

WebAccess/DMP

Installation Guide

Document version: 2.3



Glossary	
Term	Description
IIS	Microsoft Internet Information Services
SSMS	SQL Server Management Studio
WA/DMP and DMP	WebAccess/DMP software: the software that this installation guide refers to. DMP stands for "Device Management and Provisioning".
Device	<p>The term "Device" means any device that maintains an "always on" direct connection with the Platform.</p> <p>This currently means:</p> <p>V2 Router</p> <p>V3 Router</p> <p>SmartSwarm Gateway (SmartSwarm 341, SmartSwarm 342, SmartSwarm 351)</p> <p>A Router may be a "V2" or "V3" Router.</p> <p>At any point in time: NOT ALL V2 and V3 ROUTERS will be supported by the Platform: please check this list, or contact the Product Manager for the Router Type that you need to be supported.</p>
Registered Device	<p>A Registered Device is one that exists in the Manufacturing Table of the Platform.</p> <p>A Device may be registered into the Manufacturing Table via:</p> <ul style="list-style-type: none"> • The Manufacturing API (NOT PUBLISHED FOR USE BY NON-ADVANTECH OFFICIAL MANUFACTURERS) • The Manufacturing Role login on the UI • The Administrator Role login on the UI • The v2.0 + User API (you must be logged in as Administrator to Register devices) <p>A Device must be Registered before it may be Claimed by a Tenant.</p>
Claimed Device	<p>Any Device that has been "Claimed" for use by a Tenant</p> <p>Only Claimed Devices will appear on the Tenant's Device List.</p> <p>A Device may only be Claimed if it is a Registered Device.</p>
Tenant	<p>A Tenant is an "Account Holder" (aka a "Technology Provider" group).</p> <p>Every Tenant account may have 2 User Roles associated with it: "TPAdmin" and "TPUser".</p> <p>There must be at least one "TPAdmin" user created for each Tenant.</p> <p>There may be many "TPAdmin" users associated with each Tenant.</p> <p>There may be many "TPUser" users associated with each Tenant.</p> <p>The TPAdmin user-role is entitled to Claim Registered Devices into the Tenancy Account.</p>

Related Documents		
Document	Description	Location

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Summary

This document describes the process for installing and updating WebAccess DMP on an on-premises production environment.

Planning your Deployment

The following table will help you to ensure that your environment will support your requirements

SIZE OF PROJECT	PRODUCT	APPLICATION SERVER	DATABASE SERVER
Small	BB-SWH-OP4H	Web Server (MS IIS Server 7 and above) (running on a stand-alone VM or native machine) Processor with at least 4 cores 8GB RAM Microsoft Windows Server 2012 Standard edition 64-bit (or above) Microsoft dot.Net Framework 4.5 (or above) 80GB HDD	Database Server (MS SQL Server or SQL Server Express*) (running on a stand-alone VM or native machine) Processor with at least 4 cores 8GB RAM Microsoft Windows Server 2012 Standard edition 64-bit (or above) Microsoft SQL Server 2014 Standard Edition (or newer) 150GB HDD *there are some limitations with SQL Server Express (e.g. update statistics, update indexes, creating backups)
Medium	BB-SWH-OP1T	Web Server (MS IIS Server 7 and above) (running on a stand-alone VM or native machine) Processor with at least 4 cores 16GB RAM Microsoft Windows Server 2012 Standard edition 64-bit (or above) Microsoft dot.Net Framework 4.5 (or above) 80GB HDD	Database Server (MS SQL Server) (running on a stand-alone VM or native machine) Processor with at least 4 cores 16GB RAM Microsoft Windows Server 2012 Standard edition 64-bit (or above) Microsoft SQL Server 2014 Standard Edition (or newer) 150GB HDD
Large	BB-SWH-OP5T	Web Server (MS IIS Server 7 and above) (running on a stand-alone VM or native machine) Processor with at least 4	Database Server (MS SQL Server) (running on a stand-alone VM or native machine) Processor with at least 4 cores 16GB RAM

