ACTUATE.
The **BIRT** Company®

BIRT iHub

Installing BIRT Analytics 5.1

Installing BIRT Analytics 5.1

Installing BIRT Analytics 5.1

Installation

- Copy the installers:
  - o Windows: **BIRTAnalytics-5.1-Windows.zip**
  - o Linux**: BIRTAnalytics-5.1-Linux.tar.gz**
  - o Mac OS X**: BIRTAnalytics-5.1-MacOSX.tar.gz**

Decompress the installer file **BIRTAnalytics-5.1-Windows.zip**
It will generate the folders:
     [install folder]**JRE64**
- And the files:
  - o Windows:
    [install folder]**install.bat**
    [install folder]**BIRTAnalytics-5.1.xxx-Windows.jar**
  - o Linux:
    [install folder]**install.sh**
    [install folder]**BIRTAnalytics-5.1.xxx-Linux.jar**
  - o Mac OS X:
    [install folder]**install.command**
    [install folder]**BIRTAnalytics-5.1.xxx-MacOSX.jar**
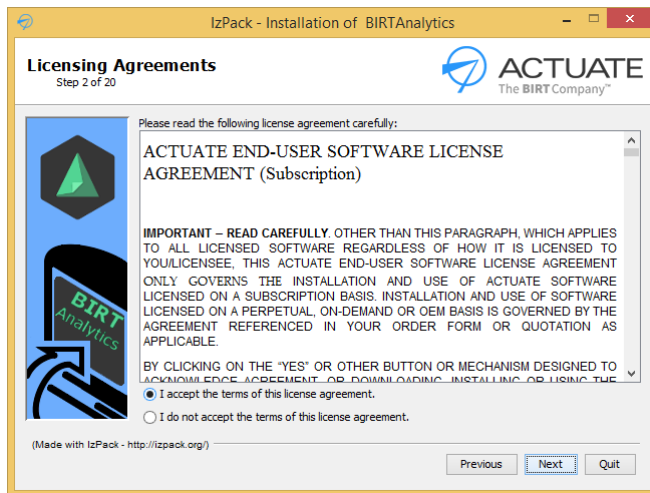
- Run installation process.
  - o Windows: **install.bat** (Run as Administrator)
  - o Linux: ./**install.sh** (don't use the root user)
  - o Mac OS X: **install.command**

- Next
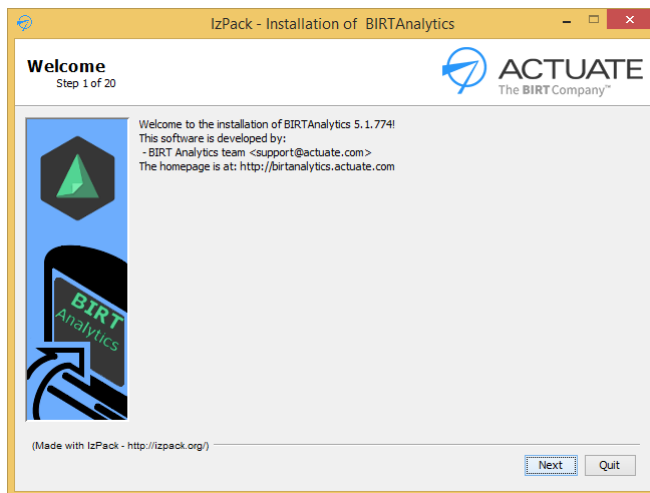
Installing BIRT Analytics 5.1

- Accept the terms of license agreement and Next

- Select the installation path and Next
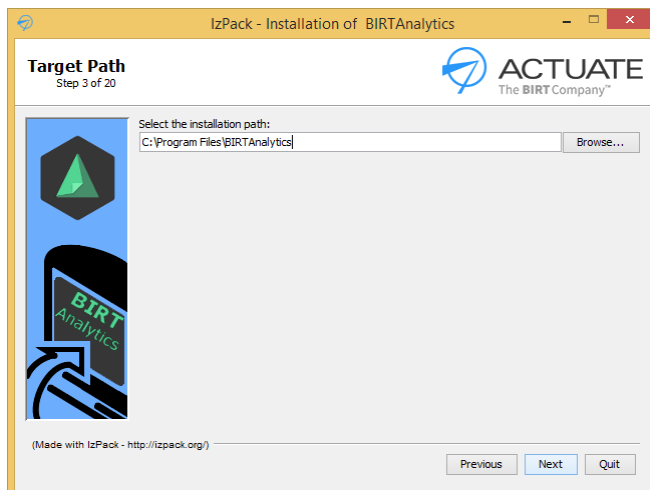
- Confirmation for creating the directory (if it doesn't already exist)
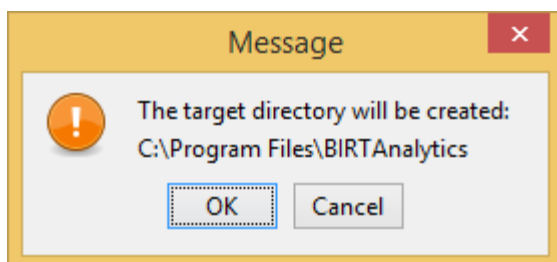
Installing BIRT Analytics 5.1

- Select installation type and Next.
  - o **Standard**: Ports definition by default.
  - o **Custom**: Ports definition to be customized. (see details in Annex I - Customize)
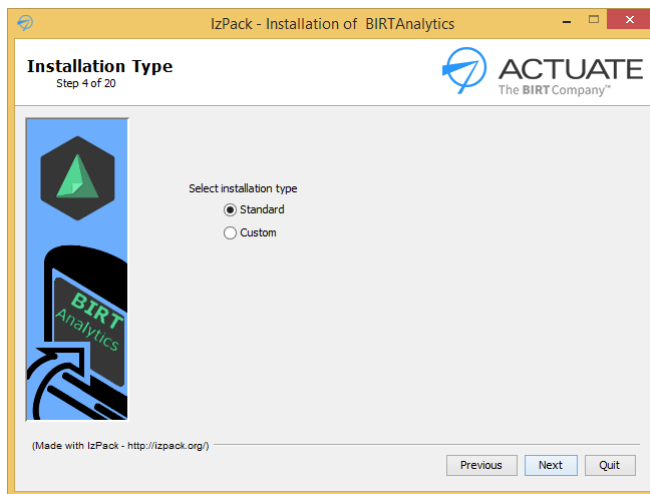
- Select Installation packages and Next.

    Some packages have dependencies from another.

    In case of distributed installation, it may be necessary to indicate the path for other elements.

