

INSTALLATION MANUAL - 560

Installation Manual – 560 Digital Fingerprint

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DOCUMENT NAME	Installation manual 560 - Wüstenrot.pdf
DOCUMENT TYPE	Installation Manual
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CREATOR	FAF-Team

INSTALLATION PACKAGE

The installation package provides option 560 - Digital Fingerprint.

- It includes DCM (+ JS library) installation, configuration and DB structure setting.
- Needed third-party software is also included in the installation package (Java and netcat, a testing tool).
- The installation process is started from install_dcm_001.cmd.

BUSINESS REQUIREMENTS

Main event settings filter out custom events, that are not interesting for data transfer. So only data for main events is sent via JS library. So before the installation process, we need:

- Defined main events with URL (query) pattern + method, i.e.:

EVENT	QUERY	METHOD
Password reset	api/contract/password	PUT
...

THE INSTALLATION PREREQUISITES

Before installing digital fingerprint components, the following prerequisites should be given:

PREREQUISITES

Running FAF-system with:

- Application Server
- SQL-Server
- SQL-datamart Server (full version)

Service account used for the installation and configuration should have:

- Local administrator rights on the productions server
- Remote Desktop rights on the productions server
- Connect as a service option defined in Account and Group policies
- No requirement to periodically change the password (!)
- db_owner role on production staging_namecheck and ccr databases

db users and permissions:

PREREQUISITES

- The user used for FAF connection should have db_owner permissions to ccr and staging_namecheck databases.
- The user used for datamart connection should have db_owner permission to datamart databases.

When creating a new user for datamart db:

The screenshot shows the 'Users mapped to this login' dialog box in SQL Server Enterprise Manager. The 'Map' column has a checkbox checked for 'datamart'. The 'Database' column shows 'datamart' and the 'Default Schema' column shows 'dbo'. Below the table, the 'Guest account enabled for: datamart' checkbox is unchecked. The 'Database role membership for: datamart' section shows a list of roles with 'db_owner' and 'public' checked.

Map	Database	User	Default Schema
<input type="checkbox"/>	AlertViewer		
<input type="checkbox"/>	CCR		
<input checked="" type="checkbox"/>	datamart		dbo
<input type="checkbox"/>	master		
<input type="checkbox"/>	model		
<input type="checkbox"/>	msdb		
<input type="checkbox"/>	plib_namecheck		
<input type="checkbox"/>	staging_namecheck		
<input type="checkbox"/>	tempdb		