SIZE OF PROJECT	PRODUCT	APPLICATION SERVER	DATABASE SERVER
		cores 16GB RAM Microsoft Windows Server 2012 Standard edition 64-bit (or above) Microsoft dot.Net Framework 4.5 (or above) 100GB HDD	Microsoft Windows Server 2012 Standard edition 64-bit (or above) Microsoft SQL Server 2014 Standard Edition (or newer) 250GB HDD Active/Passive clustering configuration on SQL Server is recommended
Enterprise	BB-SWH-OPMT	At least 1 Web Server (MS IIS Server 7 and above) (running on a stand-alone VM or native machine) Processor with at least 4 cores 16GB RAM Microsoft Windows Server 2012 Standard edition 64-bit (or above) Microsoft dot.Net Framework 4.5 (or above) 500GB HDD	At least 1 Database Server (MS SQL Server) (running on a stand-alone VM or native machine) Processor with at least 4 cores 16GB RAM Microsoft Windows Server 2012 Standard edition 64-bit (or above) Microsoft SQL Server 2014 Standard Edition (or newer) 500GB HDD At least one load balancer Active/Passive clustering configuration on SQL Server **site survey will be required

Server Requirements

Server	Hardware	Operating System	Database	IIS	Remote Desktop
Application	Processor with at least 4 cores 8GB RAM	Windows Server 2012 64-bit	N/A	8.5	Yes
Database	Processor with at least 4 cores 8GB RAM	Windows Server 2012 64-bit	SQL Server 2012 Standard Edition	N/A	Yes

Application Ports

The following ports may need to be opened on the Application Server

PORT	PROTOCOL	SERVICE/PROCESS	DIRECTION	DESCRIPTION
162	UDP	SNMP	Inbound	Receive trap messages
443	TCP	IIS	Inbound	Default port for https binding.

Additional Server Requirements

DMP application requires the following components to be installed on the data server.

- SQL Server 2012 Standard Edition with tools (SQL Server Management Studio)

Deployment Checklist

Before installing WebAccess DMP, complete the pre-installation checklist below. This checklist helps you verify that system requirements are met, all required software is installed, and required features are enabled.

<input type="checkbox"/>	Check system requirements and identify system resources on which you install the WebAccess DMP application server and database features. Use the Local Administrator Account for installation. The Local Administrator Account is not the same as a domain account with local admin rights. A domain account is subject to your domain group policies.
<input type="checkbox"/>	Obtain the SQL Server user name and password of a SQL Server database account with sysadmin rights. This may be your SA account. Contact your SQL Database Administrator for this information. This account is used to create the database.
<input type="checkbox"/>	Contact your DBA to setup maintenance and backup plans for your database

Support Contact Details

Email: techsupport@advantech-bb.com

Phone: +353 91-792444

Environment

This environment is used to host the current release of the application. It is recommended that the application be deployed so the database is on a separate server to the web application to allow for scaling infrastructure if needed, but a single server can suffice if this is not a concern.

User Manual

User guides and manuals are available from links at various points in the application and upon finishing installation there is an option to open the User Manual.

Document Name	Location
User Manual	Help

Setting up the initial environment

You must be logged on with Administrator privileges to install components required by the DMP application. The installer will add database and application in the same server unless the custom installation is selected.

