# Galigeo for WebI Installation Guide - G19.0

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## Introduction

In this chapter:

Public concerned by this guide Document goal Reading conventions

## **About this document**

#### **PUBLIC CONCERNED BY THIS GUIDE**

This document is aimed at technical persons in charge of the preparation and execution of the Galigeo platform installation as well as persons doing the exploitation.

#### **DOCUMENT GOAL**

This document presents the technical architecture of the Galigeo Solution. It describes the technical pre-requisites and the installation steps.

### **READING CONVENTIONS**



## **Chapter 1: Pre-requisites**

In this chapter:

Architecture Schema BOE Server ArcGIS Server ArcGIS Online Galigeo Server Galigeo Installer Network Client Machine

## **1.1 Architecture Schema**

#### **GENERAL ARCHITECTURE**

Galigeo is designed as an n-tiers, client-server, architecture deployed on Intranet/Internet:

- The top most layer is the "**presentation tier**" or the user interface. The Galigeo user interface is a thin Internet remote client.
- The "application tier" or the business logic tier consists of the WebIntelligence decisional server, the ArcGIS server and the Galigeo server. This tier controls the data exchange and connections between the presentation tier and the data tier (described below). Note that the WebIntelligence server also controls the authentication/access through BusinessObjects security model.
- $\circ~$  The last layer is the "data tier" with database servers where information is stored in

and retrieved from DBMS.

The complete architecture includes the tools for managing and administering this system: The Galigeo administration module, BusinessObjects Administration and Designer as well as ArcGIS Desktop and Manager (ESRI).

Galigeo BI Connector is installed on BusinessObjects web server i.e. the WebIntelligence server.

Galigeo cartographic viewer is installed on Galigeo Server.



## ARCHITECTURE SCHEMA FOR THE HTML CLIENT

#### **1.2 BOE Server**

The Business Objects server delivers the data from the Webi reports that will be visualized

and analyzed in the Galigeo maps. The maps are embedded into the InfoView / WebIntelligence reports.

The BOE server hosts the BI connector, used by Galigeo, and its administration console.

Item	Pre-requisite	Notices	Check test
OS (see BO supported W2K8 operating systems)	Windows Server 2008, 2012 all editions RedHat Enterprise Linux 5, 6	NA	NA
Java Environmen t	Java Development Kit (JDK) 1.7.0_xx 1.8.0_xx		<pre>1<sup>st</sup>_test (basic): in a shell command prompt, type : java - version Example of expected result: java version "1.8.0_72" 2<sup>nd</sup>_test: in the application server configuration console, check what Java version is used. Ex Tomcat - Check the parameter « Java Virtual Machine » in the tab « Java » of the configuration console: C:\jdk1.8.0_72\jre\bin\server \jvm.dll</pre>
Applications Server	Tomcat 7.0.x (jdk 1.7) Tomcat 8.0.x (jdk 1.8) Tomcat 8.5.x (jdk 1.8)	Tomcat is installed by default with the server products BOE. The documentation describes the installation only for Tomcat.	Launch the welcome page of the J2EE application server. The version can usually be displayed: Ex Tomcat: http://boe- srv:8080
BOE BI 4: 4.1 SP1, 4.1 SP2, 4.1 SP3, 4.1 SP4, 4.1 SP5, 4.1 SP6, 4.1 SP7, 4.1 SP8, 4.1 SP9, 4.1 SP10, 4.2, 4.2 SP2, 4.2 SP3	Server Components: Core Services Web Intelligence Services BOE Java webapp (BOE.war including AnalyticalReporting module)	The components are installed by default with BOE. The module AnalyticalReporting inside BOE.war is used to display WebI documents in the BI Launch Pad portal (InfoView). Based on the original BOE webapp, the Galigeo installer produces a new version of BOE.war that embeds the Galigeo	<ul> <li><u>1<sup>st</sup> test</u> - Module BOE Java available - launch the BI Launch Pad url:</li> <li><b>Ex:</b></li> <li>http://boe-srv:8080/BOE/BI <ul> <li>The BI Launch Pad login screen should appear.</li> <li>If a BO account is available, Open and refresh a Webi document</li> </ul> </li> <li>2<sup>nd</sup> test - Administration Module available:</li> <li><b>Ex:</b></li> <li>http://boe-srv:8080/BOE/CMC</li> </ul>

		connector.	<u>3<sup>rd</sup> test</u> – BO webapp BOE.war available on the server:
		4.1SP9-Patch3, 4.2SP3-Patch5/6: in the CMC, the option "Enable javascript in WebI" must be checked:	Ex: <boe_home>/SAP BusinessObjects Enterprise XI 4.0/wdeploy/workdir/tomcat8/ application/<b>BOE.war</b></boe_home>
		Applications > Web Intelligence > Properties > <b>Check</b> "Enable Javascript" > [Save]	
		The BO user must have the following rights:	
	A Business Objects user account with the rights ad hoc is necessary to run the tests.	General: Read/write the objects	
BOE User Account		Documents Web Intelligence : Refresh report, Refresh prompts, Use prompts, Export report data	<u>See the first test above</u> : Open and refresh a Webi document.
		<b>Universe:</b> Data access	

## **1.3 ArcGIS Server**

The ArcGIS server can be used as a map service and feature service for the WebI / Galigeo documents.

Galigeo does not require to install any additional component on the ArcGIS server.

Item	Prerequisite	Notices	Check tests
	ArcGIS Server 10.1x, 10.2x, 10.3x, 10.4x, 10.5x, 10.6x		<u>1<sup>st</sup> test</u> – Check ArcGIS Manager - launch its url: <b>Ex ArcGIS 10 java</b> :
	With the following tools:		http://esri-srv:8099/arcgismanager/ main/login.jsf
ESRI Products	<ul> <li>ArcMap/ArcGIS for Desktop: for creating map projects</li> </ul>	The ArcSDE version is	<ul> <li>The login screen should display.</li> <li>Connect with an arcgismanager account and access the map services page.</li> </ul>
ArcGIS Server	ArcGIS Manager to publish and manage man	independent with Galigeo.	<u>2<sup>nd</sup>_test</u> – ArcGIS REST API admin available - same thing:
	services		Ex ArcGIS 10 :
	• ArcGIS REST API Admin to manage the REST map services (in particular to clear the cache)		http://esri-srv: <b>8399/arcgis/rest/admin</b>
	ArcGIS Server Map		<u>1st test</u> – Open the REST url:
	<b>service</b> published from a MXD or a MSD		Ex ArcGIS 10:
	with in particular the options	The use of	http://esri-srv: <b>8399/arcgis/rest/</b> services
Man	"Export Map" and "Query" (to set during the publishing) The ArcGIS	recommended.	The list of available mapservices should be displayed.
Service		Secured	<u>2<sup>nd</sup>_test</u> – Mapservice access via REST - click on a mapservice:
	Galigeo <b>must be</b>	are not	Ex of mapservice REST URL:
	available via REST from the client	supported	http://esri-gis:8399/arcgis/rest/services/ ggoMapService/MapServer
	from Galigeo Server machine		The mapservice properties and layers displays.
GIS Database	Not important for Galigeo Galigeo neither accesses directly to the GIS database	All ArcGIS supported formats	NA