Installing BIRT Analytics 5.1

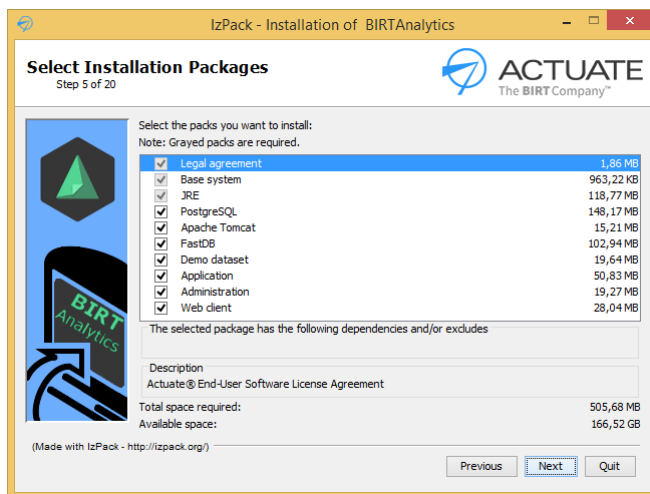| Pack	Description	Dependencies
Legal agreement	Actuate© Software License and Support Services Agreement	No
Base system	doc, scripts, tool and image content	No
JRE	Oracle's Java Runtime Environment for servers	No
PostgreSQL	PostgreSQL database	Microsoft Visual C++ 2010 Redistributable
Apache Tomcat	Apache Tomcat web services container	JRE
FastDB	BIRT Analytics FastDB Server, FastDB Web Services and FastDB Loader	Apache Tomcat
Demo dataset	Demo dataset loading project and analyses	FastDB
Application	BIRT Analytics Web Applications services	Apache Tomcat
Administration	BIRT Analytics Administration Web application	Apache Tomcat
Web Client	BIRT Analytics Client Web application	Apache Tomcat

Installing BIRT Analytics 5.1

- Select license type and Next:
  - o **_No, not yet, I will use the embedded trial one:_** You don't have any valid license of BIRT Analytics and you want install with the temporally license by default. (Temporally license until about 30 days from build date, 2 user Admin and 5 user Power, Max. 100.000 millions records)
  - o **_Yes, and I want to use it_**: You have a valid license of BIRT Analytics and you want to use it. (the next step request for the license files)
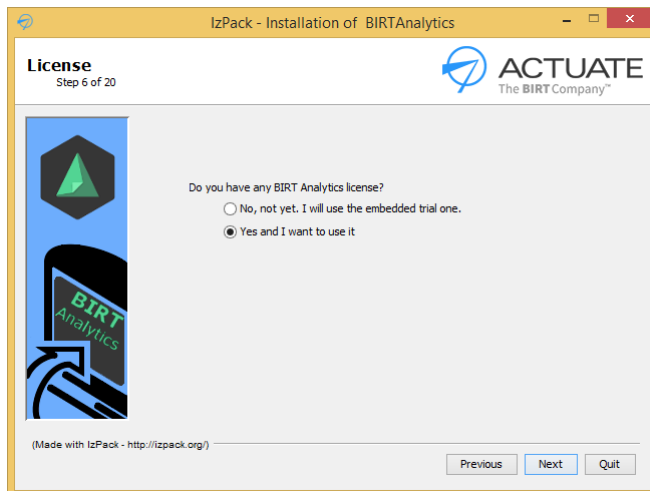
-Select both license files; FastDB license and Application license, and Next.
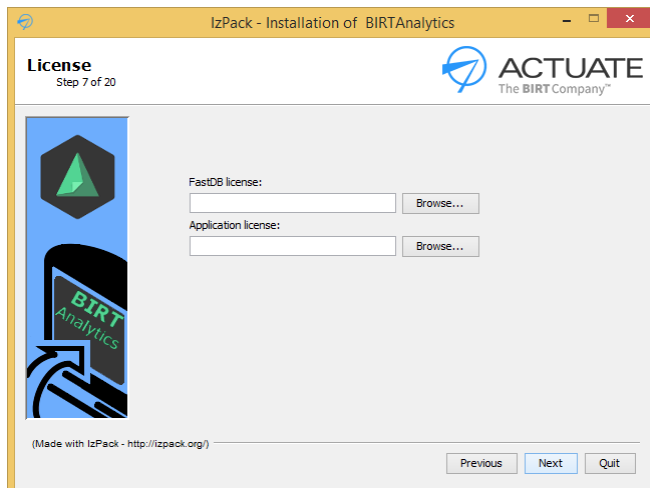
Installing BIRT Analytics 5.1

- Select memory assignment for FastDB (% from total of RAM in the server).
And select Concurrency level use

- **Standalone:** Only one user
- **Multi-user:** More than one user

(**Note:** *This information will establish automatically FastDB settings; maxmemorysystem and* **maxmemorythread** *parameters. If it is required, this could be adapted after installation*)
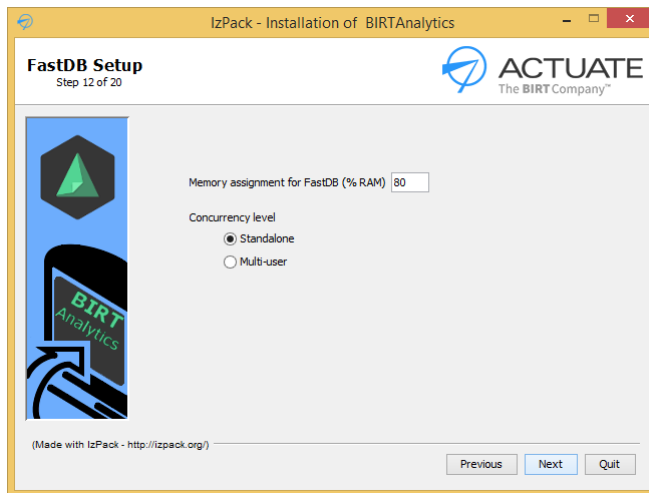
- Select Register as System Services (exclusively in Linux or Mac OS X)