Pre-Requisites

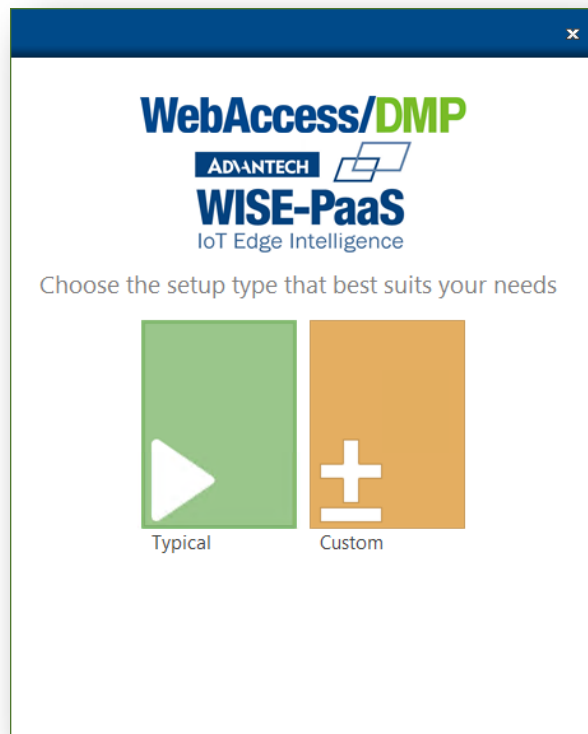
The following components must be installed prior to installation of WebAccess DMP.

Component	Version	Download site
SQL Server SP2 with tools	2012 Standard Edition	Microsoft

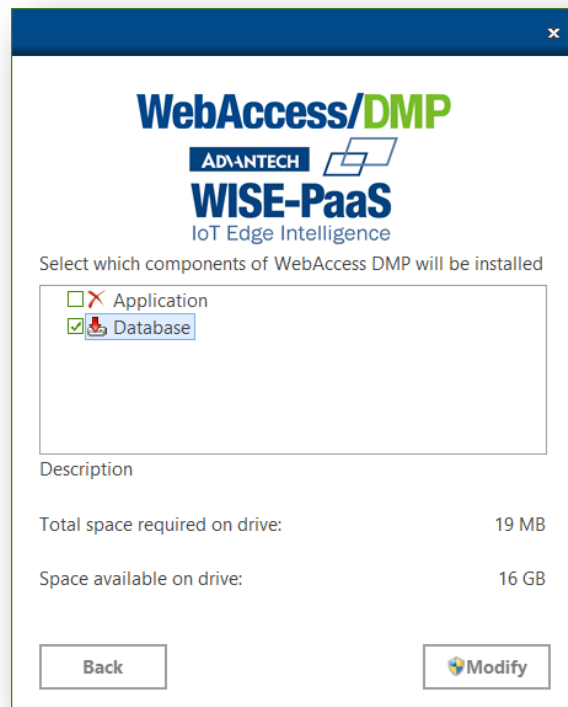
Ensure the Management Tools are included in the installation for SQL Server. The default SQL instance name used in the DMP installers is "SQL2012" and SQL Server Authentication is required to allow the application to use the database. If the database is on a separate server to the application the firewall will have to allow communication in a new rule. See <https://docs.microsoft.com/en-us/sql/database-engine/configure-windows/configure-a-windows-firewall-for-database-engine-access> for guidance.

Installing WebAccess/DMP

The default installation, Typical, will create both the database and the Web Application on the same server.



The Custom option will allow selecting which of the two features will be installed

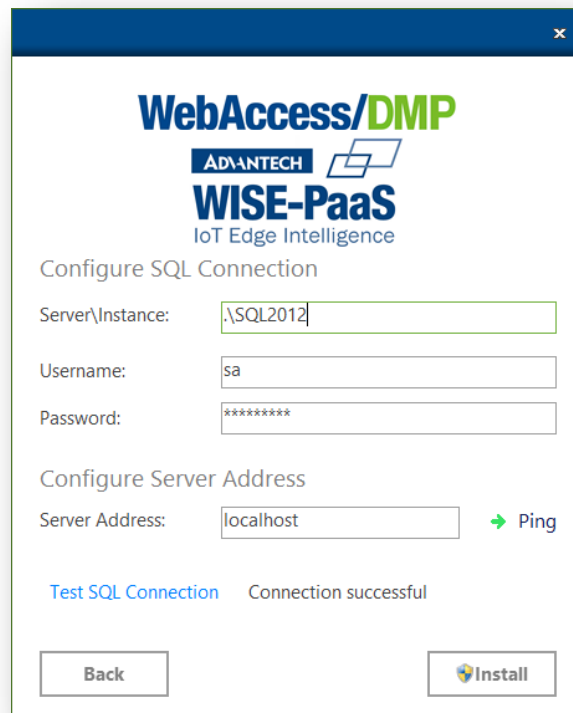


Database: This feature installs the database from scratch or updates it if it already exists

Application: Will create in IIS a Site, a spool and a Virtual directory if not there already. It will also delete and copy the site content and update the content folder with new or updated binaries.