The connection to ArcGIS Server is done both through Galigeo Server and the client. This means that the application server, e.g. Tomcat, and the client (web browser) must see ArcGIS Server.

## **1.4 ArcGIS Online**

Galigeo offers the possibility to connect automatically to ArcGIS Online (AGOL). The credentials are activated as soon as the appropriate license key is declared in Galigeo Administration console.



The connection to ArcGIS Online is done through Galigeo Server, the one that hosts Galigeo cartographic viewer. This means that the application server, e.g. Tomcat, must see arcgis.com without any proxy authentication.

## **1.5 Galigeo Server**

The Galigeo server hosts the Galigeo cartographic module.



If pre-requisites match (OS, Tomcat, JDK), BOE Server can used as Galigeo server.

Item	Pre-requisite	Notices	Check tests
os	Windows Server 2008, 2012 all editions RedHat Enterprise Linux 5, 6 SUN - Solaris 10		NA
			<u>1<sup>st</sup> test (basic):</u> type in a shell command prompt : <b>java –version</b>
Java Environm ent	Java Development Kit (JDK) 1.7.0_xx 1.8.0_xx	NA	<b>Example</b> of expected result: java version "1.8.0_72"  2 <sup>nd</sup> _test: in the application server configuration console, check what Java version is used.
			<b>Ex Tomcat</b> - Check the parameter « Java Virtual Machine » in the tab « Java » of the configuration console: C:\jdk1.8.0_72\jre\bin\server
Applicati	Tomcat 7.0.x (jdk 1.7) Tomcat 8.0.x (jdk 1.8)	NA	Go to the application server URL. The version number usually displays:
on Server	Tomcat 8.5.x (jdk 1.8)		Ex Tomcat: http://ggo- srv:8080

We recommend to use a 64 bits Tomcat application server and Java machine.

## Minimum and recommended resources sizing for Galigeo Tomcat application server (64 bits):

Component Minimum		Recommended for 5 concurrent users (concurrent sessions)
Processor #core	rocessor Type Intel Xeon core 2 cores	
Tomcat Memory	2 Go RAM 4 Go RAM	
Disk space (Tomcat + Galigeo)	2 Go	10 Go SAS 15k rpm ou SSD



For proper operation of HTML5 Print module, image or PDF, it is important that the Galigeo Server has access to base maps, either on internet or intranet.

## **1.6 Galigeo Installer**

Item	Pré-requis	Remarques	Check tests
os	Windows Server 2008, 2012 all editions RedHat Enterprise Linux 5, 6 SUN - Solaris 10	NA	NA
Java Environme nt	Java Runtime Environment (JRE) 1.7.0_xx 1.8.0_xx	NA	Type in a command prompt: <b>java -version</b> <b>Example</b> of expected result: java version "1.8.0_72"
BO Server	The BO webapp BOE.war has to be readable by the installer By default, it is located under <boe_home>/SAP BusinessObjects Enterprise XI 4.0/ wdeploy/workdir/ tomcat8/application/ BOE.war The Galigeo installation directory must be readable and writable by the installer and the application server (ex: Tomcat 8.x)</boe_home>	Galigeo installer produces a new webapp BOE.war that embeds Galigeo Connector. <b>Ideally, run the</b> <b>installer with</b> <b>the same user</b> <b>and same Java</b> <b>Environment as</b> <b>the BOE</b> <b>applications</b> <b>server.</b>	BO Webapp BOE.war available on the server: <b>Ex:</b> D:\BOBI4\SAP BusinessObjects Enterprise XI 4.0\wdeploy \workdir\tomcat8\application \ <b>BOE.war</b> User account for the application server: <b>Ex Windows/Tomcat :</b> Administrator
Galigeo Server	The Galigeo installation directory must be readable and writable by the installer and the application server (ex: Tomcat 8.x)	Same thing concerning the user account.	NA

## **1.7 Network**

This table lists the ports used for all the modules involved with Galigeo. The ports must be available from the calling application, which might in some cases require some firewall adjustment.



The default port values might be different in the real situation.

Port	Protocol	Opened on	Used by	Default Value	Firewall rule
BI Tomcat port (Business Intelligence )	HTTP(S)	BI Server	<ul> <li>BI Connector (<i>local</i>)</li> <li>Galigeo Server (<i>from Galigeo</i> server to BI server)</li> <li>Galigeo Client (<i>from client to BI</i> server)</li> </ul>	8080	NA
RMI Port (Remote Method Invocation : Standard J2EE)	TCP/IP	BI Server	<ul> <li>BI Connector (<i>local</i>)</li> <li>Galigeo Server (<i>from Galigeo</i> server to BI server)</li> </ul>	1099	Open in the direction Galigeo → BI
Galigeo Tomcat Port	HTTP(S)	Galigeo Server	<ul> <li>Galigeo (<i>local</i>)</li> <li>BI Connector</li> <li>(<i>from BI server to</i> Galigeo server)</li> <li>Galigeo Client</li> <li>(<i>from client to</i> Galigeo server)</li> </ul>	8080	Open in the direction BI → Galigeo Open in the direction Client → Galigeo
HTTP Port used by the ArcGIS REST services	HTTP(S)	GIS Server	<ul> <li>Galigeo Admin (from BI server to ArcGIS server)</li> <li>Galigeo Server to query ArcGIS server mapservice (from Galigeo server to ArcGIS server)</li> <li>Galigeo client: to query ArcGIS server basemaps if any</li> </ul>	8399	Open in the direction Client → GIS The BI connector and Galigeo Server must have access to the REST services with the same url as the client.

