Installation Guide
e-TrustEx Web

ISA²

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DOCUMENT METADATA

Property	Value
Release date:	*18th July 2018*
Version:	*1.05*
Status:	*Published in joinup*
Authors:	*Alexandru TIRDEA, Phu Quyen LE, Grzegorz GAUDYN*
Keywords (to increase the SEO presence)	*entrypoint, endpoint, node, datasource, JMS, mail queues, subsystem, environment, schema, installation, user, configuration, business, party , user, role, Administration Console, MySQL, DbVisualizer, Java SE, e-TrustEx, eTrustEx WEB, WildFly, JBoss AS*

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EXECUTIVE SUMMARY

Short Abstract **(150 words)**	*Underlying document provides a description of the method to install, setup and configure eTrustEx Web on your environment and to connect it to the eTrustEx Node or Adapter systems specific to your configuration.*
Objectives **(150 words)**	*This document is meant to provide technical guidance on the installation of eTrustEx Web..*
Method **(300 words)**	*This document offers detailed instructions to set up and configure eTrustEx Web. It contains 3 sections:* • *server and database installation* • *web database configuration* • *etx web configuration example* *It is completed by a detailed example.*
Conclusions **(150 words)**	*Technical document about the installation of eTrustEx Web.*

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AUDIENCE

This document is intended for the following audiences:

AUDIENCE		TARGETED IN THIS DOCUMENT
SERVER ADMINISTRATORS		✓
DATABASE ADMINISTRATORS		✓
SYSTEM ADMINISTRATORS		✓

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DOCUMENT HISTORY

Version	Date	Comment	Modified Pages
1.00	11/05/2015	Document created by Alexandru TIRDEA	
1.01	16/06/2015	Add business configurations by Phu Quyen LE	
1.02	25/06/2015	Add application response web configuration	
1.03	07/10/2015	Update database schema preparation	
1.04	02/07/2018	Create version for WildFly	
1.05	18/07/2018	Document reformatted for ISA² by Peter VANDEN BULCKE	all

1 OVERVIEW

1.1 PURPOSE

This document will allow you to install, set up and configure eTrustEx Web on your environment and connect it to the eTrustEx Node or Adapter systems specific to your configuration.

1.2 INTENDED READERSHIP

This document is intended for Server Administrators, Database Administrators and System Administrators.

1.3 SCOPE

This document contains one section:

– Detailed instructions to setup and configure the eTrustEx Web

2 SERVER AND DATABASE INSTALLATION

2.1 REQUIREMENTS

Java SE 7 (version that was tested and also recommended is: 1.7.0_71, 64-bit).
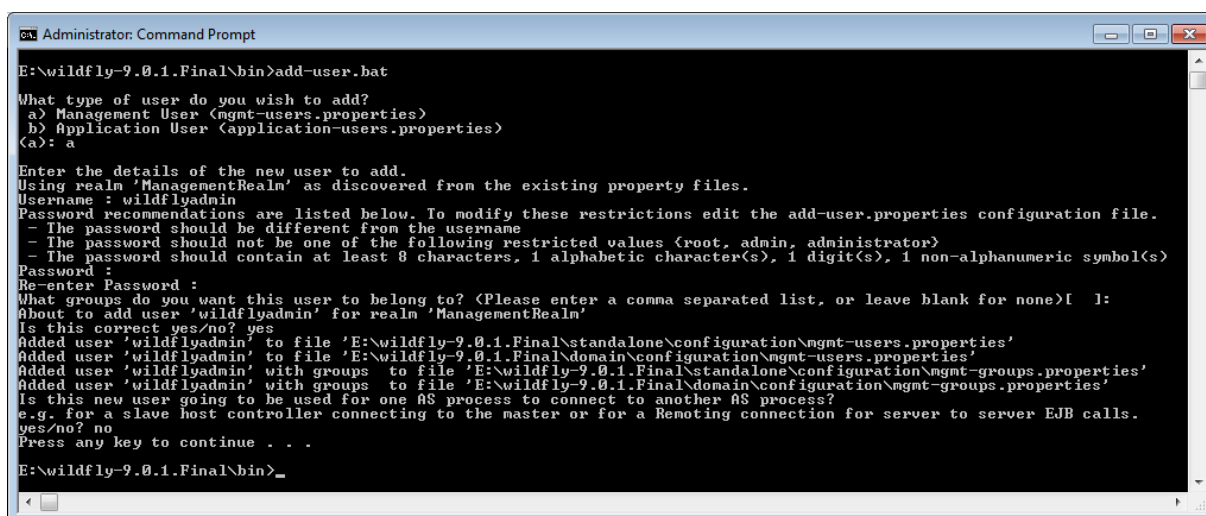
Supported browsers and required settings for eTrustEx WEB:

