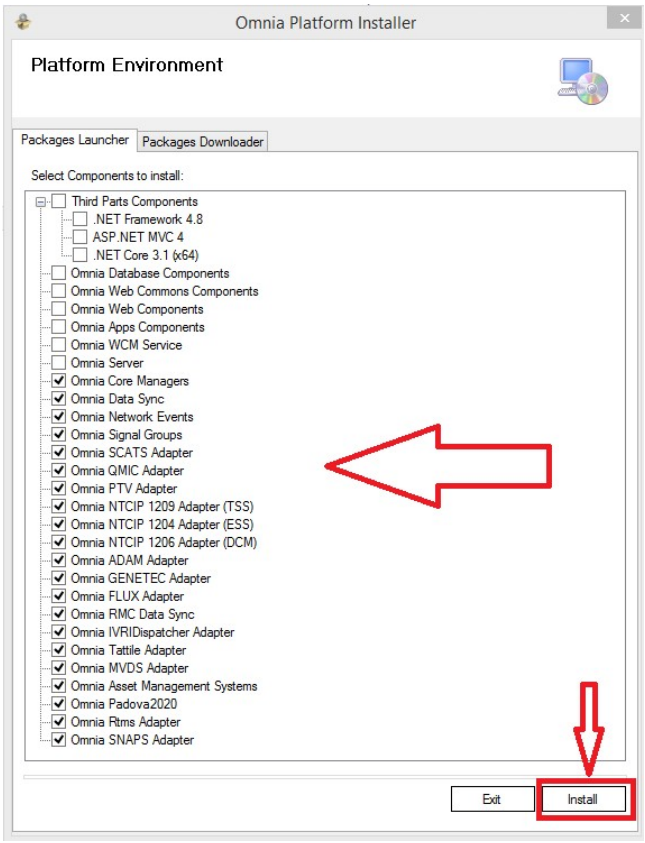

Next, other input forms will be displayed to enter the necessary information, insert it and complete the installation.

Omnia installation with “Microservices Architecture" involves a different system architecture, but it is out of scope of this guide. Refer to the specific document for more details.

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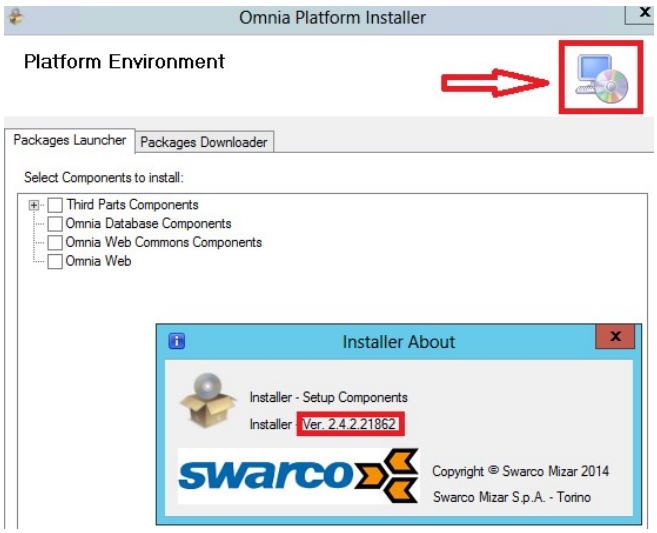
4 Updating Omnia previously installed through the installation packages

The following procedure is for updating Omnia when the platform was previously installed using the installation package (automatic procedure) is very similar to an installation from scratch.

4.1 Verifying the Omnia Installer version

Before beginning any upgrade of the Omnia components, make sure you have the latest version of the Omnia Installer application. The latest version of the Installer can be found on the SWARCO Mizar Download Center page:
http://products.miz.it/DownloadCenter/OmniaPackages/lastrev.html

To verify the current version of the Omnia Installer from the folder “C: \ InstallOmnia”; run the Omnia Installer and click on the computer icon on the upper corner of the window:



In case the version in use is older than the one available at the Download Center, first download the latest version and then replace (overwrite) the old “OmniaInstaller.exe” (in C: \ InstallOmnia \ OmniaInstaller.exe) with the new one.

4.2 Verifying the installed components

Before you begin any upgrade, make sure that all components to be upgraded are already installed. Use the Windows tool to check the installed programs ("Program and Features").

In a single server installation, the next items should be listed:

- Omnia Platform Database Server Components
- Omnia Platform Web Commons Components

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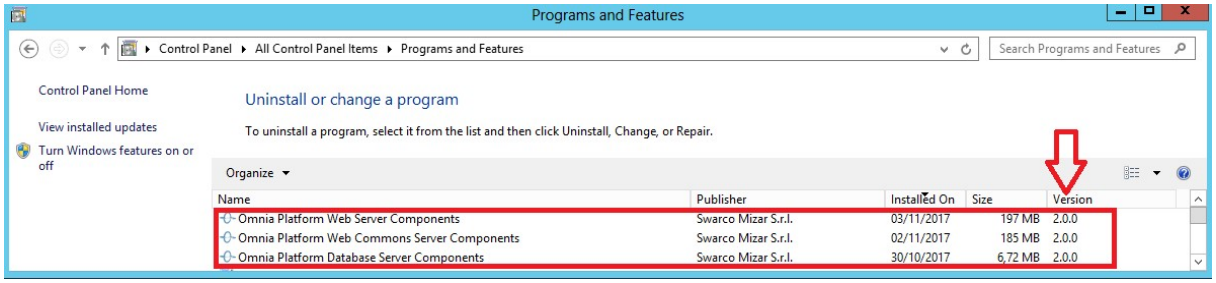
- Omnia Platform Web Components
- Omnia Platform Apps Components
- Omnia WCM Service
- Omnia Server
- Omnia Microservices Components **(in case of Omnia with "Microservices Architecture")**



The column "Version" displays the individual version number of every installed component.

4.3 Upgrading the available Omnia packages

Use Case: Stand Alone installation

Updates must be done on the server where Omnia has been installed.

Use Case: Distributed installation on multiple servers

Updates must be done on each server that is part of the distributed installation.

SPECIAL Use Case: Updating an Isolated Server not connected to Internet

Please download the packages as suggested below on a computer connected to the Internet. Then copy (onto the server machine isolated from the internet) all the contents in *C: \ InstallOmnia* from the machine connected to the Internet (used exclusively to obtain the installation packages).
Make sure all contents in *C: \ InstallOmnia* of the download machine are the same as in *C:\InstallOmnia* of the destination server.

Actions

Before doing any action to install / update Omnia, make sure that the version of OmniaInstaller.exe is lined up with the one available from the download page of the Omnia Download Center.