Note: If you are updating your installation is a good idea to back up the log files inside the BB site, typically in C:\inetpub\wwwroot\BB\Logging, as the installation will wipe out the BB folder.

Some details about the SQL server must be provided for the installation to continue. Both features need a successful connection with a database engine



The dialog box is titled "WebAccess/DMP" and "WISE-PaaS IoT Edge Intelligence". It contains two sections: "Configure SQL Connection" and "Configure Server Address".

Configure SQL Connection:

- Server\Instance: .\SQL2012
- Username: sa
- Password: *****

Configure Server Address:

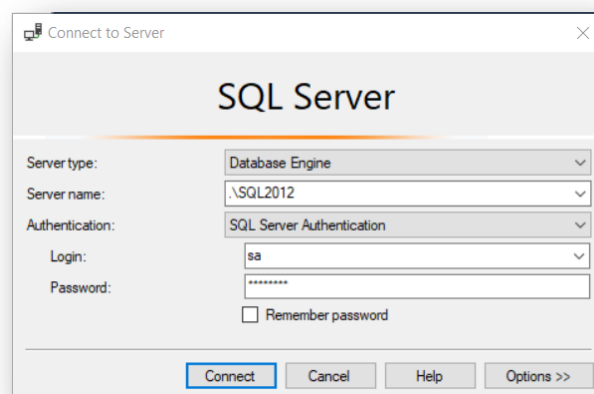
- Server Address: localhost
- A green arrow icon and the text "Ping" are next to the Server Address field.

Below the "Configure Server Address" section, it says "Test SQL Connection" and "Connection successful".

At the bottom, there are two buttons: "Back" and "Install".

SQL Server Authentication details must be filled here. The server address should be changed only if the database was already installed on a different server, as explained in the Environment section above. Only a "Connection successful" message will allow the installer to continue.

As a rule, the details used on a successful connection using MS SQL Management Studio will also be successful on the installer, assuming SQL Server Authentication is being used.



The dialog box is titled "Connect to Server" and "SQL Server".

Server type: Database Engine

Server name: .\SQL2012

Authentication: SQL Server Authentication

Login: sa

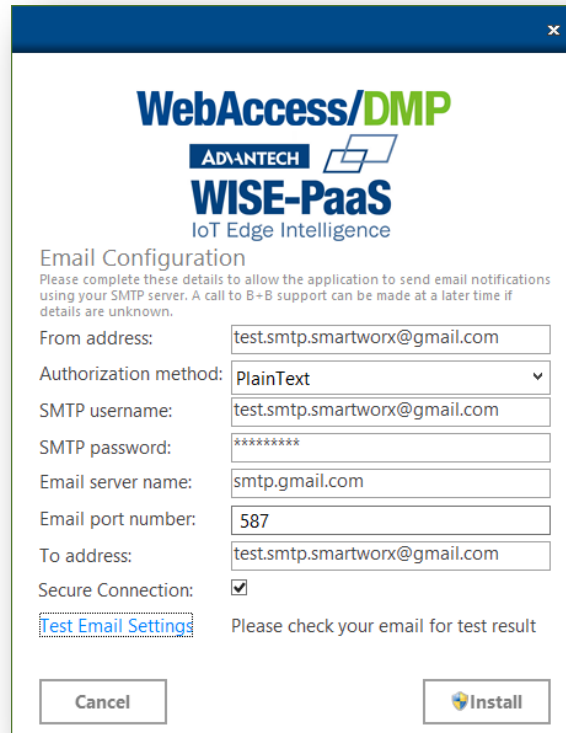
Password: *****

☐ Remember password

At the bottom, there are four buttons: "Connect", "Cancel", "Help", and "Options >>".