Access to ArcGIS Online	HTTPS	arcgis.com	to query ArcGIS Online (from Galigeo server to ArcGIS Online)	443	Open in the direction Galigeo Server → AGOL
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## **1.8 Client**

The web browser on the client machine is used to access BO InfoView and the WebIntelligence documents / Galigeo maps.

Item	Recommended	Notices	Check tests
os	Windows Seven, 8.1, 10 desktop	NA	NA
HTML5 Client Web browser	Internet Explorer: 11, Edge FireFox: 52 ESR, 64, 65 Chrome: 71, 72	Javascript activated IE compatibility mode is not supported	Go to web browser Menu > About to know its version



## For proper operation of Galigeo Application, it is important that the client browser has access to base maps, either on internet or intranet.



#### Sizing the client machine

• We recommend to use Windows Seven, 8.1 or 10 with 4 to 8 Go of RAM

## Chapter 2: Galigeo installer

In this chapter :

<u>Global overview</u> <u>Launch the installer</u>

## 2.1 Global Overview

The file **Galigeo\_WebI-bi4\_G19.0\_Installer.jar** is located at the root of the package. From a valid InfoView deployment, the programs **generates 3 configured web applications ready to be deployed**.

Web Application Description		Notices
BOE.war	Includes AnalyticalReporting	The installer needs the original BOE.war webapp as an input. <b>It produces a new</b> modified webapp that embeds the Galigeo <b>BI connector</b> .
BOE.war	connector	The process takes place on the machine where InfoView is deployed.
wgo.war	Galigeo administration console	The process takes place on the machine where InfoView is deployed
Galigeo.war	Galigeo HTML5 cartographic viewer + print module	The process takes place on the Galigeo server. It can be the same machine as the BO server if pre-requisites match.

## **2.2 Launch the installer**

The installer needs a JRE Java 1.7 or 1.8.

It can be launched in two ways:

Mode	When	Description	Notices
Graphica I	A window manager is available. Ex: Windows 2008 Server	<ul> <li>Double-click on the file Galigeo_WebI- bi4_G19.0_Installer.jar</li> <li>From a command prompt, type: java -jar Galigeo_WebI- bi4_G19.0_Installer.jar</li> </ul>	NA
Comman d Line	No window manager. Ex: Sun Solaris 10	From a command prompt: java -jar Galigeo_WebI- bi4_G19.0_Installer.jar -console	This mode is only in English. The installation steps are the same as with the graphical interface.



We recommend to **run the installer with the same user and same Java Environment as the BOE applications server.** 

#### Knowing where is BOE Tomcat java:

open Tomcat Configuration Console > Java tab > Get the path within "Java Virtual Machine" text area

Example : D:\BOBI4\SAP BusinessObjects Enterprise XI 4.0\win64\_x64\jdk \jre\bin\server\jvm.dll

The java exe command is then

"D:\BOBI4\SAP BusinessObjects Enterprise XI 4.0\win64\_x64\jdk\jre\bin \java" (don't forget the quotes )



In a DOS console, the command to run the installer in graphical mode is:

"D:\BOBI4\SAP BusinessObjects Enterprise XI 4.0 \win64\_x64 jdk jre bin java" -jar Galigeo\_WebI-bi4\_G19.0\_Installer.jar

To run the installer in command line mode:

"D:\BOBI4\SAP BusinessObjects Enterprise XI 4.0\win64\_x64\jdk\jre\bin\java" - jar Galigeo\_WebI-bi4\_G19.0\_Installer.jar **-console** 

## **Chapter 3: BI connector installation**

In this chapter:

Where the installation takes place?
Installation steps - graphical mode
Installation steps - console mode
Deploy the web applications
Case of multiple InfoView Instances (optionnal)
Declare Galigeo PDF markers
Admin Console - local installation of ESRI JS API

## 3.1 Where the installation takes place?

The installation takes place on the server where InfoView is deployed.



The installation steps described in this chapter concern new installations. **If Galigeo is already installed,** see **chapter 5 - <u>Update an existing</u> installation**.

<**GALIGEO\_HOME>** is the Galigeo installation directory. It can be either an existing directory or a new one created during the installation.



**Example** of **<GALIGEO\_HOME>** : Windows: **D:\products\galigeo** 

<BOE\_HOME> is the installation path for Business Objects Enterprise.



**Example** of **<BOE\_HOME>** : Windows: **D:\products\BOBI4** 

## **3.2 Installation steps - graphical mode**

This section describes the installation using the graphical mode for a single InfoView deployment (in case of multiple instances using load balancing, please see **section** <u>3.5 Case</u> <u>of multiple InfoView</u>).

If the server doesn't have a window manager, go to **section** "**<u>3.3 Installation steps</u> - <u>console mode</u>".** 

• Start the installer: double-click on the file or type java -jar Galigeo\_WebIbi4\_G19.0\_Installer.jar in a shell console



We recommend to **run the installer with the same user and same Java Environment as the BOE applications server.** See <u>2.2 Launch the installer</u>

• Language selection: select "eng" then click [OK]



• Welcome panel: click [Next]



• License agreement: Accept the license then click [Next]



• Installation Packs: check "AnalyticalReporting with Galigeo connector" and "Galigeo Administration" then click [Next]

IzPack - Installation of Galig	geo La	- 🗆 X
	Select the packs you want to install: Q Note: Grayed packs are required.	
	✓       AnalyticalReporting with Galigeo Connector (in BOE.war)         Galigeo Cartographic Viewer         ✓       Galigeo Administration	50,2 MB 137,82 MB 115,4 MB
gali <mark>geo</mark>		
	Description AnalyticalReporting is the BO web module that displays WebI documents in InfoView Portal. The installation produces a new BOE.war webapp that embeds the Galigeo connector within AnalyticalReporting.	process
	Total space required: Available space:	165,6 MB 23,18 GB
	Previous Dext	Quit

BO Information: specify the location of the original BOE.war webapp from BO. By default, it located in <BOE\_HOME>/SAP BusinessObjects Enterprise XI 4.0/ wdeploy/workdir/tomcat<version>/application/
 Select the BO version, then click [Next]