Open the Web Browser of your choice and go to the SWARCO Mizar Download Center (Mizar release server) at:
http://products.miz.it/DownloadCenter/OmniaPackages/lastrev.html
Then, check the latest distributed version:

Check the version of OmniaInstaller.exe in C: \InstallOmnia\ by doing one of the two possible ways:

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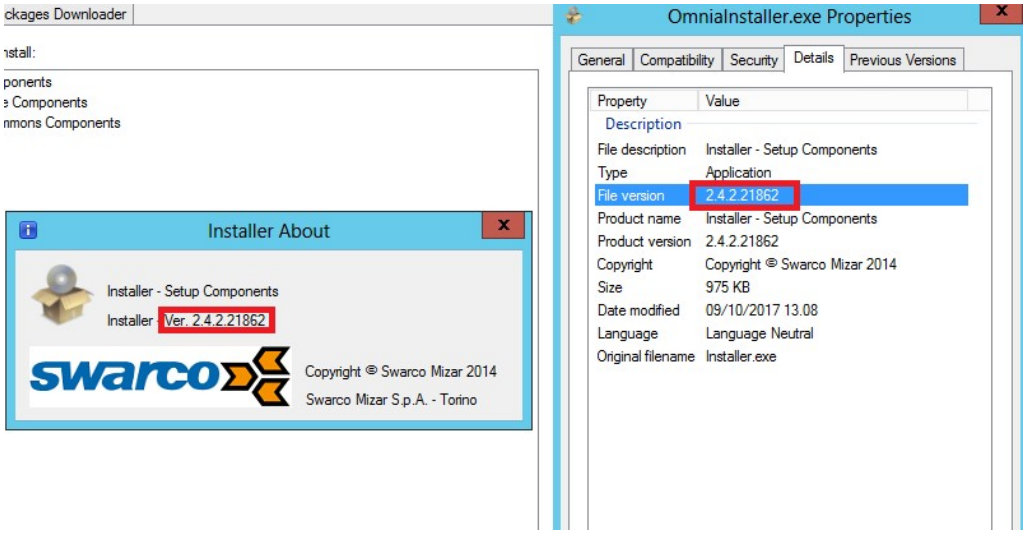
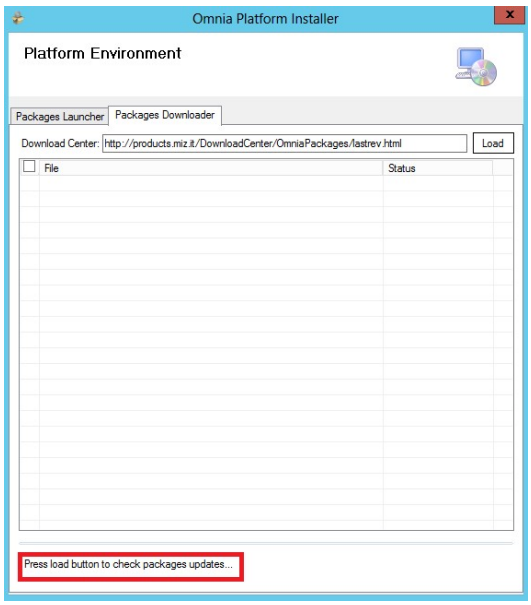
- Launch the application and double click on the image located at the top of the screen on the right hand side (the “About” window will be displayed with information about the version)
- Right click on the executable file to see its properties. Look into the “Details” section.



In case the version in use is older than the one available at the Download Center, first download the latest version and then replace the old one (in C:\ InstallOmnia \ OmniaInstaller.exe).

Next, run the OmniaInstaller.exe located into C: \ InstallOmnia and open the tab “Packages Downloader” in order to download the latest releases from the SWARCO Mizar Download Center.

Click the "Load" button to populate the list of updated files.



After a few seconds of downloading, depending on your internet connection speed, the program will display a list of files and updated installation packages available for download.

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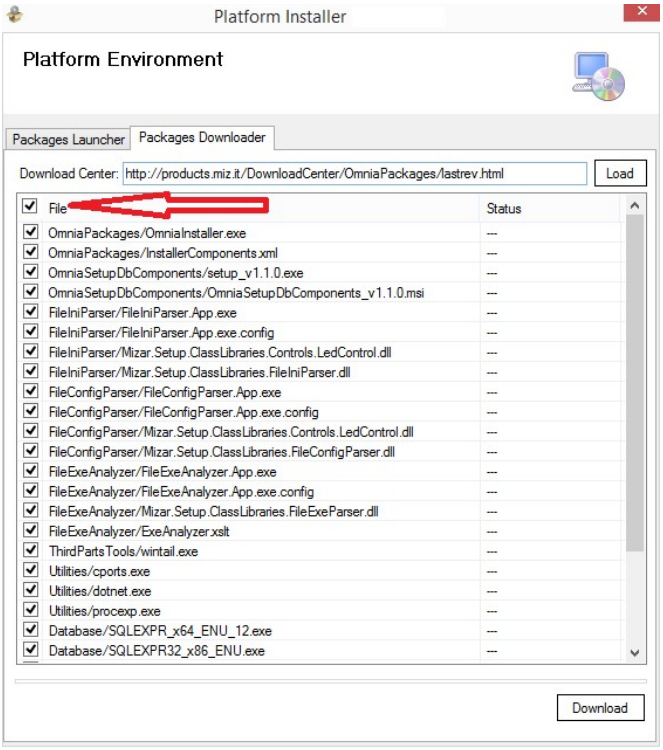
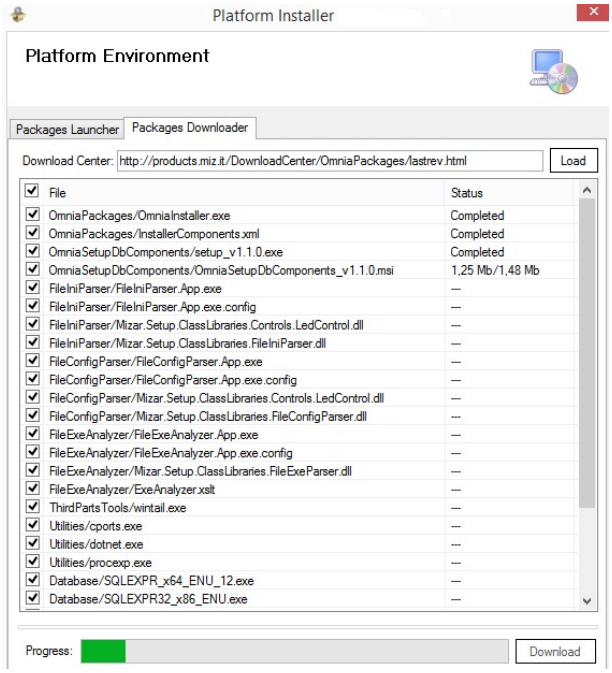
Select all files from the list by ticking the checkbox available on top of the list at the left-hand side, as it is shown below:



Then click on the “Download” button.



Wait until the process of downloading files has finished.

Note:

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The application OmniaInstaller.exe displays the list of all files available on the SWARCO Mizar Download Center; however, only the obsolete files (on the local machine) will be downloaded.
This means that all items in the list can be selected without having to worry about including or excluding items from the list.

At the end of the download process, the application will display the following:

- Tab “Packages Downloader” will show the status of “Completed” for all files
- Tab “Packages Launcher” will display the list of packages to be installed.

At this point it is possible to proceed with the installation as if you were installing the platform from the beginning, following its own use case.

Install only the components shown by the Omnia Download Center with a higher version to the one currently installed (check the programs installed in Windows).

Before proceeding with the installation, write down which of the following steps must be carried out by checking the current version and the new version available from the Download Center:

- Update the components to build up the database
- Update the databases on SQL Server
- Update the web commons components
- Update the web components
- Update the apps components
- Update Omnia Web Connection Manager (WCM)
- Update Omnia Server components
- Update the Microservices components (in case of Omnia with “Microservices Architecture")

Note:
Any update errors are protected by the verification procedures inherent in the update packages. This means that the installation of previous versions, obsolete versions or the installation of a version that already exists is not allowed.