Installing BIRT Analytics 5.1

- Check the summary with installation settings and Next.
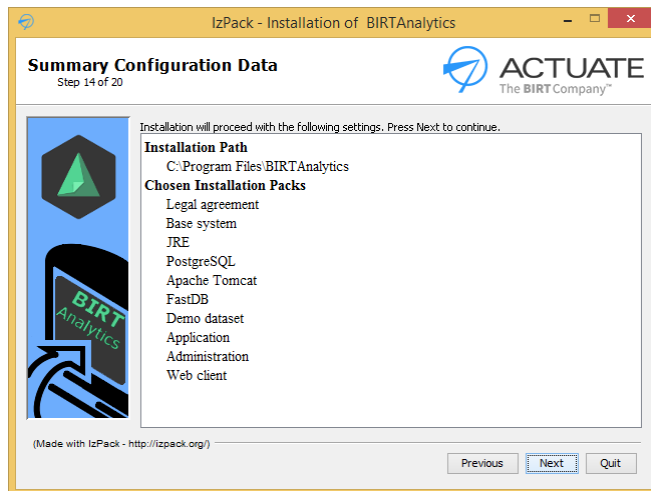
- When finished the process, Next.
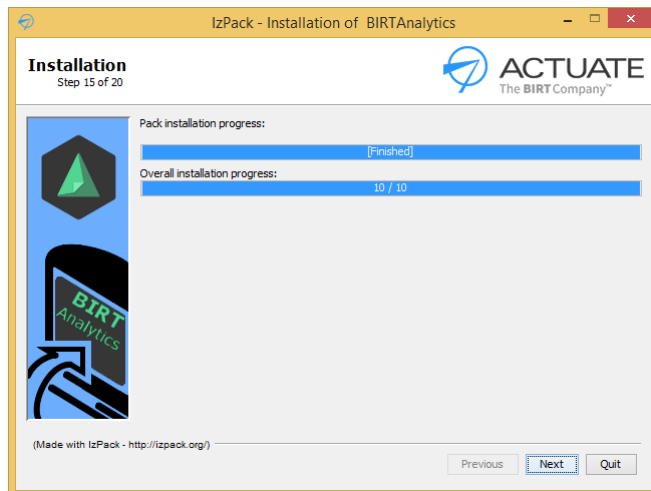
Installing BIRT Analytics 5.1

- When finished the Registering Service process, Next.

(**Note***: Exclusively when registering in Linux or Mac OS X, you will be required to enter an Administration password*)
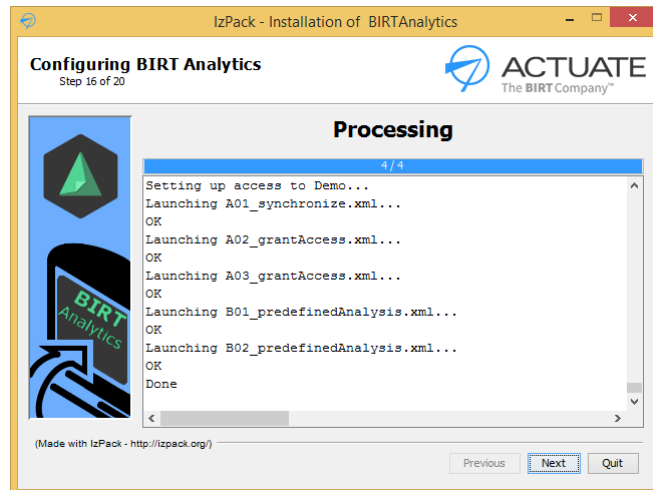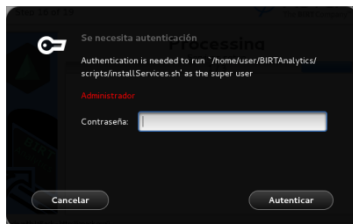
Select the setup shortcuts and Next.

- o Create shortcuts in the Start-Menu
- o Create additional shortcuts on the desktop
- o Select the Programs Group (by default BIRT Analytics)
- o Create them for current user or all users
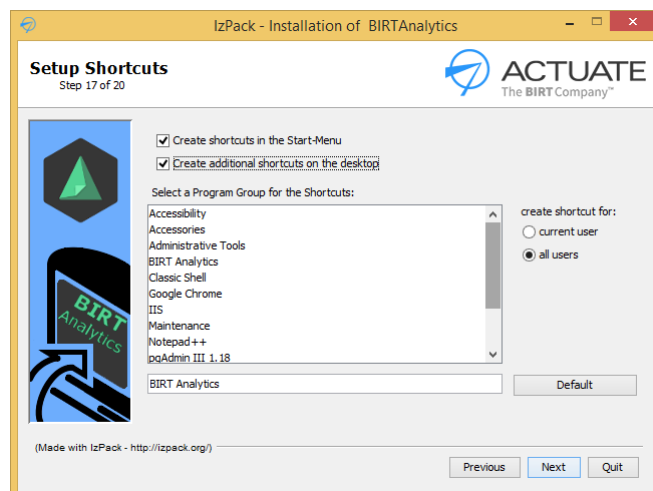
Installing BIRT Analytics 5.1

- Information about credentials and Next

 This information is available in .\BIRTAnalytics\doc**greetings.html** file
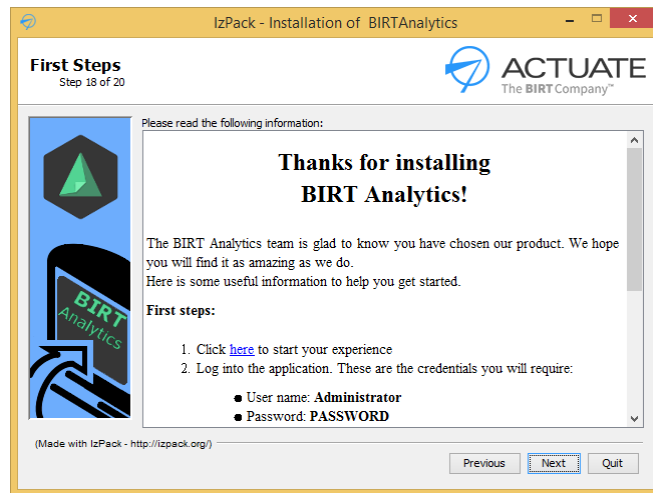
- Installation finished, Done.
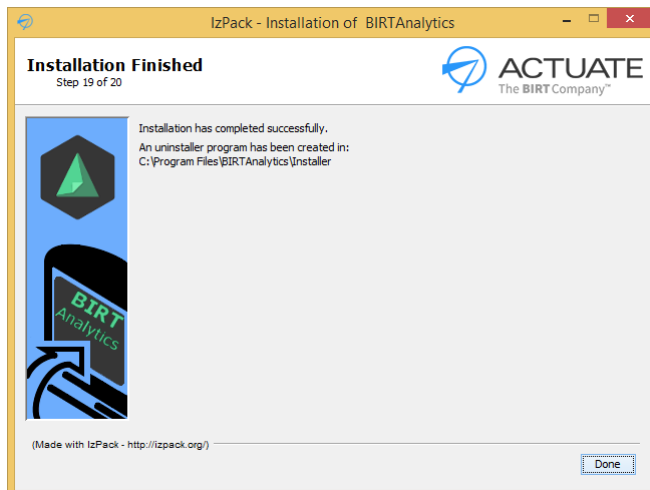
Installing BIRT Analytics 5.1