	Browser	Required	Additional information
	Chrome	64	
	Firefox	59	Requires these 2 preferences to be enabled in about:config. − javascript.option.streams − dom.streams.enabled
	Edge	17	This is the EdgeHTML version. Edge is only available in Windows 10

2.2 PREREQUISITES

The following items are considered as prerequisites before attempting to install WildFly:

1. **Download** WildFly (formerly known as JBoss AS) version 10.1.0.
   Final available on http://wildfly.org/downloads/

2. **Unzip** the distribution in a location of your choice, here-after called ${jboss_path}

3. Run the add-user command from ${jboss_path}\bin and **create a management user** running add-user command, as in the image below:- The latest version of the eTrustEx Web archive provided by the European Commission.

📒 **NOTE:**

The MySQL scripts included in the Docker image (/docker-entrypoint-initdb.d/) set up the DB configuration for username 'admin-web'.

The **user for webservices** exposed to the Node has to be created as well.

In the current configuration this is **ETX-NODE-SERVICE-USER / 5Uf6.O!TQ~~j;IF** and group **NODE-SERVICE-ROLE**.

Application users should be created with the role 'user'.

4. From ${jboss_path}\bin, start the server by running the **standalone.bat** command.

5. Access http://localhost:9990/ and click on the Administration Console link. On the new window opened, **authenticate** yourself as the user created in step 3. A successful authentication means a successful JBoss installation.
For any other problems related with the installation please consult documentation section at: https://docs.jboss.org/author/display/WFLY9/Documentation

6. This version uses MySQL 5.6.x. This section presumes that you have a MySQL DB already installed with an appropriate schema setup (scripts included in the Docker image /docker-entrypoint-initdb.d/).

2.3 CONFIGURING THE WILDFLY ENVIRONMENT

1. MySQL Datasource configuration

   a. Navigate to ${jboss_path}\modules and create the folder: system\layers\base\com\mysql\main

     b. Create a file called module.xml and add the following inside:

```
<module xmlns="urn:jboss:module:1.3" name="com.mysql">

    <resources>

        <resource-root path="mysql-connector-java-5.1.46-bin.jar"/>

    </resources>


    <dependencies>

        <module name="javax.api"/>

        <module name="javax.transaction.api"/>

        <module name="javax.servlet.api" optional="true"/>

    </dependencies>

</module>
```

     c. Browse to the MySQL site http://dev.mysql.com/downloads/connector/j/
In the "Select Operating System:" dropdown list select "Platform Independent".
Click the Download button to download the latest JDBC Driver (test with the version 5.1.46).