4.4 System Update

Please continue with the installation packages as if it were a setup from scratch in order to update the following components:

- Omnia Database Server Components
- Updating the storage databases to the latest version (through the OmniaDBBuilder application for Omnia and through the MisticDBBuilder application for MISTIC). **Remember to backup all databases first**!
- Omnia Web Commons Components
- Omnia Web Components
- Omnia Apps Components
- Omnia WCM Service
- Omnia Server

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- Omnia Microservices Components **Only in case of Omnia with “Microservices Architecture"**

Follow the instructions described in the chapters according to the components to update and its corresponding use case.

Since it is a package “update” instead of a “new installation” the wizard will not ask for the server names again for the packets that require them.

Restart the server after the installation/upgrade of one or more components.

Note:
When the databases are updated through the OmniaDbBuilder.exe application for Omnia database and MisticDbBuilder.exe application for Mistic database, the data is preserved by the update operations. The operations performed by the application concern only to update the database structure and do not modify the data contained in it. However, it is highly advisable to perform all databases backup prior to any updates.

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5 Updating Omnia previously installed without the installation packages

The Omnia upgrading operations need more attention when the platform was previously installed manually. It is warmly suggested to prepare a safe backup copy of the Omnia folders:

- save old data
- refer to the installation from scratch described in the chapter "3 New Installation" of this document and continue installing the needed components
- retrieve system configurations from the specific files.

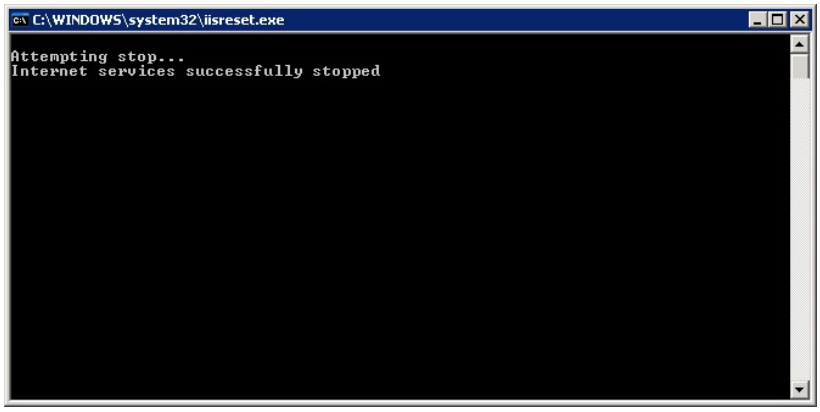
5.1 OMNIA WEB Components

This step involves the files in the Web destination folder (e.g., *C:\Omnia\Web*).

Before starting any upgrade action, please carefully check the details reported in the following sections.
In every section are listed special actions and configurations eventually required to perform the update in the proper way from that specific software release to any newer release.

5.1.1 Before Starting

Before starting the installation of the web components, and in particular the Web Services and the Graphical User Interface update procedure, it is necessary to stop Internet Information Service (IIS).
To restart IIS, run the command “iisreset -stop”.



Then open Windows Explorer and identify the destination folder (local or network) containing the Web components (e.g. *C:\Omnia\Web*) and rename it to *“__Web*”.

Continue installing the OMNIA WEB Components (refer to the installation from scratch described in the chapter "3.4.5 STEP 4.3 – Installing the web components" of this document) and finally proceed with the manual operations described in the following chapters.

5.1.2 WEB Services

1. Open Windows Explorer and identify the destination folder (local or network) containing the Web Services (e.g. *C:\Omnia\Web\WebServicesApp*).

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2. Open the “Web.Config” file from the old Web Services folder (“__*Web**WebServicesApp*”) and compare it to the one in the updated folder. You must change all keys present in the old file but be careful to preserve the structure of the file (do not remove the new added keys or do not add the deleted keys).
   The automated installation provides to assign the correct database server name and instance name in the Omnia connection string in the config file. The default name of database is “Omnia”. If the old Web.Config refers to another database, please change it.
3. Restart the Internet Information Service (IIS).
4. Remove the old *WebServicesApp* folder (“__*Web**WebServicesApp*”).

5.1.3 Graphical User Interface

1. Open Windows Explorer and identify the destination folder (local or network) containing the Graphical User Interface (default *C:**Omnia**Web**WebDesktopApp*)
2. Open the “Web.Config” file from the old Graphical User Interface folder (“__*Web**WebDesktopApp*”) and compare it to the one in the updated folder. You must change all keys present in the old file, but beware of preserve the structure of the file (do not remove the new added keys or do not add the deleted keys).
3. Copy the “license.xml” file from the old Graphical User Interface folder (“__*WebDesktopApp*”) to the updated folder.
4. Copy the content of the Junction View backgrounds folder (“SVGbackgrounds”) from the old Graphical User Interface folder (“__*Web**WebDesktopApp*”) to the updated folder.
5. Copy the log and temp folder from the old Graphical User Interface folder (“__*WebDesktop*”) to the updated folder.
6. Restart the Internet Information Service (IIS)
7. Remove the old *WebDesktopApp* folder (“__*Web**WebDesktopApp*”).

5.2 OMNIA Apps Components

1. Before starting any upgrade action, please save the files in the *dbase* destination folder (e.g. *C:**Omnia**Data**dbase*) renaming the folder to “__*dbase*”.
2. Continue installing the OMNIA Apps Components (refer to the installation from scratch described in the chapter “3.4.6 STEP 4.4 – Installing the kernel applications” of this document)
3. Finally replace the old files from the “__dbase”.folder to the new dbase destination folder.

5.3 OMNIA Server

To update OMNIA Server to current release:

1. Uninstall OMNIA Server old version
2. Install new OMNIA Server release following the instructions available in section “3.4.8 STEP 4.6 – Installing OMNIA Server” of this document.

5.4 OMNIA Web Connection Manager (WCM)

To update OMNIA Web Connection Manager to current release:

1. Uninstall OMNIA Web Connection Manager old version
2. Install new OMNIA Web Connection Manager release following the instructions available in section “3.4.7 STEP 4.5 – Installing OMNIA Web Connection Manager (WCM)” of this document.

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5.5 Omnia Web Commons Components directories

The performed manual installations shall present a different configuration from the one obtained with an automatic installation. Below are reported the most common actions performed installing the web commons packets.

Actions

1. The folders and the files are moved
   FROM:
   <drive>:\Omnia\Web\WebData\Commons
   TO:
   <drive>:\Omnia\WebCommons

2. The folders and the files are moved
   FROM:
   <drive>:\Omnia\Web\WebUtility
   TO:
   <drive>:\Omnia\WebUtility

Note:
The notation <drive> must always be replaced with the actual installation drive.