- Shortcuts in Start-Menu Programs Group and on desktop
    - o BIRT Analytics (by default ***http://localhost:8110/bafrontend***)
    - o BIRT Analytics Administration (by default ***http://localhost:8110/baadmin***)
    - o FastDB Loader (by default ***http://localhost:8110/qloader***)
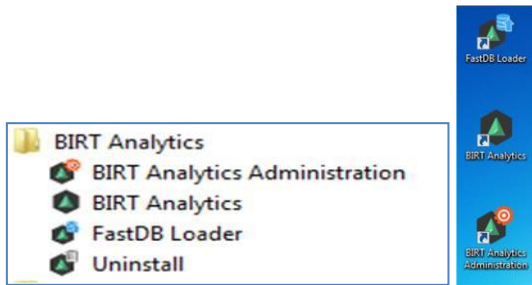
- The installation process will generate these folders in the selected path. (by default BIRTAnalytics)
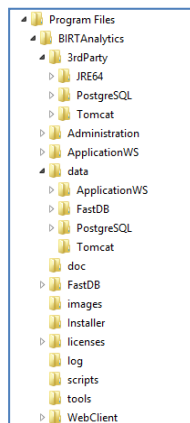
| Folder	Sub-folder	Content
3rdParty		
	JRE64	
	PostgreSQL	
	Tomcat	
Administration		baadmin
ApplicationWS		electronws
Data		
	ApplicationWS	Application license, folders; export, import, campaign and cache, SVG Maps and image for header when exporting to PDF.
	FastDB	databases, loader configuration, loader backend database (dubnium.db), loading – projects, FastDB license, FastDB backend database (admin.sqlite).
	PostgreSQL	Application backend database (wpt)
	Tomcat	keystore
doc		greetings.html and build_id.html files
FastDB		dubnium
	Loader	qloader
Images		BA images for icons
Installer		Installer.log and uninstall process
Licenses		End user software license agreement in different languages.
Log		Logs: bafrontend, baadmim, qloader, electron, engine
Scripts		
Tools		qlauncher
WebClient		bafrontend

Installing BIRT Analytics 5.1

Technical information

Architecture

Architecture BA 5.1

ACTUATE.
BIRT ANALYTICS
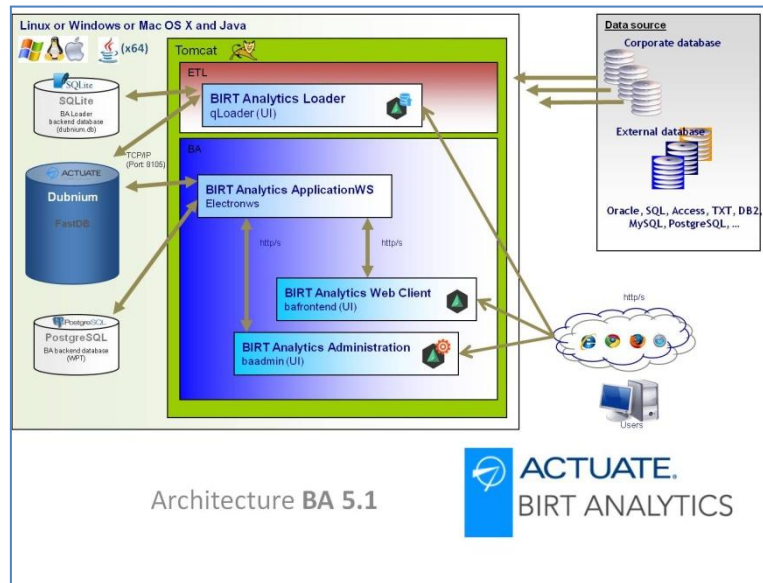
PORTS (http / https)
8111	PostgreSQL
8110 / 8109	electronws, bafrontend, baadmin, qloader
8105 / 8106	dubnium

USERS
PostgreSQL	user / password
dubnium	SYSTEM / PASSWORD
qloader	Administrator / PASSWORD
bafrontend	Administrator / PASSWORD
baadmin	Administrator / PASSWORD

Services and Process

Windows, Linux or Mac OS X Services
Description	Name	Start	User
BIRT Analytics - Apache Tomcat	Tomcat_BA	Automatic	Local System/[installation user]
BIRT Analytics – FastDB	dubnium	Automatic	Local System/[installation user]
BIRT Analytics – PostgreSQL	PostgreSQL_BA	Automatic	Local System/[installation user]

Linux or Mac OS X Process
Name	File	Start
Start BIRT Analytics	[Installation folder]/scripts/**startServices** (.sh or .command)	Manually
Stop BIRT Analytics	[Installation folder]/scripts/**stopServices** (.sh or .command)	Manually

Previous processes are running internally these processes:
Start Tomcat_BA	[Installation folder]/scripts/**startTomcat** (.sh or .command)	Manually
Stop Tomcat_BA	[Installation folder]/scripts/**stopTomcat** (.sh or .command)	Manually
Start dubnium	[Installation folder]/scripts/**startFastDB** (.sh or .command)	Manually
Stop dubnium	[Installation folder]/scripts/**stopFastDB** (.sh or .command)	Manually
Start PostgreSQL_BA	[Installation folder]/scripts/**startPostgreSQL** (.sh or .command)	Manually
Stop PostgreSQL_BA	[Installation folder]/scripts/**stopPostgreSQL** (.sh or .command)	Manually

Installing BIRT Analytics 5.1

Security recommendations

Use HTTPs as the communication protocol between the different servers (in the case of having more than one) and between client and server.

Use FastDB secure communication by TLS in a distributed installation when FastDB (dubnium) is in a different server of ApplicationWS (electronws).

Installing BIRT Analytics 5.1

Annex I – Custom installation type

When doing a "custom" installation, the process will require the input of your specific information for each case concerning the Ports, Servers and other credentials.

