

## Setup and installation requirements

## WaterNet Advisor

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### System requirements for on premise installation

Microsoft Windows 10

Microsoft Windows Server 2012 or later

1 core CPU

8 GB RAM

100 GB available disk space

Internet connection, allow TCP inbound and outbound connections on ports 80 and 8080

Note that a remote connection is required for initial setup and installation

In order to complete the installation of WaterNet Advisor, DHI will require access to the PC in which the software will be hosted on. We can do this via a remote desktop connection or by the Team Viewer software (free download). Approximately 500MB of data will be downloaded onto the selected PC, and the download and configuration will take approximately 3-4 hours, this can all be done by DHI to make the process as smooth as possible. The following is a list of the technical aspects of the installation.

### Software configuration requirements

Allow TCP inbound and outbound connections on ports 80 and 8081/80 and, or 443, 8443

*SMTP server configuration (optional)*

Administrator account

TeamViewer or VPN connection

### Software which will be installed and actions which will be performed during deployment

.NET Framework 4.5.2

.NET Framework 4.7.2

Visual C++ redistributed package Studio 2013

Visual C++ redistributed package Studio 2015

PostgreSQL 11.2-2-windows-x64 on port 5432

Postgis 3.0

Java development kit 13.0.2 x64 (including Java runtime environment)

Install Native JAI libraries

Install and configure Apache Tomcat 9.0.31 (32bit) on port 8080/8443

Install and configure Geoserver 2.16.1 (instance package with our data)

Install and configure Windows IIS with ASP.NET 4.0 on port 80/443

Install the WCF Windows service

Install SQLite ODBC driver (32 or 64)

Deploy backend (Web API) package

Deploy frontend (UI) package

Deploy simulation runner

Install DHI License manager

Install and configure WNA updater

Install Chrome x64 bit

Configure the user account using installer account and disable the installer account

## **Data access security**

Hosting arranged by DHI is provided by Microsoft Azure cloud computing service. A separate (private) VM instance is acquired for each WaterNet Advisor installation i.e. the space is not shared with other customers. A secure HTTPS protocol over which the data is sent between your browser and the website that you are connected to is part of the installation.

Alternatively, we will install WaterNet Advisor application into your own Microsoft Azure account. Hosting arranged by a customer i.e. on-premise installation is entirely within the responsibility of a customer and it will adhere to the respective IT standards.

The following security settings can be enforced in Microsoft Azure installations:

- Install endpoint protection solution on virtual machines
- Install monitoring agent on your virtual machines
- Apply disk encryption on your virtual machines
- Add a web application firewall
- Install a vulnerability assessment solution on your virtual machines
- Resolve monitoring agent health issues on your machines
- WaterNet Advisor should only be assessable over HTTPS
- Function App should only be assessable over HTTPS
- Configure IP restrictions for WaterNet Advisor
- CORS should not allow every resource to access WaterNet Advisor
- Web Sockets should be disabled for WaterNet Advisor

The secure access to WaterNet Advisor application is ensured by these steps:

- Application runs on a machine with its own network and firewall
- Application runs on a machine where Windows firewall is enabled
- Application runs on a machine with updated operated system
- Application runs on a machine where strong password policy is applied
- Two-level authentication is enforced

## **Web browser**

It is recommended to use the latest version of your Web browser such as Edge, Firefox, Chrome, or Safari. Please note that Microsoft Internet Explorer does not longer support all WaterNet Advisor features.