The server address must be filled with the ip or dns name the server has in the domain. Avoid using localhost, as some features, like emails sent, won't work properly.

The next screen allows configuring the email server details



The image shows a software window titled "WebAccess/DMP" with the Advantech WISE-PaaS logo. The window is for "Email Configuration". It contains the following fields and controls:

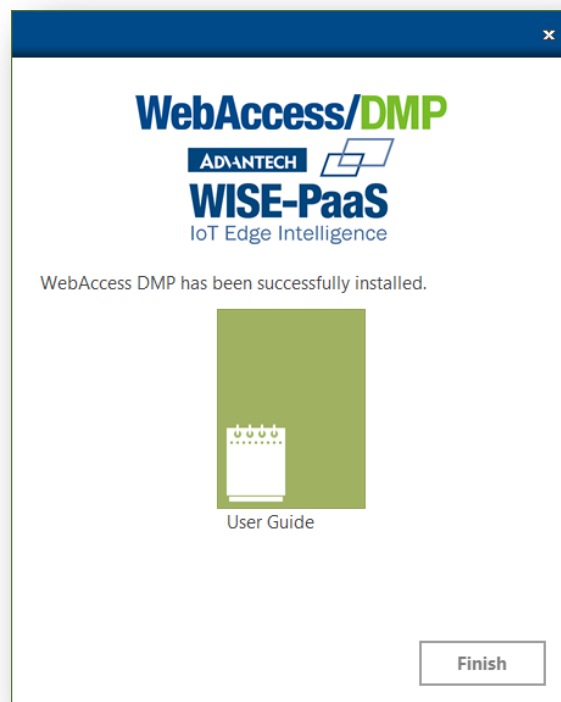
- From address:** test.smtp.smartworx@gmail.com
- Authorization method:** PlainText (dropdown menu)
- SMTP username:** test.smtp.smartworx@gmail.com
- SMTP password:** *****
- Email server name:** smtp.gmail.com
- Email port number:** 587
- To address:** test.smtp.smartworx@gmail.com
- Secure Connection:** ☒
- Test Email Settings:** A button with a tooltip that says "Please check your email for test result".
- Buttons:** "Cancel" and "Install".

Configuration details vary depending on the email server. For example, Gmail configuration is explained in <https://support.google.com/a/answer/176600> and office365 [in here](#).

Email configuration does not need to be successful for the installer to continue, although errors logged and user creation depend on an email server properly configured.

Note: If using Gmail the security needs to be configured to allow all applications to connect with the account.

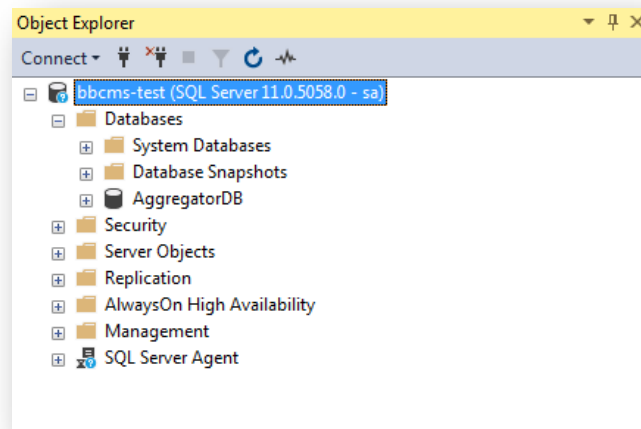
The installation will install or update the features selected and finish with this screen



A detailed log of the installation can be found in the user's temporary folder, usually in `C:\Users\<ADMIN_USER>\AppData\Local\Temp\WebAccess DMP-Install.log`. Back it up in case some problem arises later. The log can contain the passwords written during installation, so if they are considered confidential their value should be replaced by another text before providing the log to Advantech B+B SmartWorx support.