Apache Tomcat
Installing Apache Tomcat will require this information:

- *Tenant name*, *Tomcat service name* and *Tomcat display name* are exclusively for multitenant installation. (see Annex IV – Multitenant)

- Select Port's and Transport Protocol type for Apache Tomcat.
    - Tomcat shutdown port   *8107*
    - Tomcat manager port   *8108*
    - Tomcat SSL port   *8109*
    - Tomcat default port   8110
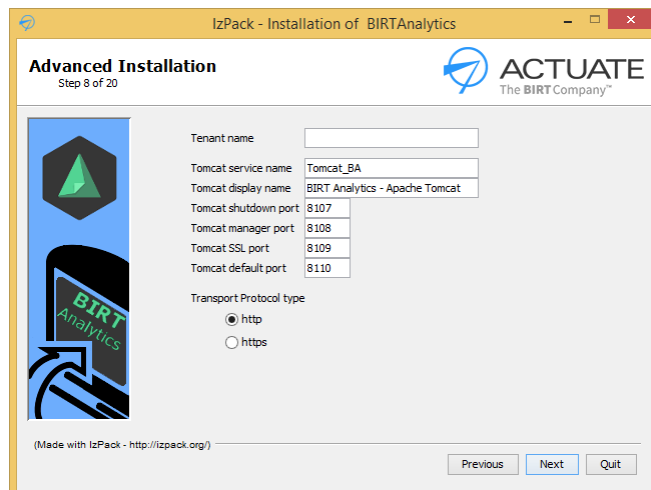
Installing BIRT Analytics 5.1

PostgreSQL
Installing PostgreSQL will require this information:

- *Tenant name, PostgreSQL service name* and *PostgreSQL display name* are exclusively for multitenant installation. (see Annex IV – Multitenant)

- Select Port's and PostgreSQL credentials.
    - PostgreSQL port   *8111*
    - PostgreSQL user   *user*
    - PostgreSQL password   *password*
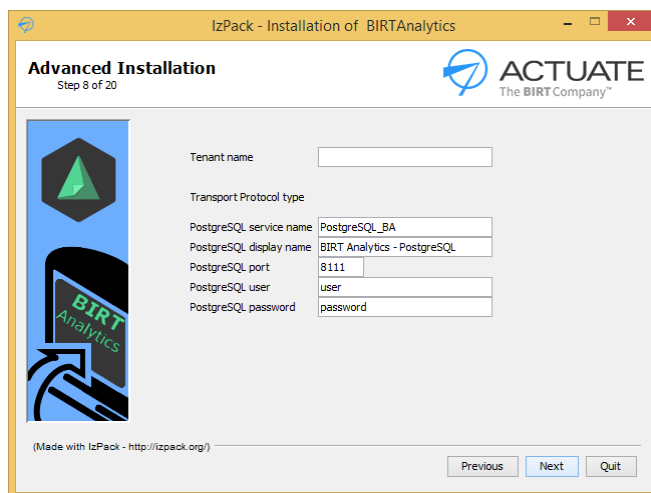
Apache Tomcat – FastDB
Installing Apache Tomcat and FastDB will require this information:

- Select Port's and Transport Protocol type for Apache Tomcat. (see detail in previous section: *Custom Installation Apache Tomcat*)

- Select Port for FastDB. *FastDB service name* and *FastDB display name* are exclusively for multitenant installation. (see Annex IV – Multitenant)
    - FastDB port   *8105*

Installing BIRT Analytics 5.1

Apache Tomcat – Application
Installing Apache Tomcat and Application will require this information:

- Select Port's and Transport Protocol type for Apache Tomcat. (see detail in previous section: *Custom Installation Apache Tomcat*)

- Select PostgreSQL and FastDB information.

    - PostgreSQL host   *localhost* (hostname of server)
    - PostgreSQL port   *8111*
    - PostgreSQL user   *user*
    - PostgreSQL password   *password*

    - FastDB user   *SYSTEM*
    - FastDB password   *PASSWORD*
    - FastDB server   *localhost* (hostname of server)
    - FastDB port   *8105*

    - *FastDB secure communication No or SSL*

Installing BIRT Analytics 5.1

Apache Tomcat – Administration - Web Client

Installing Apache Tomcat – Administration and Web Client will require this information:

- Select Port's and Transport Protocol type for Apache Tomcat. (see detail in previous section: *Custom Installation Apache Tomcat*)

- Select Port and server Application information.
    - Application server   *localhost* (hostname of server)
    - Application port   *8110*

Installing BIRT Analytics 5.1

Annex II - Multi-servers installation

The installation of BA can be in a standalone server or in multi-servers. Every element of BA should be in a different server, but the more usually distributed installation is in two servers; *Server1* for BAapps *elements (electronws, bafrontend and baadmin)* and *Server2* for BAcore elements (FastDB and qloader)

HTTPs, as the communication protocol between the different servers, is strongly recommended for security reasons. Also, use FastDB secure communication by TLS in cases when FastDB (dubnium) is in a different server of ApplicationWS (electronws).

The process is the same as in a standalone installation, but installing only the packages required for each server and using the Custom type.

Before starting you should verify that the IP and hostname.domain entries appear in the host files. In a distributed installation between two servers, *each* server must have the IP and hostname.domain entries for *both* servers.

BAcore Server

In **Server2 (BAcore)** you must install these packages:
- o   Legal agreement
- o   Base system
- o   JRE
- o   Apache Tomcat
- o   FastDB
- o   Demo dataset (optional)
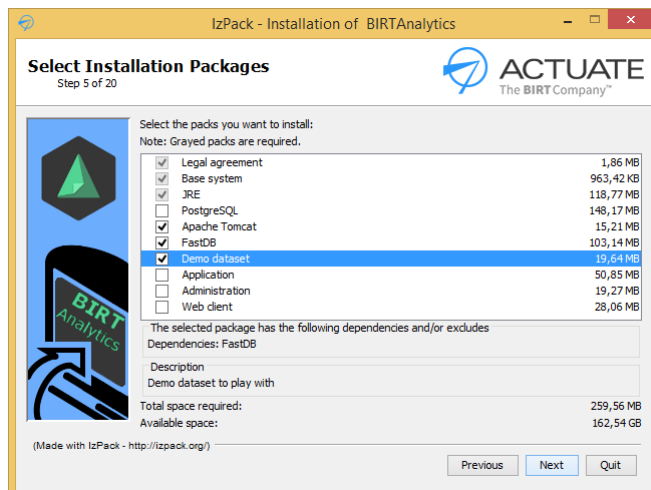
Installing BIRT Analytics 5.1

BAapps Server

In **Server1 (BAapps)** you must install these packages:
- o   Legal agreement
- o   Base system
- o   JRE
- o   Apache Tomcat
- o   PostgreSQL
- o   Application
- o   Administration
- o   Web Client

During the install process, you will be required to enter information concerning the FastDB server, port and credentials where the BAcore (Server2) was installed.