☐ Guest account enabled for: datamart

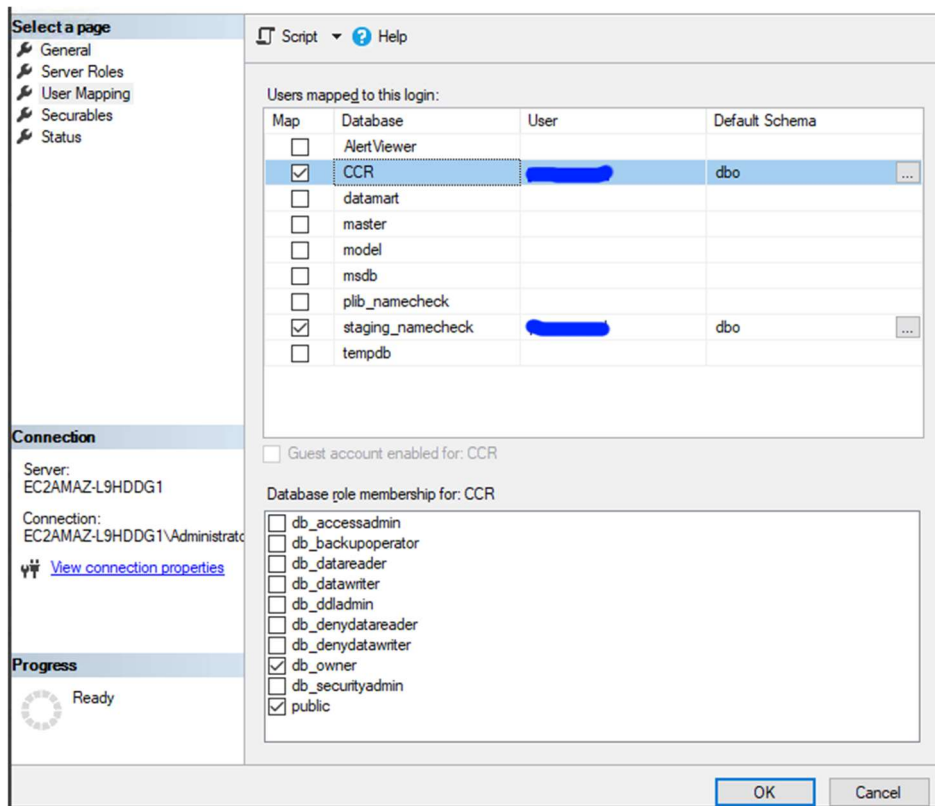
Database role membership for: datamart

<input type="checkbox"/>	db_accessadmin
<input type="checkbox"/>	db_backupoperator
<input type="checkbox"/>	db_datareader
<input type="checkbox"/>	db_datawriter
<input type="checkbox"/>	db_ddladmin
<input type="checkbox"/>	db_denydatareader
<input type="checkbox"/>	db_denydatawriter
<input checked="" type="checkbox"/>	db_owner
<input type="checkbox"/>	db_securityadmin
<input checked="" type="checkbox"/>	public

OK Cancel

When creating a new user for DCM to FAF dbs:

PREREQUISITES



Note: In the case of windows authentication, the permissions should be added accordingly to the user!

Service user account have DEFAULT_SCHEMA=[dbo] in FAF databases

Please, go through the following detailed pre-installation checklist and ensure that all the requirements are fulfilled before starting with the installation:

DEFINITION	REQUIRED	SPECIFICATION
Application Server	For each environment (TST, PRD): one Application Server	<ul style="list-style-type: none"> Windows Server 2016 Java 8+
Admin user	One account	Windows account with administrative privileges on all the servers
Service user	One account	Windows account with local administrative privileges on all the servers

DEFINITION	REQUIRED	SPECIFICATION
SQL Server	SQL Server authentication	<p>General:</p> <ul style="list-style-type: none"> Database server: SQL Server Standard 2012 or later SQL Server Manager Studio installed (in the same version as the target SQL Server) FAF SQL Server accounts have DEFAULT_SCHEMA='dbo' in the FAF databases <p>Type of authentication:</p> <ul style="list-style-type: none"> In the case of the Windows authentication, db_owner role granted to the Admin account and Service account on production staging_namecheck, ccr databases (and any other databases which are part of the project). In the case of SQL Server authentication db_owner granted to the predefined SQL Server account on production staging_namecheck, ccr databases (and any other databases which are part of the project).
Network configuration	Accessing DCM from the main network	<ul style="list-style-type: none"> DCM uses port 9090, so the access to this port should be opened on the Application Server Application Server should be accessible from IB application

THE INSTALLATION WORKFLOW

All the installation steps must be performed under the account having administrative privileges and the scripts should be executed with “As administrator” option. It is recommended to perform the installation under the service user account.

#	SERVER	DESCRIPTION	CONTEXT
1	Application Server	Unpack the archive to D:\Software\DCM	D:\Software\DCM is the recommended path.
2	Application Server	Configure the following variables in <i>Software\DCM\DCM_001\install_dcm_001.cmd</i> (→ Edit):	
		NAME	DESCRIPTION
		_FAF_DB	name/ip of FAF db server
		_FAF_USERNAME	username for FAF databases <ul style="list-style-type: none">not needed in case of _FAF_WINDOWS_AUTH=true
		_FAF_PASSWORD	password for FAF databases <ul style="list-style-type: none">not needed in case of _FAF_WINDOWS_AUTH=true
		In install_dcm_001.cmd, configuration for db and datamart connection has to be done. This is the case because we need connection string for DCM to connect to FAF dbs.	