IzPack - Installation of Galigeo	
	Business Objects Information         Location of BOE.war webapp:         Ilog/workdir/tomcat8/application/BOE.war         Browse
galigeo	Current Version of Business Objects: BI 4.1 SP1 BI 4.1 SP2 BI 4.1 SP3 BI 4.1 SP4 BI 4.1 SP5 BI 4.1 SP6 BI 4.1 SP6-patch6 BI 4.1 SP6-patch6
	<ul> <li>BI 4.1 SP7</li> <li>BI 4.1 SP8</li> <li>BI 4.2</li> <li>BI 4.2 SP2</li> <li>BI 4.2 SP3</li> </ul>
	Previous Next Quit

• **Installation folder**: specify the directory where Galigeo will be installed, for example : D:\products\galigeo (if the directory doesn't exists, it will be created) then click [Next]

💦 IzPack - Installation of Galigeo		
	Installation Folder	
galigeo	Ex Windows: C:\Program Files\Galigeo Warning: Do not use Applications Server folder (ex: Tomcat) as installation folder. Installation folder: D:\products\galigeo Browse	
	Previous I III III III III III III III III III	Quit
	Previous Next	🙆 Quit

• **Installation Parameters**: Specify the parameters according to the table above then click [Next]

IzPack - Installation of Galigeo	
	Parameters
	Galigeo Repository Host: boe-srv
	Galigeo Repository Port: 1099
galigeo	InfoView Portal Proxy URL (Optional: leave empty if no proxy is used): [http/https]://[host]:[port]
	Galigeo Admin Console Proxy URL (Optional: leave empty if no proxy is used): [http/https]://[host]:[port]
	BO Group IDs allowed to access to the administration console (Optional otherwise comma separated list):
	The following options are used in the case of InfoView load balancing. Leave the fields blank otherwise. Distant Galigeo Repository Host:
	Previous Next Quit

Parameter	Recommandation	Example
Galigeo Repository Host	It is the host name of BOE Server. This parameter is automatically filled. Check that host name is correct. Change otherwise.	boe-srv
Galigeo Repository Port	Keep the default value 1099. If the installer says the port is already used, then try a new value, 1098 for example.	1099
InfoView Portal Proxy URL (optionnal)	To specify if InfoView is accessed through a proxy server from the client machines (application server not directly called). Is of type [http/https]://[host]:[port] Leave empty otherwise.	http://myorganization.com
Galigeo Admin Console Proxy URL (optionnal)	To specify if Galigeo Admin Console is accessed through a proxy server from the client machines (applications server not directly called). Is of type [http/https]://[host]:[port] Leave empty otherwise.	http://myorganization.com

	Allow to restrict the access to the administration console to some given BO groups.	
BO Group IDs	Comma separated string the list the BO group IDs (property ID in the BO CMC).	BOEGroup1 ID,BOEGroup2 ID
(optionnal)	Leave empty to allow all the BO user to login to the administration console. The features will be activated or not depending on the user rights (users, universes, documents).	
Host and Port for for the remote Galigeo repository (optionnal)	Keep empty for a standard installation. (In case InfoView uses load balancing, see <u>section - Case of multiple</u> InfoView portals)	NA

- Web applications generation step 1: wait the first step to complete then click [Next]
- Web applications generation step 2: wait the second step to complete then click [Next]
- **Installation summary**: Click [Quit]. The installer produces two webapps, **BOE.war** and wgo.war, ready to be deployed in the application server (ex Tomcat 8.x) used byl InfoView

#### 3.3 Installation steps - console mode

This section describes the installation steps using the console mode for a single InfoView instance (in case of multiple instances using load balancing, see **section** "<u>3.5 Case of multiple InfoView Instances</u>").

The console mode only uses English.

• Launch the installer: type java -jar Galigeo\_WebI-bi4\_G19.0\_Installer.jar - console in a shell command prompt



We recommend to **run the installer with the same user and same Java Environment as the BOE applications server.** See <u>2.2 Launch the installer</u>

 Licence agreement: read the agreement (Type [Enter] to scroll), type 1 to accept then [Enter]



 Packs to install: select - type 1 then [Enter] - "AnalyticalReporting with Galigeo Connector" and "Galigeo Administration"

Select the packs you want to install: [x] AnalyticalReporting with Galigeo Connector (in BOE.war) (AnalyticalReportin is the BO web module that displays WebI documents in InfoUiew Portal. The inst llation process produces a new BOE.war webapp that embeds the Galigeo connector within AnalyticalReporting.) input 1 to select, 0 to deselect: 1 [x] Galigeo Cartographic Viewer (Component for dynamic consultation and analysi of BO indicators on maps embeded in WebI documents within InfoView Portal.) input 1 to select, 0 to deselect: 0 [x] Galigeo Administration (Galigeo Administration Console.) input 1 to select, 0 to deselect: 1 [x] Galigeo Administration (Galigeo Administration Console.) input 1 to select, 0 to deselect: 1 [  BO Information: specify the location for the file BOE.war shipped with BO; by default, you will find it in <BOE\_HOME>/SAP BusinessObjects Enterprise XI 4.0/ wdeploy/workdir/tomcat8/application/

Select which BO version is being used

Validate the informations



 Installation folder: specify the directory where the product will be installed, for example: D:\products\galigeo (if the directory doesn't exist, it will be created) then validate



• **Installation parameters**: fill the parameters according to the <u>table described in the</u> <u>graphical mode section</u> then validate



• Web applications generation: Wait this step to complete. The installer produces 2 webapps, BOE.war and wgo.war, ready to be deployed in the application server (ex Tomcat 8.x) used by InfoView

## 3.4 Deploy the web applications

The installer produces 2 webapps that are ready to be deployed on the application server used by InfoView:

- **BOE.war with the Galigeo connector:** AnalyticalReporting module within BOE.war webapp is used to display WebI documents in InfoView
- wgo.war : Galigeo administration console

The following steps describe the deployment on the default BO Tomcat:

- On the BO server, go to the directory <GALIGEO\_HOME>/webapps (ex: D: \products\galigeo\webapps). It containsBOE.war and wgo.war webapps produced by the installer
- Stop the InfoView Tomcat service
- Backup and remove the directory **<BOE\_HOME>/Tomcat/webapps/BOE**
- Copy the 2 above files BOE.war and wgo.war to <BOE\_HOME>/Tomcat/ webapps/ (ex: D:\products\BOBI4\Tomcat\webapps\)
- Empty Tomcat cache: remove the directory <BOE\_HOME>/Tomcat/work/ Catalina/localhost/BOE
- Restart BO Tomcat service.