Actions after installation

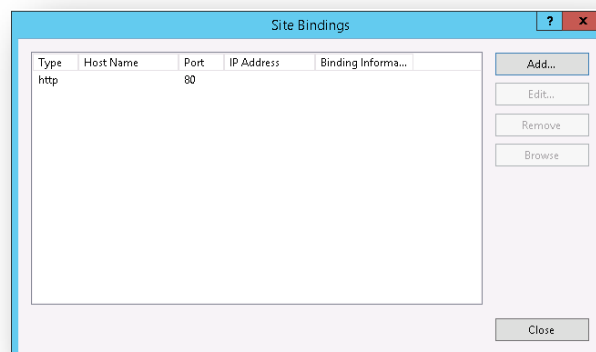
SQL Server Management Studio can be used to verify that the AggregatorDB database is present



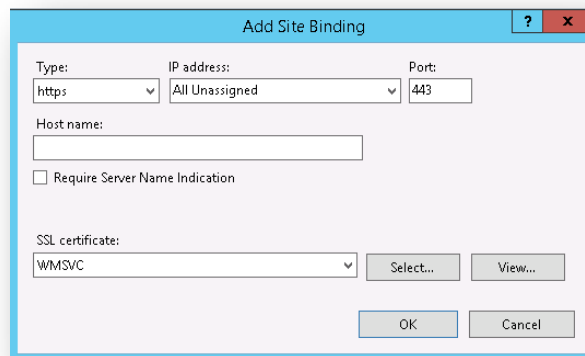
Security

To configure the HTTPS protocol in DMP, the IIS BB site has to be configured.

- On the configuration of the BB site in IIS select bindings



- Click Add



The 'Add Site Binding' dialog box contains the following fields and controls:

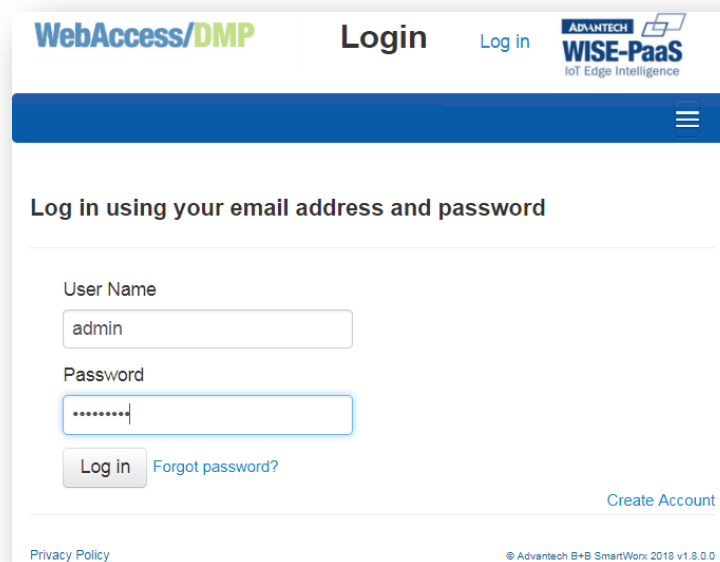
- Type:** A dropdown menu with 'https' selected.
- IP address:** A dropdown menu with 'All Unassigned' selected.
- Port:** A text box containing '443'.
- Host name:** An empty text box.
- Require Server Name Indication:** An unchecked checkbox.
- SSL certificate:** A dropdown menu with 'WMSVC' selected.
- Select...** and **View...** buttons next to the SSL certificate dropdown.
- OK** and **Cancel** buttons at the bottom right.