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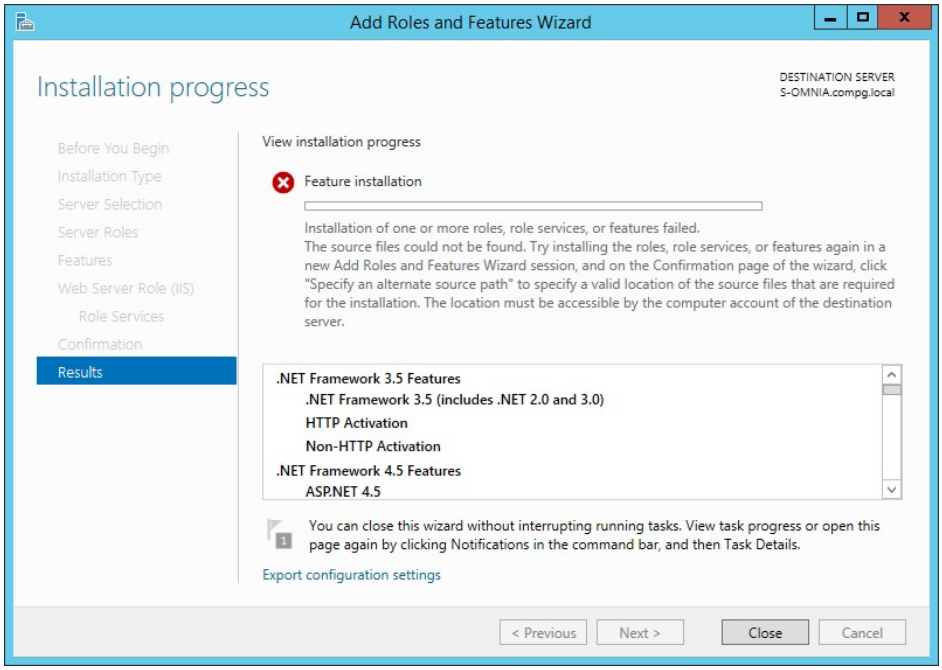
6 Troubleshooting

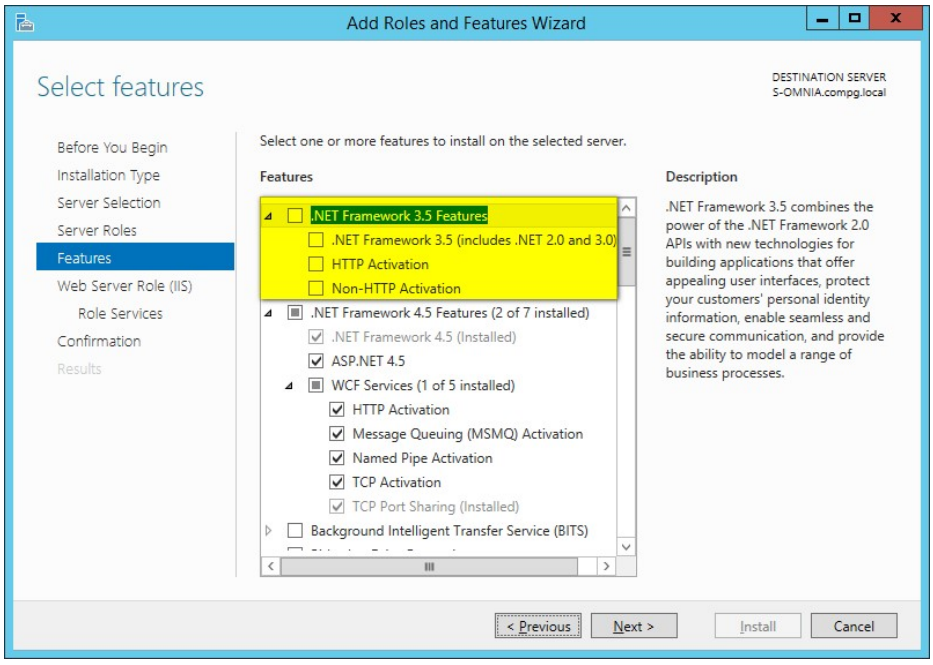
6.1 Internet Information Service (IIS)

6.1.1 Installation of one or more roles, role services, or features failed

Seen on a Windows® 2012 Server running .Net Framework 4.5.2



In the “Select features“ view of the “Add Roles and Features Wizard”, disable .NET Framework 3.5 features and repeat the setup



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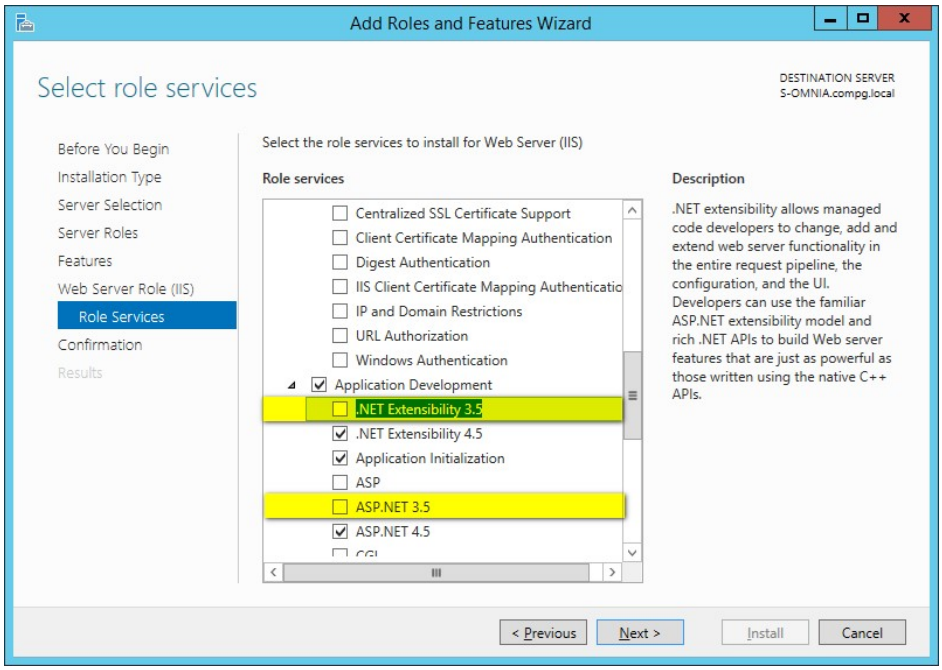
In the “Select role services“ view of the “Add Roles and Features Wizard”, locate Application Development and disable .NET Extensibility 3.5 and ASP .NET 3.5

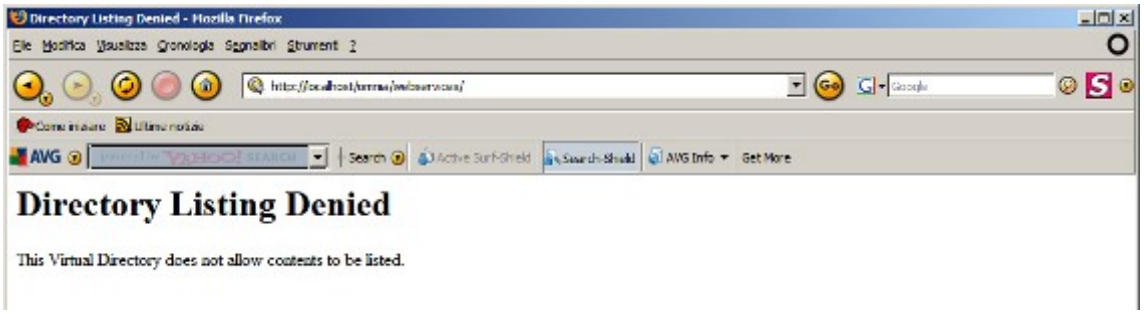


Repeat the setup.

6.2 WEB Services

6.2.1 Test procedure does not work with Firefox

From the Internet Information Service Window, using Firefox to browse the file “WS_Access2.asmx” from the list of files in the “WebService” directory, the error in the following figure is displayed.



1. Open the “Internet Information Services” Manager.
2. In the “Internet Information Services” view locate the Omnia Virtual Directory and right click on the “WebServices” sub-directory to open the drop down menu, then select “Properties” to start the “Properties” view.