## **3.5 Case of multiple InfoView Instances (optional)**

In order to do some load balancing, multiple InfoView portal can be deployed on different application servers. Each instance connects to the same BO CMS and are usually accessed through a single HTTP proxy.

The web application **AnalyticalReporting (with the Galigeo connector)** embedded in BOE.war can access:

- Either a local Galigeo repository started by the local webapp wgo: it is the default behaviour.
- **Or with a remote Galigeo repository** started by a web application **wgo** located on a remote Tomcat: **that feature needs to be activated** by following the steps above.

On the first BO server, **SERVER\_1**, we do a classic deployment of **AnalyticalReporting** (embedded in BOE.war) and **wgo**:

#### • That server hosts the Galigeo repository.

On **SERVER\_1**, during the steps "**Installation Parameters**", using the <u>graphical</u> or <u>console</u> mode of the installer, we need to set the following parameters:

Parameter	Value	Example
	GGO_REPO_PORT_1	
Port of the	• Used by the Galigeo repository.	1000
Repository	<ul> <li>Also used by the data provider on SERVER_1 and the cartographic viewer.</li> </ul>	1099
Remote Galigeo repository	Non applicable on SERVER_1	NA
Port of the remote Galigeo repository	Non applicable on SERVER_1	NA

- On the second server, **SERVER\_2**, we first need to do a classic installation of **AnalyticalReporting** and **wgo** :
  - We configure AnalyticalReporting and wgo webapps in order to access the remote repository started by the webapp wgo on the 1<sup>st</sup> server. This is done during the step "Installation parameters" of the installer.

On **SERVER\_2**, during the steps "**Installation parameters**", with the <u>graphical mode</u> or <u>console mode</u> we have:

	Parameter	Value	Example
--	-----------	-------	---------

Port of the Galigeo repository	GGO_REPO_PORT_2 Only used by the shared data registry between the Galigeo connector on SERVER_2 and the cartographic viewer.	10099
Remote Galigeo repository host	SERVER_1	SERVER_1
Remote Galigeo repository port	GGO_REPO_PORT_1	1099

Once the steps are done, the users connecting to any InfoView instance will see a single Galigeo repository.

It is the same for Galigeo Administration Console.

## **3.6 Declare Galigeo PDF markers**



**BOE** "Server Intelligence Agent" service needs to be stopped / restarted to complete this operation.

Steps to declare Galigeo PDF markers are the following:

- On BOE Server, go to the directory **<GALIGEO\_HOME>/BI4.images** (ex: D: \products\galigeo\BI4.images)
- Coy both images ggo4PDF\_interactiveMapref\_img.jpg and ggo4PDF\_smallMapref\_img.jpg into BO "images" directory: <BOE\_HOME>/SAP BusinessObjects Enterprise XI 4.0/images

Example: D:\products\BOBI4\SAP BusinessObjects Enterprise XI 4.0\images

- Into BO "images" directory, backup **SkinConfig.xml** file (into SkinConfig.xml.bck for example)
- Update BO SkinConfig.xml file according to instructions given in file <GALIGEO\_HOME>/ BI4.images/SkinConfig.xml.ggoPdfMarkers.txt
- **Stop / restart "Server Intelligence Agent" service** to take into account the modifications.

#### 3.7 Admin Console - local installation of ESRI JS API

If Galigeo Administrator client web browser has no Internet access, the ESRI javascript API needs to be deployed locally. For this, on BOE server, follow the instructions given at:

<BOE\_TOMCAT\_HOME>/webapps/wgo/admin/js\_api/arcgis\_v32\_local\_install.txt

## Chapter 4: Cartographic viewer and print module installation

In this chapter:

Where the installation takes place? Installation steps - graphical mode Installation steps - console mode Deploy the web application Galigeo Tomcat Configuration Font installation

## 4.1 Where the installation takes place?

The installation takes place on Galigeo Sever.



The installation steps described in this chapter concern new installations. **If Galigeo is already installed,** see **chapter 5 - <u>Update an existing</u>** <u>installation</u>.

<**GALIGEO\_HOME>** is the Galigeo installation directory. It can be either an existing directory or a new one created during the installation.



Example of <GALIGEO\_HOME> : Windows: D:\products\galigeo Unix / Linux : /products/galigeo

**<GGO\_TOMCAT\_HOME>** is the root directory of Tomcat Server.



**Example** of **<GGO\_TOMCAT\_HOME>** : Windows: **D:\products\tomcat** Unix / Linux : **/products/tomcat** 



If pre-requisites match (OS, Tomcat, JDK),  $\,$  BI Server can play the role of Galigeo server.

- The installation directory is then the same as Galigeo BI connector components
- Cartographic viewer is deployed in Tomcat that runs InfoView

Galigeo for Webl Installation Guide - G19.0

## 4.2 Installation steps - graphical mode

If the server doesn't have a window manager, go to **section** "<u>4.3 Installation steps</u> - <u>console mode</u>".

• Start the installer: double-click on the file or type java -jar Galigeo\_WebIbi4\_G19.0\_Installer.jar in a shell console



We recommand to **launch the installer with the same user account as the application server**.

• Language selection: select "eng" then click [OK]

💦 Language Selection	×
Please select your language b	elow
eng	•
ОК	

• Welcome panel: click [Next]



• License agreement: Accept the license then click [Next]



Installation Packs: check "Galigeo Cartographic Viewer", then click [Next]

IzPack - Installation de Galig	geo	<u> </u>
	Choisissez ici les paquetages à installer : Q Note : les paquetages grisés ne sont pas optionnels.	
	AnalyticalReporting avec le connecteur Galigeo (dans BOE.war)     Viewer cartographique Galigeo     Administration Galigeo	50,2 MB 137,82 MB 115,4 MB
gali <mark>geo</mark>		
	Description Permet de visualiser dynamiquement et analyser les indicateurs BO sur des cartes intégrées dans les doct sein d'InfoView	iments WebI au
	Espace total requis : Espace disque disponible :	137,82 MB 23,18 GB
	Précédent Suivant	Ouitter

 Installation folder: specify the directory where Galigeo will be installed, for example: D:\products\galigeo (if the directory doesn't exists, it will be created) then click [Next]

💦 IzPack - Installation of Galigeo		
	Installation Folder	
galigeo	Ex Windows: C:\Program Files\Galigeo Warning: Do not use Applications Server folder (ex: Tomcat) as installation folder. Installation folder: D:\products\galigeo Browse	
	Previous I III III III III III III III III III	Quit
	Previous Next	🙆 Quit

- Web applications generation step 1: wait the first step to complete then click [Next]
- Web applications generation step 2: wait the second step to complete then click [Next]
- **Installation summary**: Click [Quit]. The installer produces one webapp, **Galigeo.war**, <u>ready to be deployed in the dedicated application server (ex Tomcat 8.x)</u>.