- Select HTTPS type and the default WMSVC cert or your own signed certificate

The site will now accept connections over HTTP and HTTPS. Removing the http binding will disable http connections

Verifying the Web Application

In order to confirm the web application has been successfully installed, enter the IP or domain name of the DMP application server. The login screen will be displayed



The login screen features the following elements:

- Header:** 'WebAccess/DMP' logo, 'Login' text, 'Log in' link, and 'ADVANTECH WISE-PaaS IoT Edge Intelligence' logo.
- Menu:** A blue bar with a hamburger menu icon.
- Instruction:** 'Log in using your email address and password'.
- User Name:** A text box containing 'admin'.
- Password:** A text box with masked characters '.....'.
- Buttons:** 'Log in' button, 'Forgot password?' link, and 'Create Account' link.
- Footer:** 'Privacy Policy' link and '© Advantech B+B SmartWorx 2018 v1.8.0.0'.

The version in the bottom right of the screen should match the version of the installer. When logging for the first time, default credentials are **admin/password!**

A log entry for accesses is added to the BB site Logging folder when accessing the site.

Note: The site suggests changing admin password immediately, as the default one is not secure. A safe password conforms to your organisations' password policy. Strong passwords consist of a combination of uppercase, lowercase letters, special characters and numbers. E.g. SkdV4x9356_%

Updating the Database

Updates from Advantech B+B SmartWorx may include updated features, firmware, user-modules, content and bug fixes. It is recommended to update both features always as most new features update both behaviour and database structure.

Although the installer will create a backup of the database in "C:\AggregatorDB Backups", it is also recommended an external backup be made before running the update.

Note: The installer will create a backup in the local disk before upgrading the database but it won't delete it when the installation finishes, so measures should be taken to move those backups to a more appropriate location.

Licence

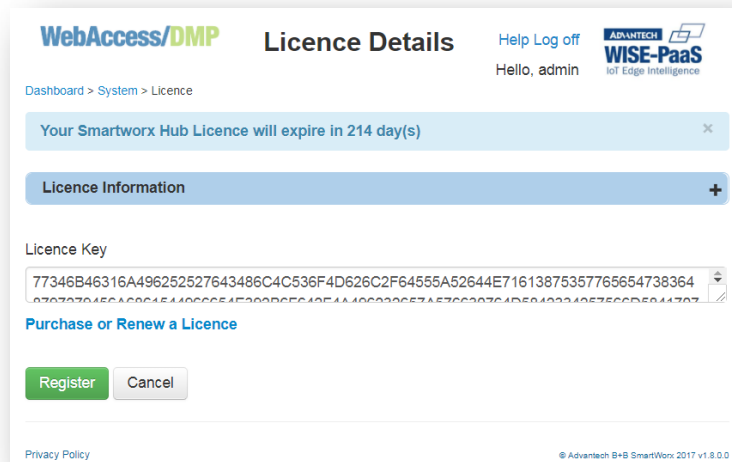
A licence is required to use WebAccess DMP On-Prem. A trial licence can be obtained through your supplier free of charge. Additional licences may also be purchased through your supplier.

After you install the software, you will be prompted to request a license: The licence screen provides the MAC address of the server that the software is running on. You will need this for your supplier to provide you with a licence.

Registering a licence key

During the first login to DMP, the licence registration screen will be displayed, where the provided licence can be added.

The current licence can be extended or viewed at any time by the Administrator via the System, Licence menu.



Troubleshooting

Database

If the database upgrade scripts fail to complete, the original database will be restored. The installation log file will explain in detail where the update failed. To find the database installation log search for the string “Dumping PowerShell invoke log”

Some problems can be solved by restarting the windows server and re-executing the installer. Other errors should be reported to Advantech B+B SmartWorx support.

Application Files

If a file cannot be overwritten, then it may be locked by an IIS process. The problem can be fixed by stopping the pool of the website, bbcmspool

Web Site errors

If the login page does not display, note the error message. You may need support if the application does not work after installation. Contact details are provided in the appendix of these instructions.

Network issues

WebAccess DMP uses the Server name as the host address for the application. Therefore, your server must be accessible to clients using the server name.

E.g. your server DMP-SERVER has IP address of 172.1.1.15 clients must be able to access the server using the server name. Contact your network support to set this up. Alternatively, you can change the Web.config file located in the BB folder of the IIS site for DMP to use the IP Address instead.