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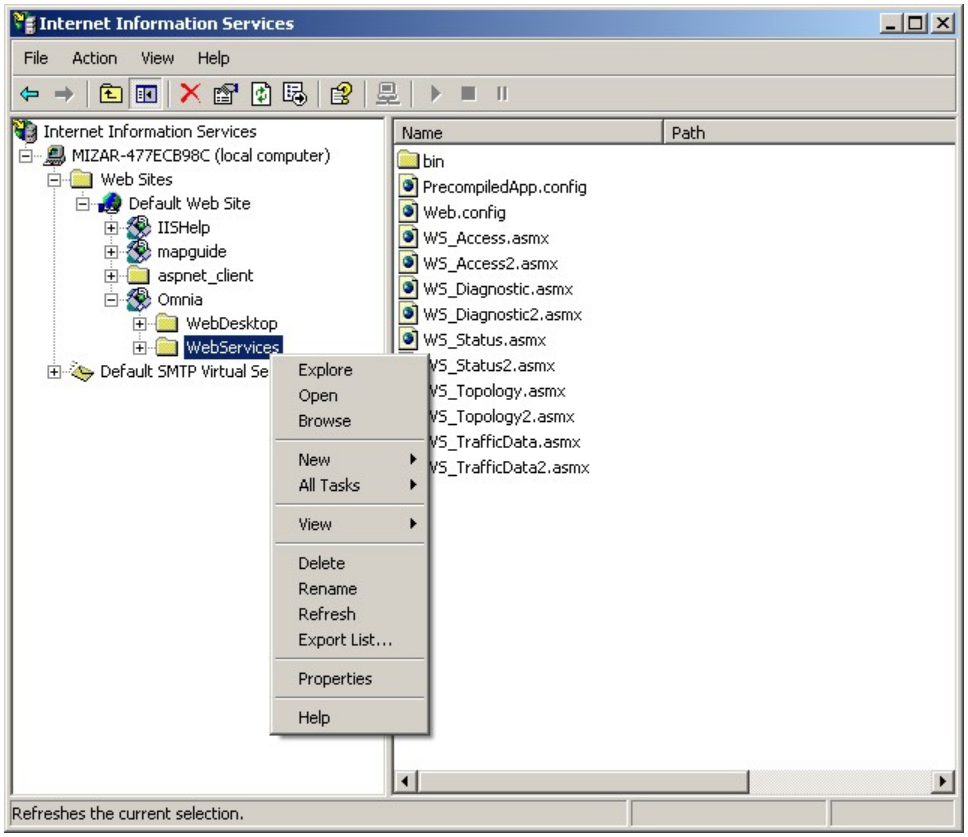
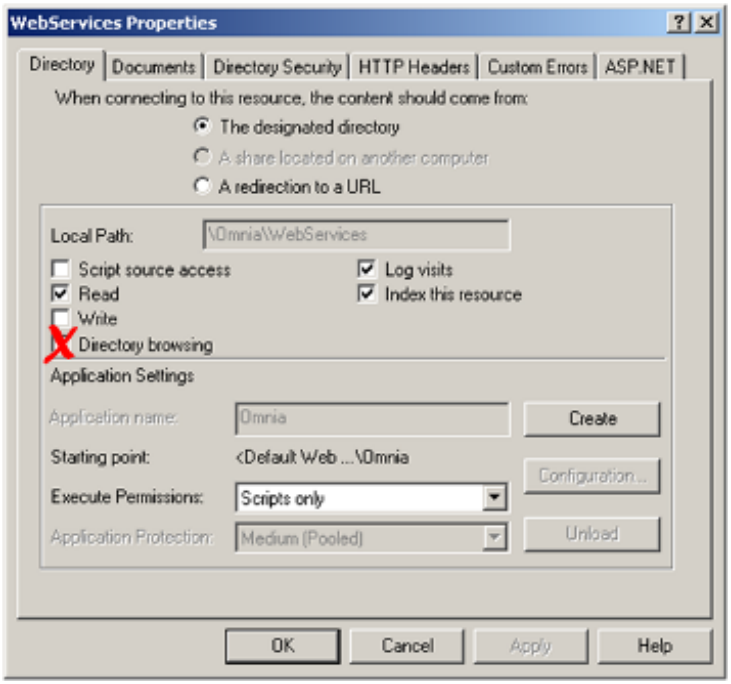


3. In the “WebServices Properties” view, select the “Directory” tab and enable the “Directory browsing”. Click on “OK” button to confirm the modification.



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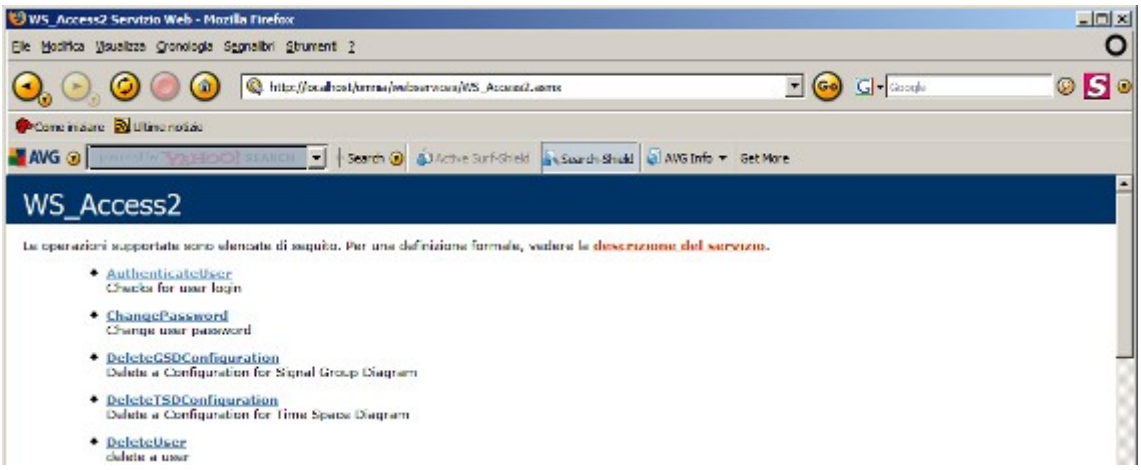
4. Repeat the WEB Services test.



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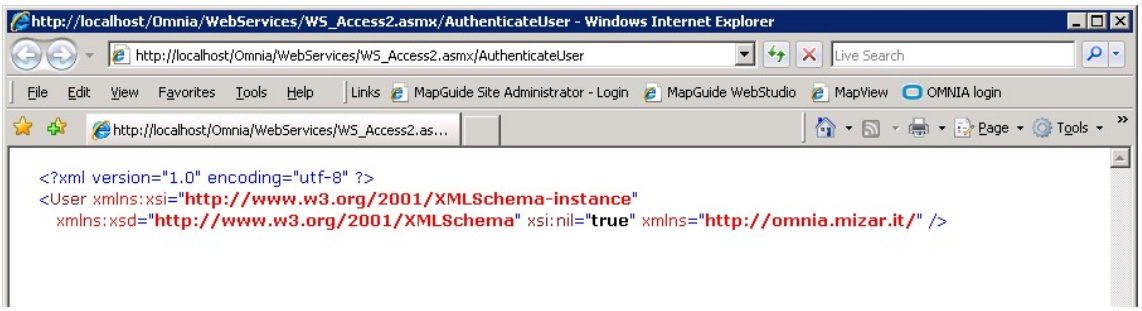
6.2.2 Test procedure does not return any data

From the Internet Information Service Window, using Internet Explorer to browse the file "WS_Access2.asmx" from the list of files in the "WebService" directory, the view that appears invoking the WEB service for the 'admin' user does not return any data (see figure below).