#### 4.3 Installation steps - console mode

The console mode only uses English.

Launch the installer: type java -jar Galigeo\_WebI-bi4\_G19.0\_Installer.jar console in a shell command prompt



We recommand to launch the installer with the same user account as the application server.

**Licence agreement**: read the agreement (Type [Enter] to scroll), type 1 to accept then [Enter]

shall be required to pay to Licensor (i) the costs and expenses incurred in as amounts that Licensor has actually received in association with the Agreement ue Licensor under this Section shall be immediately due and payable.

15. GENERAL PROVISIONS: This Agreement constitutes the entire agreement between the parties pertaining t al agreement previously existing with respect to the subject matter herein. The sor unless approved in writing by a duly authorized representative of Licensor, sor's prior written consent. Any assignment or delegation of Your rights under t that Licensor may assign all or part of Licensorffs rights and/or obligations un its Authorized Distributorsff rights and obligations hereunder to any third part e to the benefit of GALIGEO and the Owners as third party beneficiaries of this s of this Agreement against You; and (iii) GALIGEO and the Owners accept its thi cable. In the event that any provision of the Agreement is found unlawful, void law, and the other provisions shall remain in full force and effect. Except with lays in performance hereunder due to causes beyond its reasonable control.

16. GOVERNING LAW AND JURISDICTION: This Agreement shall be governed by the internal laws of the Territory, excludin Nations Convention on Contracts for the International Sale of Goods from this A ion with the interpretation or the performance hereof shall be referred to the c

press Enter to continue, X to exit

press 1 to accept, 2 to reject, 3 to redisplay

**Packs to install**: select "Galigeo Cartographic Viewer" - type 1 then [Enter]; do not select "AnalyticalReporting with Galigeo Connector" and "Galigeo Administration" (0 then [Enter])

Select the packs you want to install: [x] AnalyticalReporting with Galigeo Connector (in BOE.war) (AnalyticalReporting is the BO web module that displays WebI documents in InfoView Portal. The insta llation process produces a new BOE.war webapp that embeds the Galigeo connector within AnalyticalReporting.) input 1 to select, 0 to deselect: [x] Galigeo Cartographic Viewer (Component for dynamic consultation and analysis of BO indicators on maps embeded in WebI documents within InfoView Portal.) input 1 to select, 0 to deselect: [x] Galigeo Administration (Galigeo Administration Console.) input 1 to select, 0 to deselect: [<reguired>] modulesVersions ...pack selection done. press 1 to continue, 2 to quit, 3 to redisplay

**Installation folder**: specify the directory where the product will be installed, for

example: D:\products\galigeo (if the directory doesn't exist, it will be created) then validate

Install	atio	on Fol	lder						
Installa [C:\Pro D:\produ	atio ogra uct:	on fol am Fil s\webi	lder: Les\Wo igeo	ebi	iGeo	•]			
press 1 1	to	conti	inue,	2	to	quit,	3	to	redisplay

• Web applications generation: Wait this step to complete. The installer produces one webapp, Galigeo.war, ready to be deployed in the dedicated application server (ex Tomcat 8.x).

## 4.4 Deploy the web application

The installer produces one webapp, **Galigeo.war**, that is ready to be deployed on the dedicated Galigeo application server.

The following steps describe the deployment on Tomcat:

- On Galigeo Server, go to the directory **<GALIGEO\_HOME>/webapps** (ex: D:\products \galigeo\webapps). It contains the **Galigeo.war** webapp produced by the installer
- Stop the Galigeo Tomcat service
- copy above war files to <GGO\_TOMCAT\_HOME>/webapps/ (or <BOE\_HOME>/Tomcat/ webapps/ if insallation is done on BI Server) (ex: D:\products\tomcat\webapps\)
- Restart Galigeo Tomcat Service.

## 4.5 Galigeo Tomcat Configuration

#### **Memory Configuration**

In order to get some optimal performances in Galigeo, you need to modify Tomcat's default memory parameters.

Once this change is done, you need to restart Tomcat.

We recommend to use a 64 bits Tomcat application server and Java machine.

#### Tomcat is installed as a service

- Open the Tomcat configuration console,
- Go to the tab "Java",
- In the area « Java Options » add the two following lines:

#### -Xrs

#### -XX:MaxPermSize=256M

- Set the parameter "Initial memory pool" at 128
- Set the parameter "Maximum memory pool" according to recommendations given in chapter <u>1.5 Galigeo Server</u>
  - <u>64 bits Tomcat+JVM example</u>: 4096 (there is no limit for a 64 bits JVM)
  - <u>32 bits Tomcat+JVM 32 example</u>: 1024 (32 bits JVM is limited to 1536)

#### Tomcat starts as a script "startup.bat"

- Edit the file <GGO\_TOMCAT\_HOME>/bin/catalina.bat
- At the beginning of the script, add the line:

64 bits Tomcat+JVM example:

set JAVA\_OPTS=%JAVA\_OPTS% -Xmx4096m -Xrs -XX:MaxPermSize=256m

32 bits Tomcat+JVM example:

set JAVA\_OPTS=%JAVA\_OPTS% -Xmx1024m -Xrs -XX:MaxPermSize=256m

#### **Special characters**

To display and print correctly special characters, you need to apply the following settings. Once changes are done, you need to restart Tomcat.