You will also have to enter the type of communication if you require a secure communication by SSL between ApplicationWS (electronws) and FastDB (dubnium).
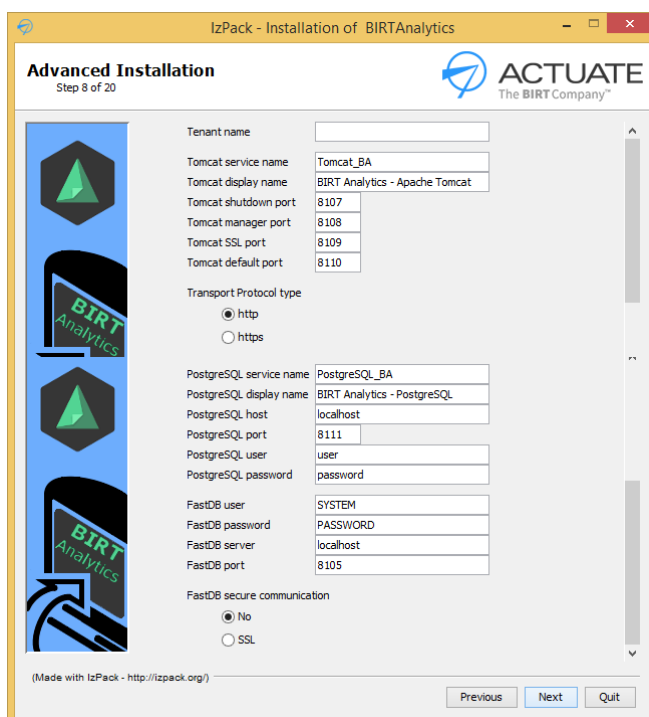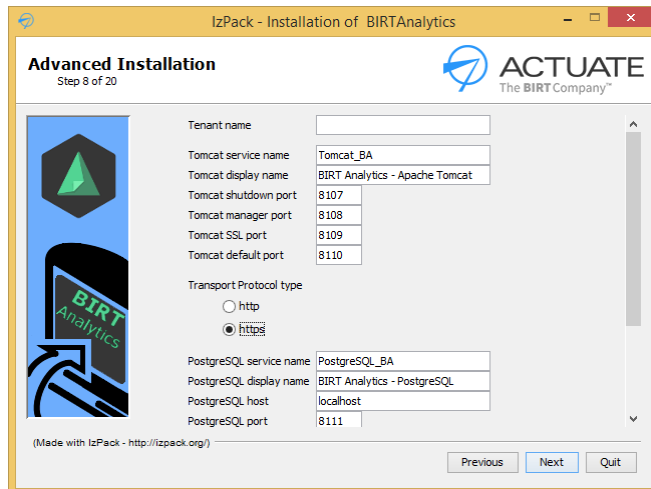
Installing BIRT Analytics 5.1

Annex III - HTTPS

In the installation process, select installation type *Custom* and complete the information required for all the fields. (see detail in Annex I – Custom installation type)

Information required:
- o   Transport Protocol type – https

A self-signed certificate will be used with *CN=localhost*

Shortcuts in Start-Menu Programs Group and on desktop:
- o   BIRT Analytics (by default ***https://localhost:8109/bafrontend***)
- o   BIRT Analytics Administration (by default ***https://localhost:8109/baadmin***)
- o   FastDB Loader (by default ***https://localhost:8109/qloader***)

HTTPS with a valid client certificate (hostname.domain)

In the case where it is necessary to use a valid client certificate (hostname.domain), after an HTTPS installation of BA – these are the steps:

Before starting you should verify that the IP and hostname.domain entries appear in the host files. In a distributed installation between two servers, *each* server must have the IP and hostname.domain entries for *both* servers.

It is possible to establish https configuration for each element of BA, which can be applied independently.

Installing BIRT Analytics 5.1

Acces to Web Client (bafrontend), Administration (baadmin) and FastDB Loader (qloader) by port 8109 and HTTPS

In a distributed installation in two servers, apply these changes in *both* servers; SERVER1 – BAapps and SERVER2 – BAcore.

o   Create a keystore **birtanalytics.jks** importing the certificate **PFX** .

The keystore keystore.jks it is located by default in this folder:

C:\Program Files\BIRTAnalytics\data\Tomcat\

To import a PKCS#12 file into a Java keystore:
1. Obtain the following information about your PKCS#12 file:
    o   The password that protects the PKCS#12 file.
    o   The Friendly Name of the certificate contained in the PKCS#12.

      You can see the Friendly Name (alias name) with this command: (You'll be prompted to enter the source keystore password. Enter the password that protects your PKCS#12 file.)
      keytool –list –v -storetype pkcs12 –keystore <cert.p12>

For example:

C:\Program Files\BIRTAnalytics\3rdParty\JRE64\bin>*keytool –list –v –storetype pkcs12 –keystore "C:\Program Files\BIRTAnalytics\data\Tomcat\quite4me.pfx"*

---

2. Use the following command to import your PKCS#12 file into a Java keystore: (You'll be prompted to enter the source keystore password. Enter the password that protects your PKCS#12 file.)
    keytool -importkeystore -srckeystore <cert.p12> -destkeystore <keystore.jks> - srcstoretype pkcs12 -deststoretype JKS -alias <original_alias> -destalias <new_alias> - deststorepass <password> -destkeypass <same_password>

For example:

C:\Program Files\BIRTAnalytics\3rdParty\JRE64\bin>*keytool -importkeystore -srckeystore "C:\Program Files\BIRTAnalytics\data\Tomcat\quite4me.pfx" -destkeystore "C:\Program Files\BIRTAnalytics\data\Tomcat\birtanalytics.jks" -srcstoretype pkcs12 -deststoretype JKS -alias 1 -destalias quite4me -deststorepass birtanalytics -destkeypass birtanalytics*

---

cert.p12	The name of the PKCS#12 file that contains your new certificate.
keystore.jks	The output file name for your Java keystore.
original_alias	This is the Friendly Name of the certificate contained in the PKCS#12 file. Use quotation marks if this name contains spaces.
new_alias	This will be the alias of the Java Keystore you are creating. We recommend that you use the same alias as you used during installation in order to ensure there is only one signature per jar. To determine what value was used, open the install.log file and search for "Enter the alias of your private key."
password	This password protects the keystore you are creating.
same_password	This password protects the private key within the keystore you are creating. *Use the same password that you specified for deststorepass.*

Installing BIRT Analytics 5.1

You can see the content of keystore with this command: (You'll be prompted to enter the source keystore password. Enter the password that protects your keystore file.)