_FAF_WINDOWS_AUTH	<p>marker for whether it is used windows authentication or provided credentials in previous steps</p> <ul style="list-style-type: none"> • true/false
_ENABLE_DATAMART	<p>whether DCM uses data mart (default or missing means - no data mart)</p> <ul style="list-style-type: none"> • true/false
_DATAMART_DB	<p>name/ip of datamart server</p> <ul style="list-style-type: none"> • mandatory if ENABLE_DATAMART=true
_DATAMART_DB_NAME	<p>name of datamart database</p> <ul style="list-style-type: none"> • mandatory if ENABLE_DATAMART=true
_DATAMART_DB_SCHEMA	<p>name of datamart schema</p> <ul style="list-style-type: none"> • mandatory if ENABLE_DATAMART=true

_DATAMART_USER NAME	username for database datamart <ul style="list-style-type: none"> mandatory if ENABLE_DATAMART=true AND _DATAMART_WINDOWS_AUTH=false not needed in case of _DATAMART_WINDOWS_AUTH=true
_DATAMART_PASS WORD	password for database datamart <ul style="list-style-type: none"> mandatory if ENABLE_DATAMART=true AND _DATAMART_WINDOWS_AUTH=false not needed in case of _DATAMART_WINDOWS_AUTH=true
_DATAMART_WIND OWS_AUTH	marker for whether it is used windows authentication or provided credentials in previous steps <ul style="list-style-type: none"> true/false

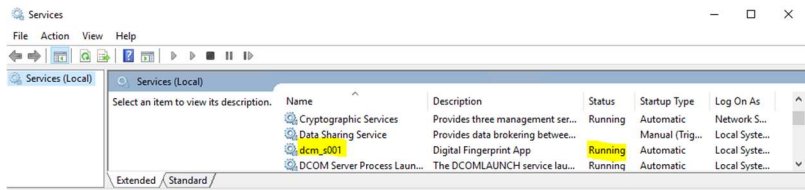
3 Application Server Run DCM installation by:

- `install_dcm_001.cmd > install.log 2> install.err`

```
PS D:\Software\DCM\DCM_001> .\install_dcm_001.cmd > install.log 2> install.err
```

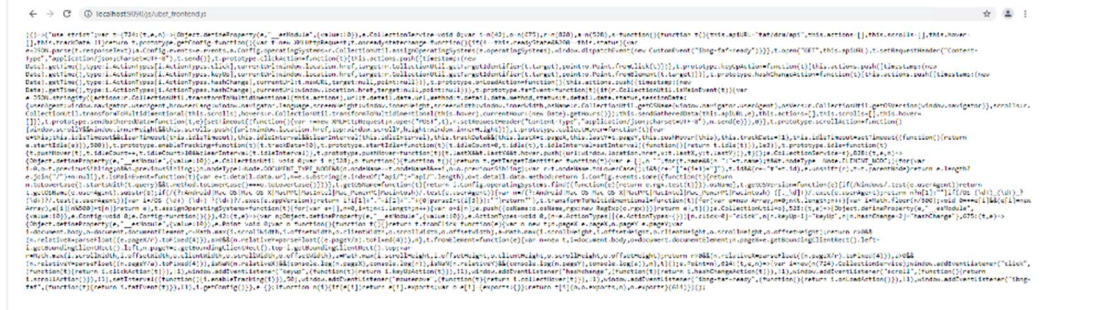
Within this step, the DCM is installed. So after running the installation command, the dcm_s001 service is installed

		<ul style="list-style-type: none"> check that the log file <i>install.log</i> ends with OK message <pre> ERRORLEVEL:0 0 install_sqls:install ok ELEVEL:0 dcm.install:step5:start service... 2021-07-05 14:11:40,406 INFO - Starting the service with id 'DataCollectionModuleApp' ELEVEL:0 dcm.install:install ok </pre>	<p>and runs automatically. Db tables are created.</p> <p>For ERROR handling, a log file (install.log) is created and provides history of DCM installation process. An error file (install.err) is also created in case of some commands write to error pipe.</p>
4	DB Server	<p>CHECK: verify that event_config table is in staging_namecheck database</p> <pre> SELECT TOP (1000) [id] ,[query] ,[method] ,[client] FROM [staging_namecheck].[dbo].[event_config] </pre> <p>For non-Finnova banks:</p> <ul style="list-style-type: none"> If main events are not predefined with Finnova: <p>Remove all rows in event_config and make new records for self defined main events (see Prerequisites)</p>	<p>event_config table = table for settings of main events</p>