     d. Unzip it and copy from inside the file **mysql-connector-java-5.1.46-bin.jar** to ${jboss_path}\modules\ system\layers\base\com\mysql\main

     e. Navigate to ${jboss_path}\standalone\configuration\standalone.xml and inside this file search for `<subsystem xmlns="urn:jboss:domain:datasources:4.0">`

     f. In the datasource subsystem, in the datasources-> drivers section, add the following:

```
<driver name="mySql" module="com.mysql">

    <xa-datasource-
class>com.mysql.jdbc.jdbc2.optional.MysqlXADataSource</xa-datasource-
class>

</driver>
```

g. In the datasource subsystem, in the datasources section, define a new datasource linked to the newly added driver as below where you have to replace with your data:

```xml
<xa-datasource jndi-name="java:/jdbc/EtxWebDb" pool-name="EtxWebDb"
enabled="true" use-java-context="true">

    <xa-datasource-property name="URL">

        jdbc:mysql://localhost:3306/etxweb

    </xa-datasource-property>

    <driver>mySql</driver>

        <xa-pool>

            <min-pool-size>0</min-pool-size>

            <max-pool-size>20</max-pool-size>

        </xa-pool>

        <security>

            <user-name>etxweb</user-name>

            <password>etxweb</password>

        </security>

        <validation>

            <valid-connection-checker class-
name="org.jboss.jca.adapters.jdbc.extensions.mysql.MySQLValidCo
nnectionChecker"/>

            <background-validation>true</background-validation>

            <exception-sorter class-
name="org.jboss.jca.adapters.jdbc.extensions.mysql.MySQLExcepti
onSorter"/>

        </validation>

</xa-datasource>
```

2. Install the JMS and mail queues

a. Navigate to ${jboss_path}\standalone\configuration and open to edit the file standalone.xml

b. Add the following mail session in `<subsystem xmlns="urn:jboss:domain:mail:2.0">` section:
`<mail-session name="EtxWebSession" jndi-name="java:/mail/EtxWebSession"/>`

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c. In the subsystem `<subsystem xmlns="urn:jboss:domain:messaging-activemq:1.0">` add:

```
<address-setting name="jms.queue.EtxWebMailQueue" dead-letter-
address="jms.queue.EtxWebErrorQueue" expiry-
address="jms.queue.EtxWebErrorQueue" redelivery-delay="30000"/>

<address-setting name="jms.queue.EtxWebRetrieveMetadataJMSQueue"
dead-letter-address="jms.queue.EtxWebErrorQueue" expiry-
address="jms.queue.EtxWebErrorQueue" redelivery-delay="30000"/>

<address-setting name="jms.queue.EtxWebRetrieveBundleJMSQueue"
dead-letter-address="jms.queue.EtxWebErrorQueue" expiry-
address="jms.queue.EtxWebErrorQueue" redelivery-delay="30000"/>

<address-setting name="jms.queue.EtxWebSendStatusJMSQueue" dead-
letter-address="jms.queue.EtxWebErrorQueue" expiry-
address="jms.queue.EtxWebErrorQueue" redelivery-delay="30000"/>


<jms-queue name="etxWebMailQueue"
entries="java:/queue/EtxWebMailQueue"/>

<jms-queue name="etxWebRetrieveMetadataJMSQueue"
entries="java:/queue/EtxWebRetrieveMetadataJMSQueue"/>

<jms-queue name="etxWebRetrieveBundleJMSQueue"
entries="java:/queue/EtxWebRetrieveBundleJMSQueue"/>

<jms-queue name="etxWebSendStatusJMSQueue"
entries="java:/queue/EtxWebSendStatusJMSQueue"/>

<jms-queue name="etxWebErrorQueue"
entries="java:/queue/EtxWebErrorQueue"/>
```

3. Role mapping

a. Navigate to ${jboss_path}\standalone\configuration and open to edit the file standalone.xml

b. Add the following role mapping in the `<access-control provider="simple">`:

```
<role name="Administrator">
    <include>
        <user realm="trustexRealm" name="trustexRealm"/>
    </include>
</role>
```

2.4 PREPARE WEB DATABASE SCHEMA

To configure MySQL, follow the steps in section 2.4.1.

In order to execute the scripts you will need a database application, for example, DbVisualizer.

Using an SQL worksheet you can run the following scripts.