keytool –list –v –keystore <keystore.jks>

For example:

```
C:\Program Files\BIRTAnalytics\3rdParty\JRE64\bin>keytool –list –v –keystore "C:\Program
Files\BIRTAnalytics\data\Tomcat\birtanalytics.jks"
```

o   Enabled **TLS** in Tomcat

In file *C:\Program Files\BIRTAnalytics\3rdParty\Tomcat\conf***server.xml** modify this section adding the value of specific keystore and password.

```
<!-- Define a SSL HTTP/1.1 Connector on port 8109
     This connector uses the BIO implementation that requires the JSSE
     style configuration. When using the APR/native implementation, the
     OpenSSL style configuration is required as described in the APR/native
     documentation -->
  <Connector port="8109" protocol="org.apache.coyote.http11.Http11NioProtocol"
        maxThreads="150"
        SSLEnabled="true"
        scheme="https"
        secure="true"
        clientAuth="false"
        sslEnabledProtocols="TLSv1,TLSv1.1,TLSv1.2"
        keystoreFile="C:\Program Files\BIRTAnalytics\data\Tomcat\keystore"
        keystorePass="changeit"/>
```

The keystore files are located by default in this folder:
C:\Program Files\BIRTAnalytics\data\Tomcat\

For example:

```
  <Connector port="8109" protocol="org.apache.coyote.http11.Http11NioProtocol"
        maxThreads="150"
        SSLEnabled="true"
        scheme="https"
        secure="true"
        clientAuth="false"
        sslEnabledProtocols="TLSv1,TLSv1.1,TLSv1.2"
        keystoreFile="C:\Program Files\BIRTAnalytics\data\Tomcat\birtanalytics.jks"
        keystorePass="birtanalytics"/>
```

Installing BIRT Analytics 5.1

Access to ApplicationWS (electronws) by port 8109 and HTTPS

In a distributed installation in two servers, apply these changes in both servers; SERVER1 – BAapps and SERVER2 – Bacore

o   Add a certificate to cacerts Java store
Open a MSDOS console (CMD) as administrator.
In **C:\Program Files\BIRTAnalytics\3rdParty\JRE64\bin** run:
keytool -import -trustcacerts -file "C:\Certificates\root.pem" -alias ALIAS -keystore
"C:\Program Files\BIRTAnalytics\3rdParty\JRE64\lib\security\cacerts"
(You'll be prompted to enter the cacerts keystore password. By default is "changeit")

For example:

> **C:\Program Files\BIRTAnalytics\3rdParty\JRE64\bin >**_keytool -import -trustcacerts -file " C:\Program Files\BIRTAnalytics\data\Tomcat\gdig2.crt" -alias CA_DADDY_Q -keystore " C:\Program Files\BIRTAnalytics\3rdParty\JRE64\lib\security\cacerts "_

o   Enable **HTTPS** access to ApplicationWS (electronws) in Administration (**baadmin)** configuration

In a distributed installation in two servers, apply these changes in SERVER1 - BAapps
In file _C:\Program Files\BIRTAnalytics\Administration\WEB-INF\settings_**configuration.xml** modify these elements:

<electronurl>https://localhost:8109/electronws/services</electronurl>
for
<electronurl>https://<mark>hostname.domain</mark>:8109/electronws/services</electronurl>

For example:

> <electronurl>**https://SERVER1.quite4me.com:8109**/electronws/services</electronurl>

o   Enable **HTTPS** access to ApplicatonWS (electronws) in Web Client (**bafrontend)** configuration
In a distributed installation in two servers, apply these changes in SERVER1 - BAapps
In file _C:\Program Files\BIRTAnalytics\WebClient\WEB-INF\settings**configuration.xml**_ modify these elements:

<electronurl>https://localhost:8109/electronws/services</electronurl>
for
<electronurl>https://<mark>hostname.domain</mark>:8109/electronws/services</electronurl>

For example:

> _<electronurl>**https://SERVER1.quite4me.com:8109**/electronws/services</electronurl>_

Installing BIRT Analytics 5.1

o   Enable **HTTPS** access to ApplicatonWS (electronws) in Loader **(qloader)** configuration
In a distributed installation in two servers, apply these changes in SERVER2 - BAcore
In file *C:\Program Files\BIRTAnalytics\data\FastDB\Loader**configuration.xml*** modify these
elements:

<electronurl>https://localhost:8109/electronws/services</electronurl>
for
<electronurl>https://<mark>hostname.domain</mark>:8109/electronws/services</electronurl>

For example:
```
<electronurl>https://SERVER1.quite4me.com:8109/electronws/services</electronurl>
```

Access to dubnium by port 8106 and TLS
FastDB secure communication by TLS only recommended in a distributed installation when
FastDB (dubnium) is in a different server of ApplicationWS (electronws)

o   Change in **configuration.xml** file of ApplicationWS (**electronws)**
In a distributed installation in two servers, apply these changes in SERVER1– BAapps
In file *C:\Program Files\BIRTAnalytics\ApplicationWS\WEB-INF\settings**configuration.xml***
modify these parameters to true value

<engineserver>**SERVER2**</engineserver>
<engineport>**8106**</engineport>
<engineignoredangerous>**true**</engineignoredangerous>
<enginesecure> **true** </enginesecure>

o   Enable TLS in Dubnium
In a distributed installation in two servers, apply these changes in SERVER2– BAcore
In file *C:\Program Files\BIRTAnalytics\data\FastDB**engine_configuration.ini*** add these
parameters:

[server]
enable_secure_port = 1

By default TLS use port 8106 and auto certificate.

--server.ssl_mode arg (=simple) Certificate mode for TLS ('simple'=self-signed certificate,
'complete'=with root CA)
 --server.dh_filename arg (=dhparams.pem) Diffie-Hellman parameters file
 --server.rand_filename arg (=ssl.rnd) Random file for TLS calculations
 --server.certificate arg (=server.pem) Server public certificate
 --server.private_key arg (=server.key) Server private key
 --server.private_key_password arg   Password for server private key
 --server.root_ca_certificate arg (=cacert.pem) Root CA public certificate
 --server.cert_country arg   Server certificate data: two character country (US, UK, SP, ...)

Installing BIRT Analytics 5.1

FastDB can work with TLS without these options, as it auto-generates the needed certificates, but it is not really a "valid" certificate in terms of authentication reliability. If a customer has a valid certificate purchased from a CA (or even a self-generated one) they can use these options to specify required values. These options can also be used in the FastDB auto-generated certificate if you want to set some custom certificate properties such as country, email, organization, etc.

For example:

```
 [server]
enable_secure_port = 1
ssl_mode = complete
certificate = quite4mePublicServer.pem
private_key = quite4mePrivatServer.pem
private_key_password = birtanalytics
root_ca_certificate = gdig2.crt
cert_country = US
```

o   Help for **generating public and private certificate** files using OPENSSL
OPENSSL is not included with BIRT Analytics.