The malfunctioning is related to a configuration mismatch in the section <connectionStrings> of the Web.Config file.

1. Open the "Web.config" file in the WebServicesApp directory using any textual editor
2. In the section <connectionStrings> verify the parameters of the key "connectionString"

DATABASE SERVER	DBMS Network ID (Network ID of the computer running SQL Server)[1]
DATABASE NAME	Name of the Omnia Database installed on the DBMS (default = Omnia)
User ID	Omnia Database Administrator Username
Password	Omnia Database Administrator Password

```
<connectionStrings>
      <remove name="LocalSqlServer" />
      <add name="OmniaDb"
      connectionString="Data Source={DATABASE SERVER};Initial Catalog={DATABASE
            NAME};Integrated Security=False;User ID={USER};Password={PASSWORD};"
      providerName="System.Data.SqlClient" />
</connectionStrings>
```

[1] NB: For DATABASE SERVER key, enter 'Server Name' (e.g. localhost) for SQL Server® Standard Edition, 'Server Name'\MSSMLBIZ for Small Business Edition or 'Server Name'\SQLEXPRESS for SQL EXPRESS Edition

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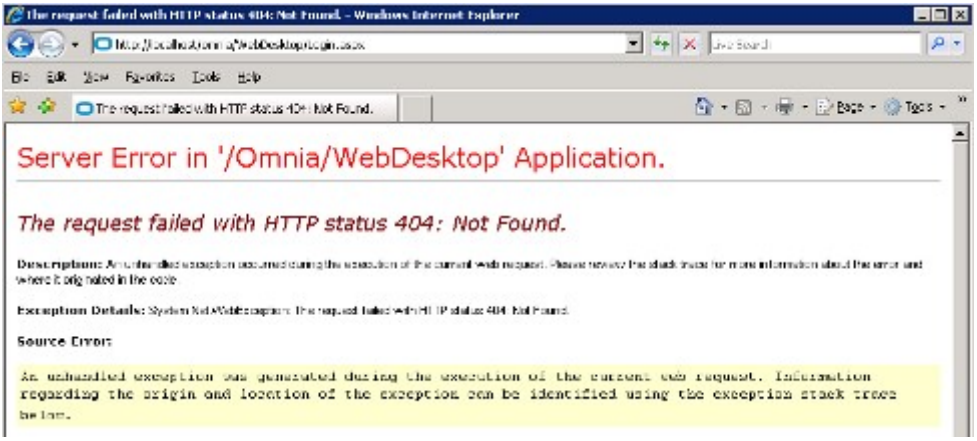
6.3 Graphical User Interface

6.3.1 Server Error in '/Omnia/WebDesktop' Application – The request failed with HTTP status 404: Not Found

Using Internet Explorer to log into Omnia, the system reports the following Server Error in '/Omnia/WebDesktop' Application:

1. The request failed with HTTP status 404: Not Found



The malfunctioning is related to a configuration mismatch in the section <appSettings> of the Web.Config file.

1. Open the "Web.config" file in the WebDesktop directory using any textual editor
2. In the section <appSettings> verify the path of all the WebServices

Key	Value (default)
WS_Access.WS_Access2	http://localhost/omnia/webservices/WS_Access2.asmx
WS_Status.ws_status2	http://localhost/omnia/webservices/ws_status2.asmx
WS_TrafficData.WS_TrafficData2	http://localhost/omnia/webservices/WS_TrafficData2.asmx
WS_Diagnostic.WS_Diagnostic2	http://localhost/omnia/webservices/WS_Diagnostic2.asmx
WS_Topology.WS_Topology2	http://localhost/omnia/webservices/WS_Topology2.asmx

3. Stop and Restart the "Internet Information Services" Manager.
4. Repeat the Login procedure

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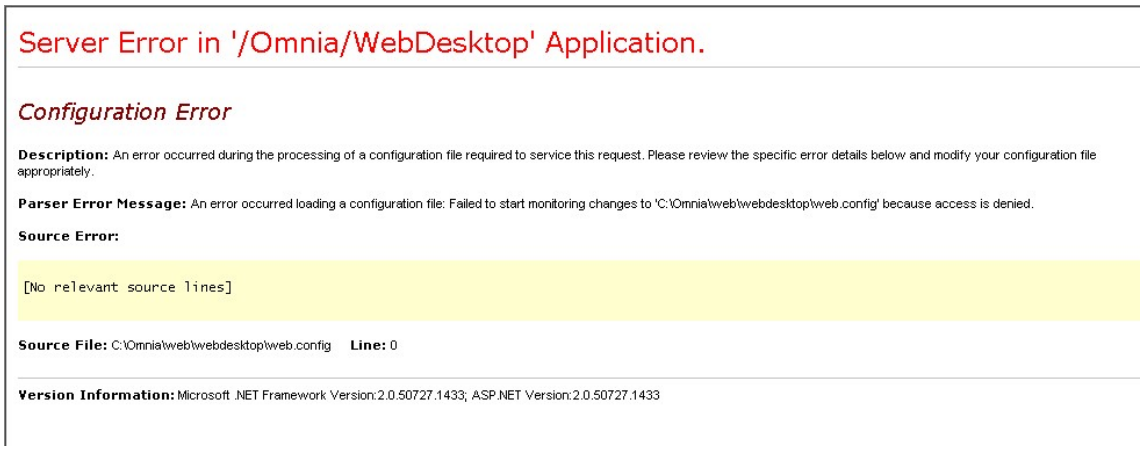
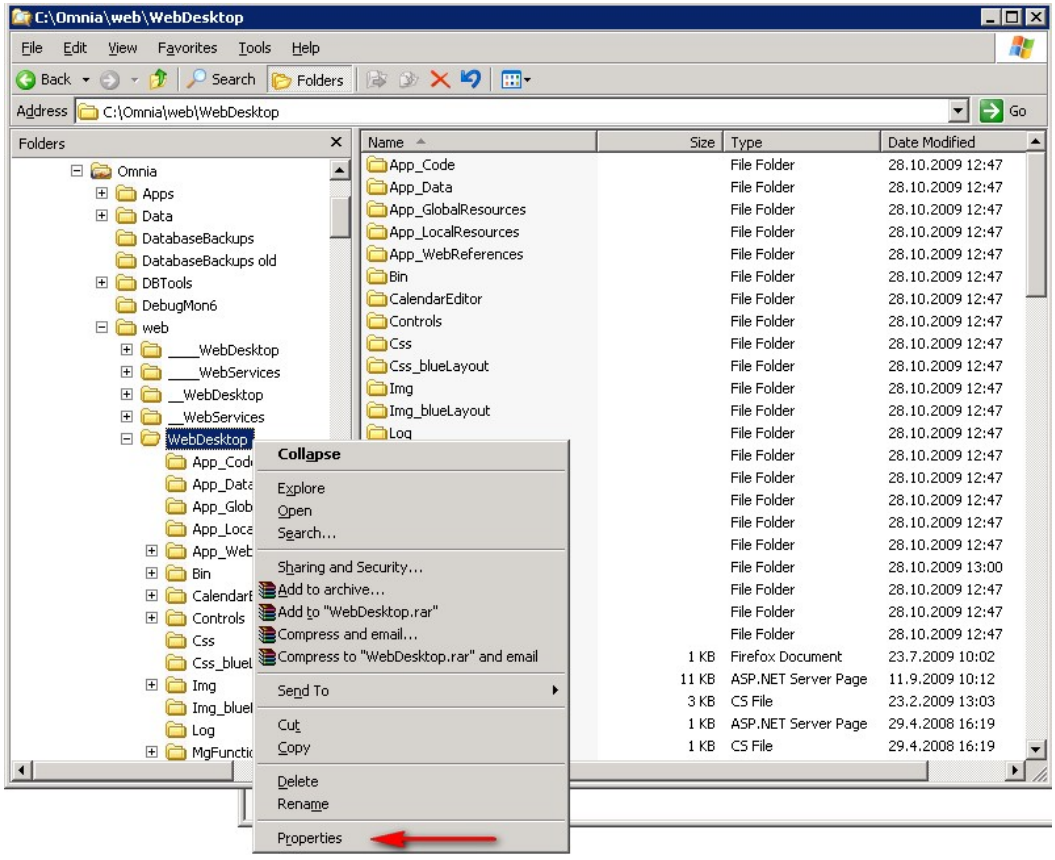
6.3.2 Server Error in '/Omnia/WebDesktop' Application