2.4.1 MySQL – create all the database objects

– Go to `/docker-entrypoint-initdb.d/` and
execute the content of the following file and commit changes for everyone:

`etrustex_web_structure_initial_data.sql`

2.5 DEPLOYING WEB APPLICATION ON WILDFLY SERVER

– Copy "etx-wacc-modules-ear-public.ear" file provided by the European Commission to <WildFly home path>\standalone\deployments\.

As a result, the server will expose the web context path:

`e-trustex`

This means that the application should be available at:

`http://{hostname}:{port}/e-trustex`

In addition to the web context path, Web-Access application exposes three web-service endpoints :

- endpoint for Node application to push application response messages.
  The endpoint is available at
  http://{hostname}:{port}/e-trustex/integration/services/node/ApplicationResponseService/v2.0

- endpoint for Node application to push document bundles.
  The endpoint is available at
  http://{hostname}:{port}/e-trustex/integration/services/node/DocumentBundleService/v2.0

- endpoint for Adapter application to push inbox notification messages.
  The endpoint is available at
  http://{hostname}:{port}/e-trustex/integration/services/inbox/InboxNotificationService/v2.0

For all above mentioned endpoints, the WSDL can be obtained by appending the `?WSDL` termination at the endpoint URL.

Above endpoints for `ApplicationResponseService` and `DocumentBundleService` should be configured in eTrustEx to route messages to eTrustEx Web.

3 WEB DATABASE CONFIGURATION

3.1 INTRODUCTION

The following section describes the DB tables that may require manual configuration when setting up your application. Please note that there is a detailed DB configuration example in section 4 of this document.

Set up the eTrustEx Web database configuration tables in the following order:

    1° ETX_WEB_BUSINESS

    2° ETX_WEB_BUSINESS_CONFIG

    3° ETX_WEB_PARTY

    4° ETX_WEB_USER

    5° ETX_WEB_BUSINESS_USER_CONFIG

    6° ETX_WEB_USER_ROLE

    7° ETX_WEB_CONFIG

Note:

- All tables contain "Created" and "Modified" date/time columns for auditing purposes, except for the ETX_WEB_BUSINESS_CONFIG table.

- The eTrustEx Web configuration is memory cached and simply modifying the configuration tables will not have any instant effect. In order to change the configuration at runtime it is necessary to reset the cache from the Administration page/System tab/Reset cache (requires a user with admin rights).

3.2 ETX_WEB_BUSINESS

This table contains specific business information such as:

BUS_ID – The ID of the business, used by other tables such as ETX_WEB_PARTY, ETX_WEB_BUSINESS_USER_CONFIG or ETX_WEB_USER_ROLE, ETX_WEB_BUSINESS_CONFIG.

BUS_NAME – The name of the business.

BUS_ACTIVE_STATE – Set to 1 to enable this business.

3.3 ETX_WEB_BUSINESS_CONFIG

This table contains specific business configuration information such as:

BCG_ID – The ID of the business configuration.

BUS_ID – The business for this configuration.

BCG_PROPERTY_NAME and BCG_PROPERTY_VALUE – These columns are linked together and define most of the business configurations:

- **etx.business.receiver.node.party.name** – The receiver party name for this business. If your business does not send messages, don't set this property.

- **etx.business.custom.view.name** – The name of the view custom developed for your business. If no custom development was done for your business, don't set this property.

- **etx.business.warn.email.notif.enabled** – Set to "true" to receive warning email notifications for messages about to expire. Notifications will be sent to party functional mailbox and users that have the notification enabled.

3.4 ETX_WEB_PARTY

This table contains specific party information such as:

PAR_ID – Defines the party unique id, used by ETX_WEB_USER_ROLE.

PAR_EMAIL – Functional email of the party (where the notifications for new messages are sent).

PAR_NODE_NAME – Code of this party configured on the node.

PAR_NODE_USR – Party username provided by the node (used for node webservices).