-    Generating **Privat key** certificate from PFX certificate file:

openssl pkcs12 -in <cert.p12> -nocerts -out <server.key> -nodes

For example:

```
C:\>openssl pkcs12 -in "C:\Program Files\BIRTAnalytics\data\Tomcat\quite4me.pfx" -nocerts -out "C:\Program Files\BIRTAnalytics\data\FastDB\quite4mePrivatServer.pem" -nodes
```

-    Generating **Public** certificate from PFX certificate file:

openssl pkcs12 -in <cert.p12> -clcerts -nokeys -out <server.pem>

For example:

```
C:\> openssl pkcs12 -in "C:\Program Files\BIRTAnalytics\data\Tomcat\quite4me.pfx" -clcerts -nokeys -out "C:\Program Files\BIRTAnalytics\data\FastDB\quite4mePublicServer.pem"
```
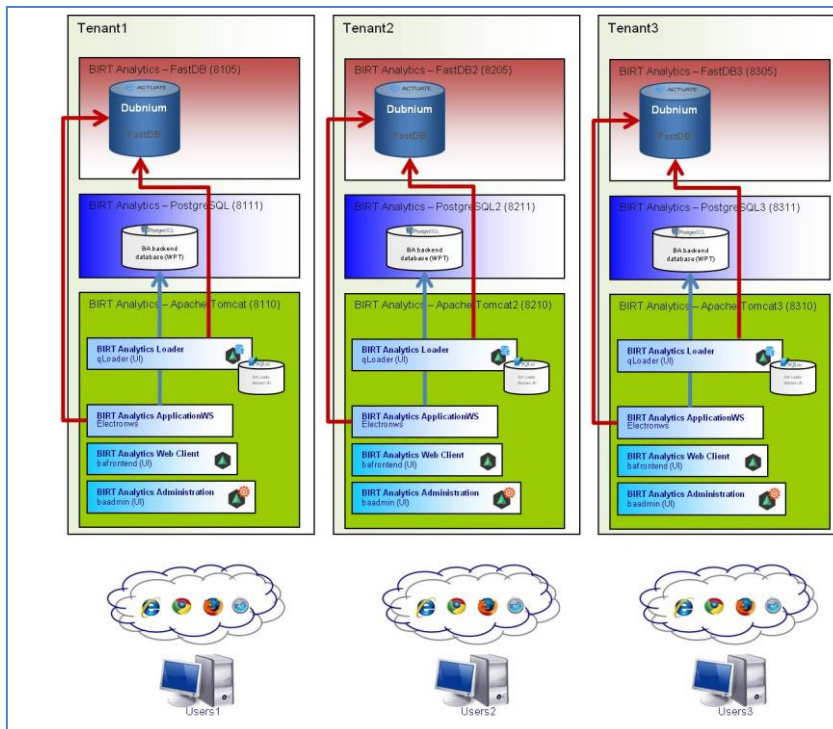
Installing BIRT Analytics 5.1

Annex IV - Multitenant

Understanding architecture

The scope to set a multitenancy architecture is to provide the possibility of running multiple instances on the same infrastructure, in order to serve multiple client organizations (tenants).

Each client organization works with a customized virtual application instance that:
- o Runs different services of engine.
- o Runs load processes in separate configurations.
- o Loads data in separate repositories.
- o Manages separate backend databases (PostgreSQL / wpt).
- o Runs independent BA configurations:
    - ▪ 2 or more ApplicationWS configurations.
    - ▪ 2 or more BAadmin configurations.
    - ▪ 2 or more BAfrontend configurations.
- o Runs different instances of Tomcat
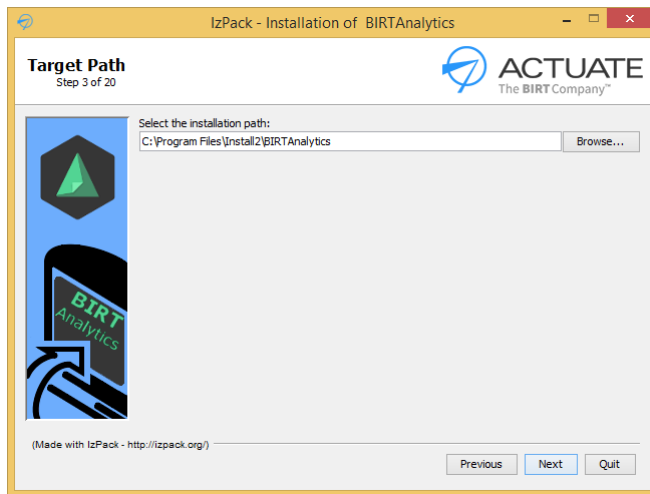- o Runs different instances of PostgreSQL

Installing BIRT Analytics 5.1

Installation

It is a Basic installation with few specific settings.

- In Target Path select a specific path different for each tenant.

- In the installation process select installation type *Custom* and complete the information required in all fields. (see detail in Annex I – Custom installation type)

- Select a descriptive name for tenant, add a suffix with tenant name in service and display name, select Ports and Transport Protocol type: For every instance is necessary to use different Ports.

>(**Note:** *In first tenant installation, you could maintain the default port for each element, and later change only the hundreds digits.*)

o Tenant name   Tenant2
o Tomcat service name   Tomcat_BA_Tenant2
o Tomcat display name   BIRT Analytics – Apache Tomcat_Tenant2
o Tomcat shutdown port   8207
o Tomcat manager port   8208
o Tomcat SSL port   8209
o Tomcat default port   8210
o PostgreSQL service name   PostgreSQL_BA_Tenant2
o PostgreSQL display name   BIRT Analytics – PostgreSQL_Tenant2
o PostgreSQL host   localhost
o PostgreSQL port   8211
o PostgreSQL user   user
o PostgreSQL password   password
o FastDB service name   dubnium_Tenant2
o FastDB display name   BIRT Analytics – FastDB_Tenant2
o FastDB port   8205

Installing BIRT Analytics 5.1

- Select the setup shortcuts.

- o Create shortcuts in the Start-Menu
- o Create additional shortcuts on the desktop (every shortcut will be created having the tenant name as a prefix)
- o Select the Programs Group (this could be the same group for all tenant installations or a separate group for each one.)

Installing BIRT Analytics 5.1

- Shortcuts on desktop
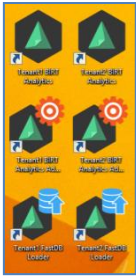
- Repeat the same process for every tenant installation required.

Installing BIRT Analytics 5.1

Uninstall
IMPORTANT – Before uninstall be sure you have backup for all the required elements.

-Windows
Run [installation path]**uninstall.bat** (Run as Administrator)

-Linux
Run [installation path]\.**/uninstall.sh**

-Mac OS X
Run [installation path]**uninstall.command**

Delete the folder required.

Uninstall
IMPORTANT – Before uninstall be sure you have backup for all the required elements.

31