The error occurs after an update or an installation and is determined by Permissions Error



1. Locate the WebDesktop directory
2. Right click the mouse on the folder an open the properties window.



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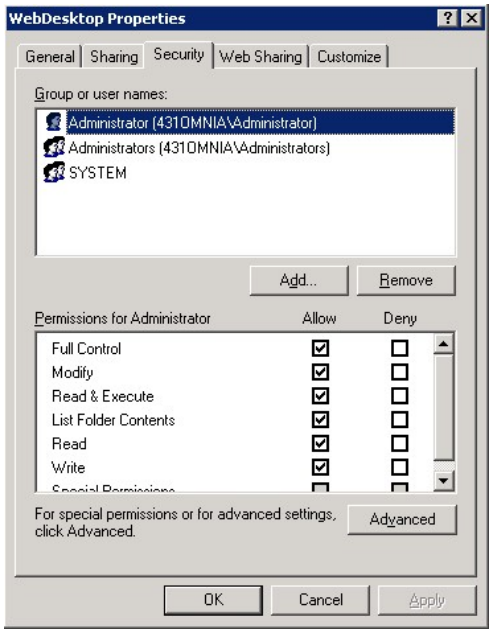
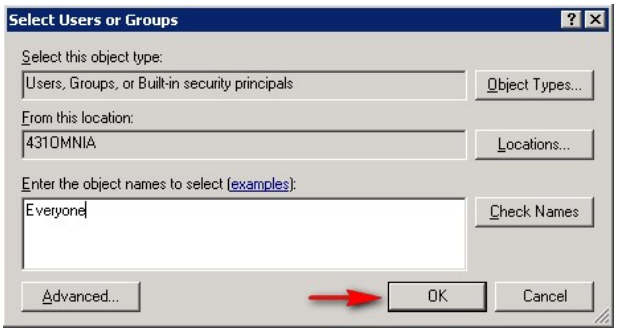


3. Click on “Add” button to add a new user.
4. In the “Select Users or Groups” window, add the user “Everyone” and click “OK” to confirm.

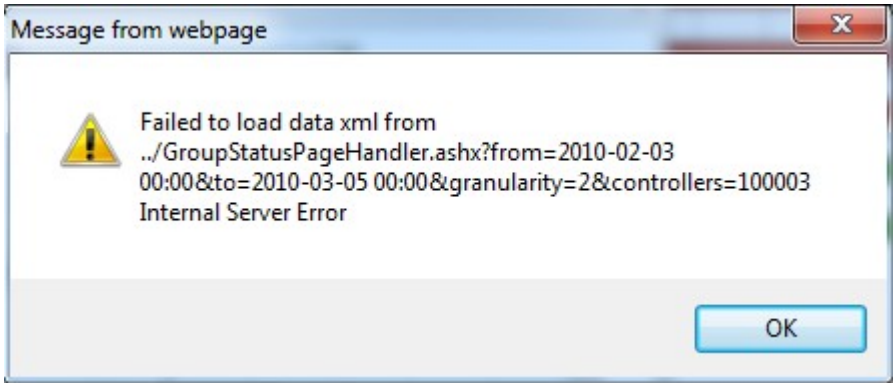


5. In the “WebDesktop Properties” window, select the user “Everyone” and give it the permissions for “Full Control”

6. Click on “Advanced” button to access special permissions and advanced settings
7. Apply the WebDesktop properties just configured to all the child folders.
8. Restart the browser to complete the configuration.

6.3.3 Failed to load data xml from ../GroupStatusPageHandler.ashx?from...

When opening signal group diagram recording, to select the date and time 4 error messages popup every time selection is changed.



Malfunctioning is determined by .NET Framework in use.
It can been fixed installing the SP2 for .NET 2.0.

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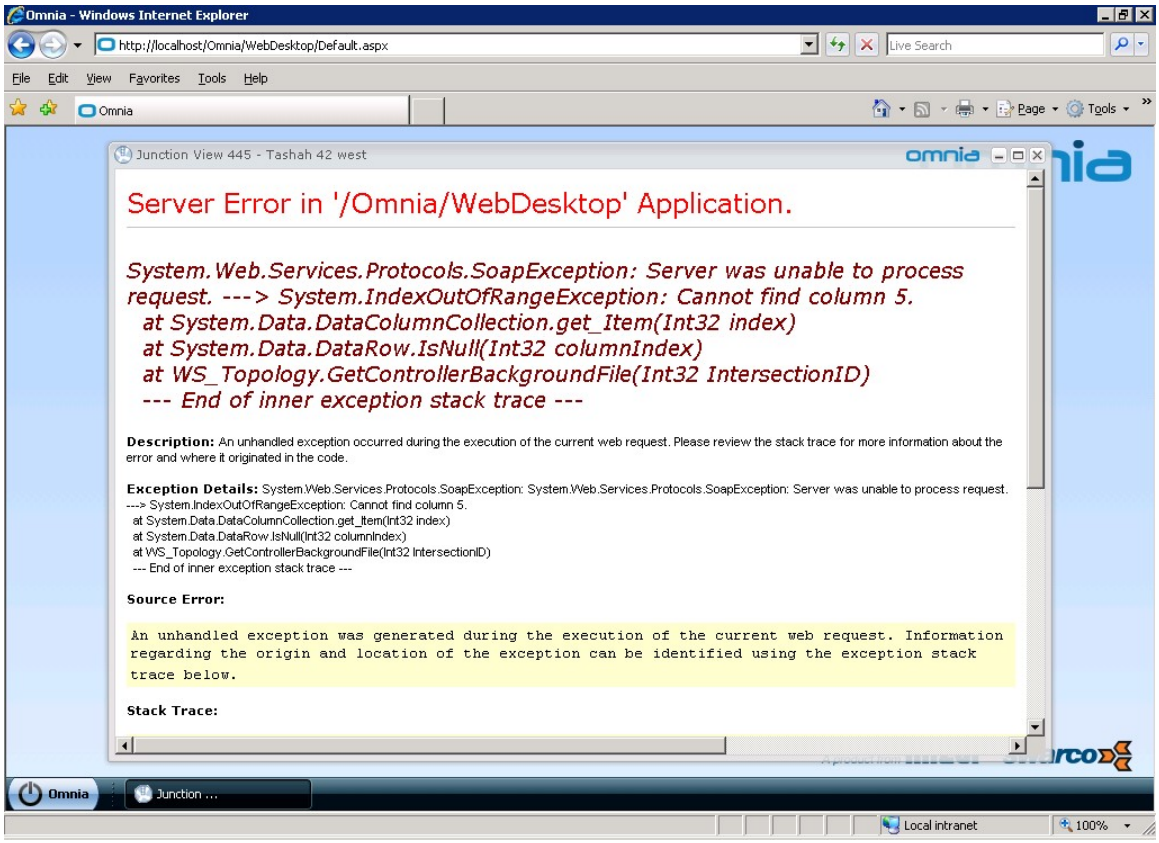
6.3.4 Server Error in '/Omnia/WebDesktop' Application – System.Web.Services.SoapException