#### Add parameter - Dfile.encoding=UTF-8

#### Tomcat is installed as a service

- Open the Tomcat configuration console,
- $\circ~$  Go to the tab "Java",
- $\circ~$  In the area « Java Options » add the two following lines:

#### -Dfile.encoding=UTF-8

#### Tomcat starts as a script "startup.bat"

- Edit the file <GGO\_TOMCAT\_HOME>/bin/catalina.bat
- At the beginning of the script, add the line:

set JAVA\_OPTS=%JAVA\_OPTS% -Dfile.encoding=UTF-8

#### Add parameter URIEncoding="UTF-8"

- Edit file <GGO\_TOMCAT\_HOME>/conf/server.xml,
- Go to tag <Connector port="8080".. corresponding to Tomcat port (by default 8080), and modify or add the parameter URIEncoding="UTF-8"</li>

Example:

```
<Connector port="8080" protocol="HTTP/1.1" connectionTimeout="20000" redirectPort="8443" URIEncoding="UTF-8"/>
```

#### 4.6 Font installation

#### Installation of the ESRI fonts

The fonts contains a library of symbols used by the thematics.

- Unzip the zip file Tools\font\_esri.zip in a folder
- On Windows, select all the .ttf file, right click then choose "Install"
- On Unix / Linux the font installation depends on the distribution

#### Installation of Windows fonts on Unix / Linux for print module

Windows fonts are used by the HTML5 print module and may be missing on the Unix / Linux server. They need to be installed. This action can be easily accomplished via the native package installer for each Unix / Linux distribution.

For example, for a Debian Linux distribution type (like Ubuntu), the following command needs to be issued: *sudo apt-get install ttf-mscorefonts-installer* 

## Chapter 5: Update an existing installation

In this chapter:

<u>Update BI Connector</u> <u>Update cartographic viewer</u>

## 5.1 Update BI Connector

#### The procedure takes place on the BI server where InfoView is deployed.

A Galigeo BI connector and its administration console are already deployed in the BO Tomcat dedicated to InfoView.

This may be a previous version of Galigeo or current one. See annex "<u>Knowing the version of</u> <u>Galigeo components</u>".

<GALIGEO\_HOME> is the Galigeo installation directory. This directory already exists from the previous installation.



**Example** of **<GALIGEO\_HOME>** : Windows: **D:\products\galigeo** 

**<BOE\_TOMCAT\_HOME>** is the root directory of BO Tomcat Server.



Example of <BOE\_TOMCAT\_HOME> :
Windows: D:\products\BOBI4\Tomcat\

- Stop BO Tomcat service
- Backup installed Galigeo repository. See annex "Backup of Galigeo repository"
- With Galigeo installer do installation steps "<u>3.2 Installation steps graphical mode</u>" or "<u>3.3 Installation steps - console mode</u>" :
  - Select the existing <GALIGEO\_HOME> directory as installation folder
- Go to <BOE\_TOMCAT\_HOME>/webapps (ex: D:\products\BOBI4\Tomcat\webapps\), delete or move in a backup directory outside tomcat the following elements:
  - BOE and wgo folders
  - **BOE.war** and **wgo.war** files
- Go to **<GALIGEO\_HOME>/webapps** (ex: D:\products\galigeo\webapps), copy **BOE.war** and **wgo.war webapps**, produced by installer, to **<BOE\_TOMCAT\_HOME>/webapps**
- Empty Tomcat cache: go to <BOE\_TOMCAT\_HOME>/work/Catalina/localhost/ and remove BOE et wgo folders
- Restart BO Tomcat service.

## 5.2 Update cartographic viewer

#### The procedure takes place on Galigeo Sever.

A Galigeo cartographic viewer is already deployed in the Galigeo Tomcat server.

This may be a previous version of Galigeo or current one. See annex "<u>Knowing the version of</u> <u>Galigeo components</u>".

<GALIGEO\_HOME> is the Galigeo installation directory. This directory already exists from the previous installation.



**Example** of **<GALIGEO\_HOME>** : Windows: **D:\products\galigeo** Unix / Linux : **/products/galigeo** 

**<GGO\_TOMCAT\_HOME>** is the root directory of Galigeo Tomcat Server.



**Example** of **<GGO\_TOMCAT\_HOME>** : Windows: **D:\products\Tomcat** Unix / Linux : **/products/Tomcat** 

- With Galigeo installer do installation steps "<u>4.2 Installation steps graphical mode</u>" or "<u>4.3 Installation steps - console mode</u>" :
  - Select the existing <GALIGEO\_HOME> directory as installation folder
- Stop Galigeo Tomcat service
- Go to **<GGO\_TOMCAT\_HOME>/webapps** (ex: D:\products\Tomcat\webapps\, **delete** or **move** in a backup directory outside tomcat the following elements:
  - Galigeo folder
  - Galigeo.war file
- Go to <GALIGEO\_HOME>/config (ex: D:\products\galigeo\config), and inactivate current config.json file by renaming it config.json.old, for example. The new config.json file is automatically generated on the first display of a map. If the old file has been customized (ex: custom basemaps), the customization has to be transferred to the new file
- Go to <**GALIGEO\_HOME**>/webapps (ex: D:\products\galigeo\webapps), copy Galigeo.war webapp, produced by installer, to <**GGO\_TOMCAT\_HOME**>/webapps
- Empty Tomcat cache: go to <GGO\_TOMCAT\_HOME>/work/Catalina/localhost and remove the folder Galigeo

#### • Restart Galigeo Tomcat Service.



If update is done on G17.0, **cartographic viewer name ha changed from ggo\_carto\_viewer(-ssl) to Galigeo**. In Administration console > Parameters, update the following informations:

- Galigeo GIS module Client URL parameter

- If Direct Shape feature is used (**MapServices Type = Shape**), update **MapServices REST access URL** parameter and **each MapService** (MapServices tab) using Direct Shape.



If you plan to use Territory management tool, some advanced users (Administration > Users tab) have to be declared/updated with Designer role.

## **Chapter 6: Uninstall Galigeo**

In this chapter:

<u>Uninstall BI Connector</u> <u>Uninstall cartographic viewer</u>

## 6.1 Uninstall BI Connector

#### The procedure takes place on the BI server where InfoView is deployed.

<GALIGEO\_HOME> is the Galigeo installation directory.



**Example** of **<GALIGEO\_HOME>** : Windows: **D:\products\galigeo** Unix / Linux : **/products/galigeo** 

<BOE\_TOMCAT\_HOME> is the root directory of BO Tomcat Server.