		<p>Note: It is needed at least one correct row to be able to test JS library sending data to DCM</p>	
5	DB Server	<p>CHECK: verify that DF_FIRST_LEVEL_RULES_CONFIG table is in CCR database</p> <pre>SELECT TOP (1000) [ID] ,[CODE] ,[VALUE] FROM [CCR].[dbo].[DF_FIRST_LEVEL_RULES_CONFIG]</pre>	<p>DF_FIRST_LEVEL_RULES_CONFIG table = table for settings of High Confidence rules and Warning thresholds</p>
6	Application Server	<p>CHECK: verify that dcm_s001 service is running in Windows Services</p>  <p>ERROR handling:</p> <ul style="list-style-type: none"> In case of the service is not running, check %prospero_temp%\dcm\app.log (you can run [dcm_installation_folder]/dcm_logs.bat to open folder with app.log file) <ul style="list-style-type: none"> Try to start the service manually 	<p>The dcm_s001 service periodically (once every 24 hours) reads the DF_FIRST_LEVEL_RULES_CONFIG table if there were made any changes in p.lib.admin. The service also checks whether the configured rules are violated.</p>
7	Application Server	<p>CHECK: verify that DCM started correctly and that it can provide the JS library:</p>	<p>The DCM delivers JS library as static resource so it has</p>

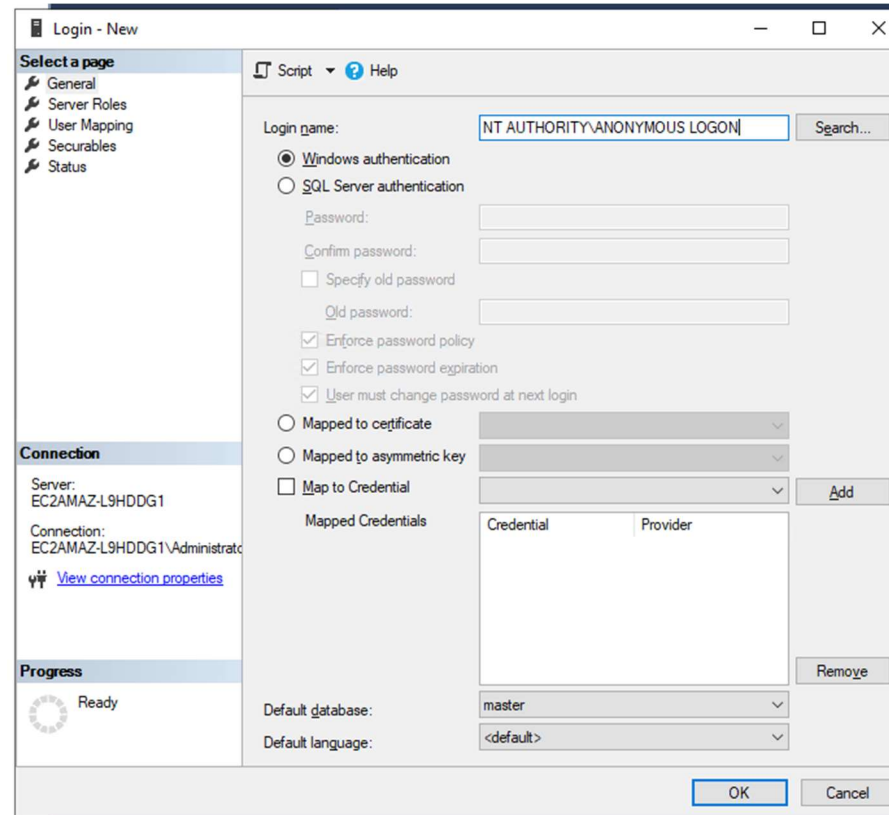
- go to http://localhost:9090/js/ubsf_frontend.js (from browser on the server where DCM is working)

to start correctly. Also it receives data from the JS library (via WAF).



ERROR handling:

- In case of DCM service is not starting or stops in a while, check application log. It's location can be found by starting [dcm_installation_folder]/dcm_logs.bat
 - The authentication to DB is with windows authentication and the log states 'Login failed for user 'XXXX'. Verify that described user actually is added to database logins and if it is missing - add it. It should be available in Security → Logins.



8 Application Server

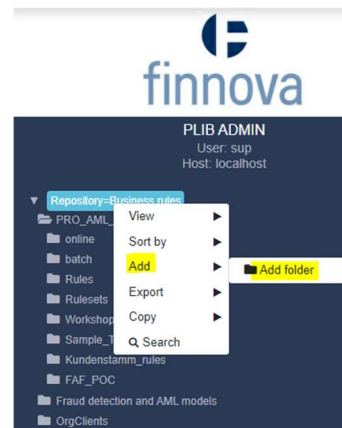
- Include JS library and Context Cookie
- See Digital Fingerprint documentation chapter 2.1 and 2.2

The JS library is responsible for data gathering and to forward the payload to the DCM (via WAF).