The following keys should be edited to match your preference

```
<add key="CDNHost" value="https://DMP-SERVER/UriDownload/" />
<add key="CDNTemps" value="https:// DMP -SERVER/UriDownload/tmpbadgers/" />
<add key="LoginURL" value="https:// DMP -SERVER/Login/CreatePassword" />
```

Replace *DMP -SERVER* with the IP Address of the server and save the config file. The application will automatically use the changed settings.

Email configuration

Email configuration properties are saved in the Nlog.config file of the BB site folder. This XML file has an element with all values that can be changed. It is similar to the following:

```
<target name="BufferedEmail">
  <target name="Email"
    xsi:type="Mail"
    subject="WebAccessDMP errors (${machinename} ${iis-site-name})"
    smtpServer="smtp.office365.com"
    smtpPort="587"
    smtpAuthentication="Basic"
    smtpUserName="dmp@mycompany.com"
    smtpPassword="PassInPlainText"
    from="dmp@mycompany.com"
    to="dmp.log@mycompany.com"
    enableSsl="true"
  />
</target>
```

Adding Devices to the system

Devices are added to the system via the System menu. This menu is only available to Administrator and Manufacturer roles. To add several devices to the system, they must be entered into a formatted csv or text file

Import file format

All Header Fields must appear in the file

Field	Example	Type	Required	Description
CountryCode	203	string(3)	Y	Always 203 or BB-203
SiteCode	01 or 1	string(2)	Y	Always 01 or 1
SerialNo	6000000	string(20)	Y	SN as it appears on the label
MacAddress	00:0A:14:84:00:00	string(16)	Y	Full MAC Address with colons
ProductFamily	V3	string(100)	N	Useful for filtering
ProductType	SmartFlex	string(100)	N	Useful for filtering
ProductModel	BB-SR30300011	string(255)	Y	Order code as it appears on the label
BatchNo	6	integer	N	Useful for filtering
LotNo	2017	integer	N	Useful for filtering
TechProvider	1	integer	N	To claim the device immediately

Example file format

```
CountryCode,SiteCode,SerialNo,MacAddress,ProductFamily,ProductType,ProductModel,BatchNo,LotNo,TechProvider
203,01,6000000,00:0A:14:84:00:00,V3,V3,SR30300011,2017,1,1
203,01,6000001,00:0A:14:84:00:01,,,SR30300011,2017,1,1
203,01,6000002,00:0A:14:84:00:02,V3,V3,SR30300011,,,1
203,01,6000003,00:0A:14:84:00:03,V3,V3,SR30300011,2017,1,1
203,01,6000004,00:0A:14:84:00:04,V3,V3,SR30300011,2017,1,1
203,01,6000005,00:0A:14:84:00:05,V3,V3,SR30300011,2017,1,1
203,01,6000006,00:0A:14:84:00:06,V3,V3,SR30300011,2017,1,1
```

Importing the file can be done in System, Devices, Import Devices.

Create a Device

Devices may also be added via the System menu System—Devices—Create New

Dashboard > System > Create

Manufacturing site
USTI

Serial No.
12345678

MAC Address
00:0A:14:01:23:45

Product Family
SmartFlex

Product Order Code
bb-sr303

BB-SR30300010
BB-SR30300010-FIPS
BB-SR30300010-SWH


Lot No.
1

Create

[Back to List](#)

[Privacy Policy](#)

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- Select USTI as the Manufacturing Site
- Enter the Serial Number of the device
- Enter the MAC Address of the device
- Enter the Product Family e.g. SmartFlex, SmartStart etc. Note: Any text may be entered here
- Start typing the Product Order Code and after the first 5 characters have been entered a dropdown of valid codes will be displayed.
- Select the correct code for your device. The correct Product Type is now displayed

Product Order Code

BB-SR30300010

Product Type

SPECTRE-v3-LTE

- Enter Lot No (Optional)
- Enter Batch No (Optional)
- Click Create

The device is now on the system and may be claimed