When this error occurs, check that the OMNIA folder and all its subfolders have the user "Everyone" defined with full control rights

6.3.5 Server Error in '/Omnia/WebDesktop' Application – Response filter is not valid

The error occurs clicking on the "Export data to excel" button in the Traffic data form, with traffic data correctly loaded.

Error is determined by a bug in .NET framework release 3.5 and is fixed in the release 1.2.0 of OMNIA.

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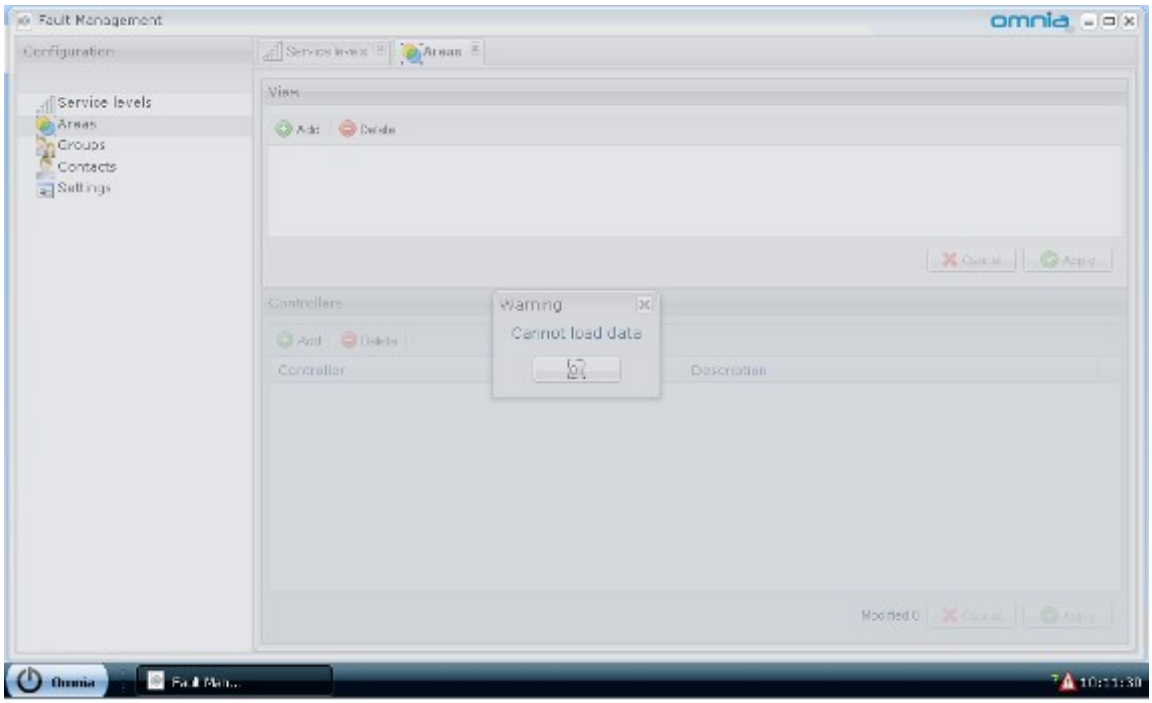
6.3.6 Signal Group Diagram export to PNG or PDF crashes

Signal Group Diagram export to PNG or PDF could crash in case the “InkScapeExecutable” key in the webdesktop\web.config file is not set properly.

<add key="InkScapeExecutable" value="C:\Program Files\Inkscape\inkscape.exe" />

6.3.7 Fault management not able to load data

The Fault management functionality is not able to retrieve data from the database, and a error box appears (see next image).



1. Open the WebDesktop/web.config configuration file.
2. Add the line

   ```
   <add                              key="WS_Configuration.WS_Configuration"
   value="http://SERVERADDR/Omnia//WebServices/WS_Configuration.asmx"/>,
   ```

   where SERVERADDR is the IP address of your web server.

3. Restart IIS
4. Try again

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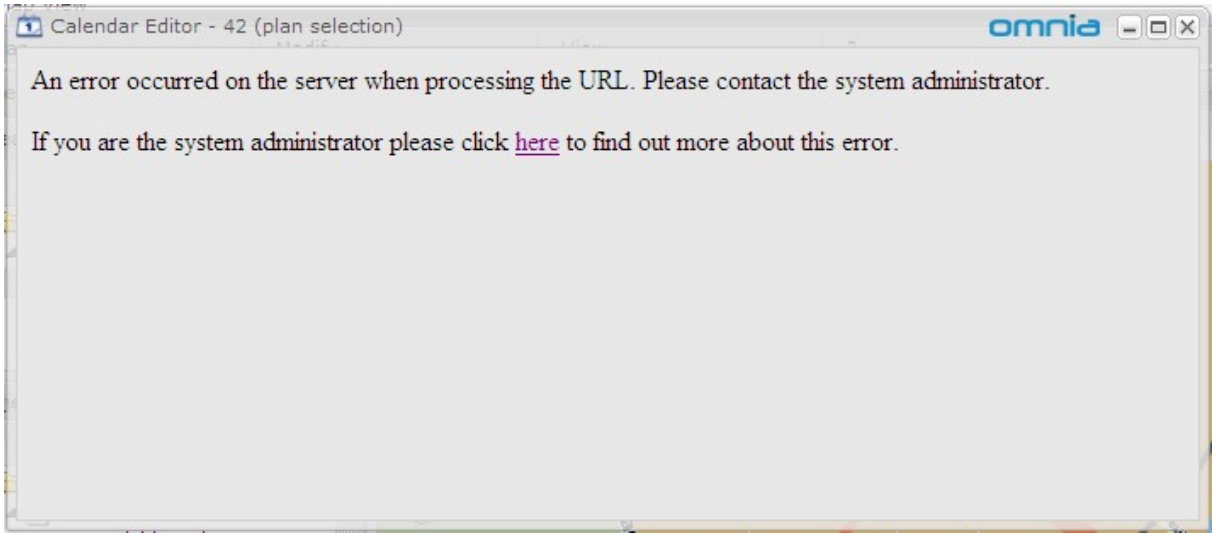
6.3.8 Error loading OMNIA Calendar Editor

The error has been documented on a Windows 2008 server 64 edition running IIS 7.

When OMNIA is started on Firefox or Internet Explorer, launching the Calendar Editor from the shortcut provided in the Map View selection tree, the following error is displayed.



Malfunctioning is determined by a configuration mismatch in plan library actions table.
Update plan scenario editor module to the latest release and check the configuration of traffic scenarios.

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