Example of <BOE\_TOMCAT\_HOME> :
Windows: D:\products\BOBI4\Tomcat\

- Stop BO Tomcat service
- Backup <GALIGEO\_HOME> directory and all its content
- Delete <**GALIGEO\_HOME>** directory
- Go to <BOE\_TOMCAT\_HOME>/webapps (ex: D:\products\BOBI4\Tomcat\webapps\), delete the following elements:
  - **BOE** and **wgo** folders
  - **BOE.war** and **wgo.war** files
- Empty Tomcat cache: go to <BOE\_TOMCAT\_HOME>/work/Catalina/localhost/ and remove BOE et wgo folders
- Restart BO Tomcat service. It will deploy original BOE.war BO webapp into to a new directory <BOE\_TOMCAT\_HOME>/webapps/BOE

#### 6.2 Uninstall cartographic viewer

The procedure takes place on Galigeo Sever.

**<GALIGEO\_HOME>** is the Galigeo installation directory.



**Example** of **<GALIGEO\_HOME>** : Windows: **D:\products\galigeo** Unix / Linux : **/products/galigeo** 

**<GGO\_TOMCAT\_HOME>** is the root directory of Galigeo Tomcat Server.



**Example** of **<GGO\_TOMCAT\_HOME>** : Windows: **D:\products\Tomcat** Unix / Linux : **/products/Tomcat** 

- Stop Galigeo Tomcat service
- Backup <GALIGEO\_HOME> directory and all its content
- Delete <GALIGEO\_HOME> directory
- Go to **<GGO\_TOMCAT\_HOME>/webapps** (ex: D:\products\Tomcat\webapps\, **delete** the following elements:
  - Galigeo folder
  - Galigeo.war file
- Empty Tomcat cache: remove the directory Galigeo located at <GGO\_TOMCAT\_HOME>/work/Catalina/localhost
- Restart Galigeo Tomcat Service

## **Chapter 7: Setting Galigeo components parameters**

In this chapter:

## Access to administration console

#### 7.1 Access to administration console

Setting Galigeo components parameters is done in Galigeo web administration console. A full description of these steps is found in the Administration guide.

Galigeo administration console URL is the following:

http://<BOE\_TOMCAT\_SERVER>:<BOE\_TOMCAT\_PORT>/wgo/admin/logon.jsp



http://boe-srv:8080/wgo/admin/logon.jsp

## **Chapter 8 : Annexes**

In this chapter:

Backup of Galigeo repository Restore Galigeo repository from a backup Change XY Projection Knowing the version of Galigeo components

## 8.1 Backup of Galigeo repository

#### The procedure takes place on the BI or Galigeo server.

This operation back-ups application settings of Galigeo and may be useful when a new Galigeo version is installed.

<GALIGEO\_HOME> is the Galigeo installation directory.



Example of <GALIGEO\_HOME> : Windows: D:\products\galigeo Unix / Linux : /products/galigeo



Tomcat service is stopped and restarted during backup procedure.

- Stop Tomcat service (BO or Galigeo)
- Copy, at least, the following directories from <GALIGEO\_HOME> to a backup directory <GGO\_BACKUP>, outside Tomcat:
  - $\circ$  /config
  - $\circ$  /contexts
  - /dataset
  - /images
  - /network
  - /query
  - o /shp
  - /templates
  - /tm
  - /WEBIGEO\_REPOSITORY/tables
- Restart Tomcat service

**Notice**: some directories may be empty or not exist, depending on license type and/or the usage of the application

#### 8.2 Restore Galigeo repository from a backup

#### The procedure takes place on the BI or Galigeo server.

<GGO\_BACKUP> is the path to the backup directory from a previous version of Galigeo

repository.

<GALIGEO\_HOME> is the Galigeo installation directory.



**Example** of **<GALIGEO\_HOME>** : Windows: **D:\products\galigeo** Unix / Linux : **/products/galigeo** 



Tomcat service is stopped and restarted during restore procedure.

- Stop Tomcat service (BO or Galigeo)
- Copy the directories listed in previous chapter "<u>Backup of Galigeo repository</u>" from <GGO\_BACKUP> to <GALIGEO\_HOME>
- Restart Tomcat service

### 8.3 Knowing the version of Galigeo components

<GALIGEO\_HOME> is the Galigeo installation directory on BO or Galigeo Server.



**Example** of **<GALIGEO\_HOME>** : Windows: **D:\products\galigeo** Unix / Linux : **/products/galigeo** 

<BOE\_TOMCAT\_HOME> is the root directory of BO Tomcat Server.



Example of <BOE\_TOMCAT\_HOME> :
Windows: D:\products\BOBI4\Tomcat\

**<GGO\_TOMCAT\_HOME>** is the root directory of Tomcat Server on Galigeo Server.



**Example** of **<GGO\_TOMCAT\_HOME>** : Windows: **D:\products\Tomcat** Unix / Linux : **/products/Tomcat** 

The below table give the path to version files.

Version file location

Example

All components	<galigeo_home>/ modules.versions.txt</galigeo_home>	ggo_bi_connector.version=Galigeo G19.0;BI-CONNECTOR - BOE- BI4;b610157 Galigeo_war.version=Galigeo G19.0;HTML5-VIEWER/ PRINT;b[gaia-viewer]11238;b[print] 11245			
		wgo_war.version=Galigeo G19.0;ADMIN/BI-CONNECTOR - BOE-BI4;b610157			
		ggo_installer.version=Galigeo G19.0;INSTALLER WGO-BO- bi4;b610169			
BI Connecteur (inside BOE webapp)	<boe_tomcat_home>/ webapps/BOE/WEB- INF/eclipse/plugins/ webpath.AnalyticalRepo rting/web/webigeo/ version.txt</boe_tomcat_home>	version=Galigeo G19.0;BI- CONNECTOR - BOE-BI4;b610157			
wgo webapp	<boe_tomcat_home>/ webapps/wgo/ version.txt</boe_tomcat_home>	version=Galigeo G19.0;ADMIN/BI- CONNECTOR - BOE-BI4;b610157			
Galigeo webapp	<ggo_tomcat_home> /webapps/Galigeo/ version.txt</ggo_tomcat_home>	version=Galigeo G19.0;HTML5- VIEWER/PRINT;b[gaia-viewer] 11238;b[print]11245			