The Context Cookie provides further customer related data, that is not collected by JS library. The Context Cookie is stored on WAF.

9 Application Server Connect DF_FIRST_LEVEL_RULES in p.lib.admin

- Open 'plib_admin_ui' site with <http://localhost:8446>
 - login with:
 - username: 'sup'
 - password: 'q1w2e3'
 - > 'Business Rules'
- Add a new folder



The High Confidence rules have to be integrated in p.lib.admin as table. If rules thresholds have to be changed, this happens in p.lib.admin. It updates DF_FIRST_LEVEL_RULES and the dcm_s001 service reads it periodically.

- Name it e.g. 'Data Collection Module' → click **Save**

Add folder ×

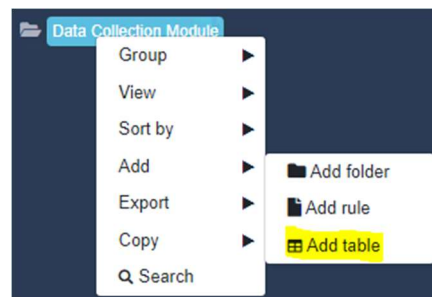
Name

Description

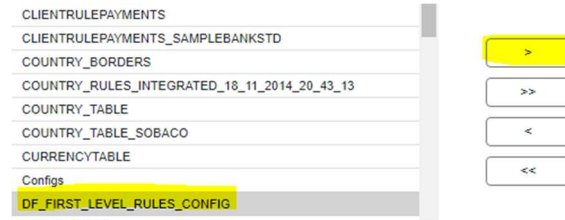
☐ Share folder

Cancel Save

- Add a table to the folder



- Enter item name - 'Rules Configuration'
- Click *Next*
- Select DF_FIRST_LEVEL_RULES_CONFIG and add it:



- Click *Finish*

10 Application Server

Configure WAF (Airlock), e.g.:

- Proxy requests:
 - 'dcm/api'
 - 'dcm/js/ubsf_frontend.js'
- Add Airlock cookies
- Add FAF_TICKET cookie (Context Cookie)
- Do not remove normal headers as Content-Type, Content-Length
- ...

The WAF (Airlock) has its place between the user side and provided applications on Finnova side. It has to be configured in order to forward data and collect data on its own.

Mapping : **ibng_faf**

● Locking Choose source mapping... Pull Settings

Basic Access IP Rules Bot Management Request Actions Response Actions URL Encryption CSRF Tokens

Service and Mode

Mapping name

Labels

Tenant

Entry path ☐ Directory ☒ Regular expression

Back-end path

Priority

Show maintenance page ☐

Threat handling ☒ Block request ☐ Terminate session ☐ Log only

Operational mode ☒ Production ☐ Integration

Application

Session handling

Send load balancing cookie ☐

Compress response traffic ☐

Enable Control API ☐

Send environment cookies ☒

Encrypted cookies ☒ None ☐ Use regular expression

Passthrough cookies ☒ None ☐ Use regular expression

→ Find detailed WAF configuration settings within the Airlock documentation

INTEGRATION TEST

TEST SCENARIO	STEPS
Check that JS library sends data to DCM and check the format	1. Open IB application
	2. Open network tab of developer tools
	3. Clear the old requests
	4. Create main event (i.e. payment/change password/...)
	5. Verify that there is request containing url of DCM module
Check that DCM receives data from JS library, headers and cookies	1. Download netcat tool (just as an example, other tools can be used, too) → is already in the installation package
	2. Start it with command 'nc -l -p 9090'
	3. Open IB application
	4. Create main event (i.e. payment/change password/...)
	5. Verify that request is received
	6. Verify headers are received
	7. Verify the format of the request body
	8. Verify cookies are recieved

Check DCM doesn't throw errors	1. Start DCM service
	2. Open IB application
	3. Create main event (i.e. payment/change password/...)
	4. Verify that in application log there are no error messages
Verify the stored data in data mart	1. Start DCM service
	2. Open IB application
	3. Create main event (i.e. payment/change password/...)
	4. Verify that request data is stored in data mart