PAR_NODE_PASS – Party password provided by the node (used for node webservices).

PAR_DISPLAY_NAME – How the party is displayed on the web interface.

BUS_ID – The business for this party.

PAR_NOTIFICATIONS_ENABLED – Set to 1 to enable new message notifications for this party.

PAR_ACTIVE_STATE – Set to 1 to enable this party.

3.5 ETX_WEB_USER

This table contains user information for which the businesses are configured:

USR_ID – This defines the user unique ID, used in ETX_WEB_BUSINESS_USER_CONFIG.

USR_LOGIN – User authentication name.

USR_NAME – Display name for this user.

3.6 ETX_WEB_BUSINESS_USER_CONFIG

This table holds information related with user configuration per business:

BUC_ID – A unique value for the table.

USR_ID – The specific user this business user configuration is associated with; this value is linked to the ETX_WEB_USER table.

BUS_ID – The specific business this business user configuration is associated with; this value is linked to the ETX_WEB_BUSINESS table.

BUC_NAME – The name of the user for this business.

BUC_EMAIL – Functional email of the user for this business.

BUC_NOTIFICATIONS_ENABLED – Set it to 1 if this user is going to receive email notifications inside this business.

BUC_ACTIVE_STATE – Set it to 1 to activate this user configuration per business.

3.7 ETX_WEB_USER_ROLE

This table gives role access to users per party, per business or administrative roles.

URO_ID – A unique value for the table.

USR_ID – ID of the role from ETX_WE_USER.

ROL_TYPE – The role from ETX_WEB_ROLE.

PAR_ID – ID of the party from ETX_WEB_PARTY (should be null for business admin or system admin roles).

BUS_ID – ID of the business from ETX_WEB_BUSINESS (should be null for party admin or system admin roles).

3.8 ETX_WEB_CONFIG

This table holds various eTrustEx Web configurations, especially the endpoints URL's to connect to the node webservices and also the message retention policy parameters.

`CFG_ID` – A unique value for the table.

`CFG_PROP_NAME` and `CFG_PROP_VALUE` – These columns are linked together and define most of the available functionality on the ETX Web . The `CFG_PROP_NAME` is shown in bold and the `CFG_PROP_VALUE` is described with possible values.

3.8.1 MANDATORY CONFIGURATION

`etrustex.doc.bundle.service.uri` – The value is the URL of the Node Document Bundle service for sending message bundles to the Node.

`etrustex.doc.wrapper.service.uri` – The value is the URL of the Node Document Wrapper service for sending and receiving attachments to and from the Node.

`etrustex.doc.agreement.service.uri` – The value is the URL of the Node Retrieve Interchange Agreement service – This service returns security information back to the eTrustEx Web in relation to the specified sender and receiver parties.

`etx.node.services.RetrieveRequestService.uri` – The value is the URL of the Node Retrieve Request service for retrieving message bundles from the Node.

`etx.node.services.application.response.url` – The value is the URL of the Node Application Response service for sending status to the Node.

3.8.2 OPTIONAL CONFIGURATION

`etrustex.retentionPolicy.weeks` – The number of weeks before a message expires.

`etrustex.retentionPolicy.warning.before.days` – The number of days before the moment that a message expires, i.e. the moment that the warning notification is sent for a message that is going to expire.

`webservice.logging.enabled` – `true` for enabling web services SOAP logging.

`etrustex.translations.missingLabel.defaultsToEnglish` – `true` for enabling English translation for texts not found in other requested languages.

`application_url` – The value is the URL where eTrustEx Web is accessible from the outside, used in mail notification body. Becomes mandatory if notifications are enabled for that business or party.

4 ETX WEB CONFIGURATION EXAMPLE

The following sections provide specific tutorial examples to set up your eTrustEx Web application to support one generic business.

Specific values for IDs are provided in the examples below (for example BUS_ID) but you can choose different values as required. If you wish to use other values you must make sure that tables that link to each other are updated accordingly.

For this example we shall use one example party name to assist in visualising the configurations. This tutorial will use the example recipient party " TRUSTCUSTPARTY1" that will receive messages from "GENERIC".

For this example party the eTrustEx Node team set up the following configuration:

```
NODE PARTY NAME:                        TRUSTCUSTPARTY1

NODE USERNAME FOR " TRUSTCUSTPARTY1":   SP1_USER

NODE PASSWORD FOR " TRUSTCUSTPARTY1":   SP1_USER
```

4.1 MANDATORY ETRUSTEX WEB CONFIGURATION

The first table to configure is **ETX_WEB_CONFIG**:

CFG_ID	CFG_PROP_NAME	CFG_PROP_VALUE
1	etrustex.doc.bundle.service.uri	<Submit Bundle URL>
2	etrustex.doc.wrapper.service.uri	<Document Wrapper URL>
3	etx.node.services.RetrieveRequestService.uri	<Retrieve Request URL>
4	etrustex.doc.agreement.service.uri	<Retrieve Interchange Agreement URL>
5	etx.node.services.application.response.url	<Application Response URL>

The Node URLs will be provided by the eTrustEx team and are environment dependent.

4.2 SETTING UP A GENERIC BUSINESS

This section presumes that you have already set up the mandatory configuration from section 2.5.

Configure the following 6 tables in the given order :

1. Configure table **ETX_WEB_BUSINESS:**

BUS_ID	BUS_NAME	BUS_DESCRIPTION	BUS_ACTIVE_STATE
1	GENERIC	N/A	1

2. Configure table **ETX_WEB_BUSINESS_CONFIG** :

BCG_ID	BUS_ID	BCG_PROPERTY_NAME	BCG_PROPERTY_VALUE
1	1	etx.business.custom.view.name	generic
2	1	etx.business.warn.email.notif.enabled	false
3	1	etx.business.sending.enabled	True
4	1	etx.business.folder.structure.enabled	false

3. Configure table **ETX_WEB_PARTY** :

PAR_ID	PAR_EMAIL	PAR_NODE_NAME	PAR_NODE_USR	PAR_NODE_PASS	PAR_DISPLAY_NAME	BUS_ID	PAR_NOTIFICATIONS_ENABLED	PAR_ACTIVE_STATE
1	N/A	TRUSTCUSTPARTY1	SP1_USER	SP1_USER	Directorate-General for Communication	1	0	1

The significant column is BUS_ID = 1 (the business to which this party belongs) and the party credential details used to connect to the Node to download the messages and attachments.

4. Configure table **ETX_WEB_USER** :

USR_ID	USR_LOGIN	USR_NAME	USR_ACTIVE_STATE
1	admin-web	admin-web	1

📒 **NOTE:**

The same user must be configured in the WildFly Application Realm and assigned to 'user' group.

5. Configure table **ETX_WEB_BUSINESS_USER_CONFIG:**

BUC_ID	USR_ID	BUS_ID	BUC_NAME	BUC_EMAIL	BUC_NOTIFICATIONS_ENABLED	BUC_ACTIVE_STATE
1	1	1	admin-web	N/A	0	1

The significant columns are USR_ID = 1 representing the user for which the configuration is set inside the business with BUS_ID = 1.

6. Configure table **ETX_WEB_USER_ROLE** :

This table gives you access inside the application, in this case party and system admin for the user created. In another way user has access to the documents where the customer is the same as the already configured party:

URO_ID	USR_ID	ROL_TYPE	PAR_ID	BUS_ID
1	1	SYSTEM_ADMIN	N/A	N/A
2	1	OPERATOR	1	N/A

When the **BUS_ID** is present for the role 'OPERATOR' then the user gets access to all documents specified for the parties mentioned in the first step business.

To finalise the configuration the user must open the eTrustEx Web application, go to the Administration part, and in the System tab reload the ICAs.