

Aquis Water Network Management

2019 Training Guide

Training Offerings

The Educational Services team is pleased to offer publicly scheduled training courses in Seville (Spain), Lake Forest (California, USA) and Singapore. We also offer customized on-site training courses at your location.

Course Locations

Seville, Spain	Lake Forest, California, USA	Singapore
Schneider Electric Software Spain Charles Darwin s/n, Isla de la Cartuja 41092 Seville Spain	Schneider Electric Software, LLC 26561 Rancho Parkway South Lake Forest, CA92630, USA	Schneider Electric Software Holdings Singapore Pte. Ltd. 15 Changi Business Park Central 1 Singapore 486057

Course Times

Unless otherwise indicated, all instructor-led classes at the training centers run from 9:00 a.m. to 4:00 p.m. local time.

Course Materials

Course materials are included in the registration fee.

Course Schedule

Seville, Spain				
Course	Duration	Start Date	End Date	Price
Aquis 8 Fundamentals	3 Days	18 Mar 19	20 Mar 19	EUR 1,870
		03 Jun 19	05 Jun 19	
		30 Sep 19	02 Oct 19	
		16 Dec 19	18 Dec 19	
Aquis 8 Advanced	1 Day	21 Mar 19	15 Mar 19	EUR 670
		06 Jun 19	06 Jun 19	
		03 Oct 19	03 Oct 19	
		19 Dec 19	19 Dec 19	

Lake Forest, CA, USA				
Course	Duration	Start Date	End Date	Price
Aquis 8 Fundamentals	3 Days	04 Feb 19	06 Feb 19	USD 2,000
		06 May 19	08 May 19	
		08 Jul 19	10 Jul 19	
		21 Oct 19	23 Oct 19	

Aquis 8 Advanced	1 Day	07 Feb 19	07 Feb 19	USD 730
		09 May 19	09 May 19	
		11 Jul 19	11 Jul 19	
		24 Oct 19	24 Oct 19	

Singapore				
Course	Duration	Start Date	End Date	Price
Aquis 8 Fundamentals	3 Days	25 Mar 19	27 Mar 19	USD 2,000
		17 Jun 19	19 Jun 19	
		23 Sep 19	25 Sep 19	
		09 Dec 19	11 Dec 19	
Aquis 8 Advanced	1 Day	28 Mar 19	28 Mar 19	USD 730
		20 Jun 19	20 Jun 19	
		26 Sep 19	26 Sep 19	
		12 Dec 19	12 Dec 19	

Course Registration Process

Registration is completed through any of the following processes:

- Self-registration through the training web portal:
<https://industrialtraining.aveva.com/aquistermis/portal/catalog.cfm?calendarID=174>
- Requisition through the Project/Services/Sales team
- Requisition through the Aquis Support Team: dk-hso-support@aveva.com

Please contact us if you are a Specialist Solution Provider Partner with a valid SSP agreement in place or if you are a Schneider Electric employee.

Training Web Portal

The training web portal is an on-line registration site. Each registrant needs to access the Software Training Services web-site and enter the required information. You will not be able to register if the course is full for the available spaces.

To view the schedule and/or register for a class:

1. Paste <https://industrialtraining.aveva.com/aquistermis/portal/catalog.cfm?calendarID=174> into your web browser.
2. Browse the course offerings and select the one you are interested in. Check Details & Availability for each course.
3. Click the Add to Cart button next to the date/location you wish to attend.

4. Start the checkout process by signing in or registering for a new account.
5. Enter your purchase order number in the 'Customer Purchase Order' box. If you don't have the PO number available, type 'PO' in the box.

NOTE: The purchase order must be received before you attend the course.

6. Confirm your information and click 'Finish'. Once you have completed the registration process you will receive an email confirming your registration.

Payment Options

Purchase Orders are the only form of payment accepted. At this time we do not offer payment via credit card. During the registration process, type the purchase order number in the 'Customer Purchase Order' box. If you don't have the PO number available, just type 'PO' in the box.

Note: The purchase order must be received before you attend the course.

Purchase Order

Please follow the instructions below when issuing your purchase order:

1. Address the PO to the correct vendor based on the location of the course as shown below.
2. Note the location of course on the PO.
3. When the PO covers multiple registrations, it should detail the student names and the courses involved (specifying prices): example:
 - a. Aquis Fundamentals - Price
 - i. Trainee 1
 - b. Aquis Topology – Price
 - i. Trainee 1
4. Email a copy of the PO to the email address shown below based on the location of the course. Please send it to 'Attention: Software Training'.

Location	Vendor	Tax Rate
Lake Forest, CA, USA	Schneider Electric Software GB Denmark branch Filial af SE SW GB Lautrupvang 1 DK-2750 Ballerup	Local taxes may apply
Seville, Spain	Schneider Electric Software Spain S.L. C/ Valgrande, 6 28108 Alcobendas Madrid, España B 87707824	Local taxes may apply
Singapore	Schneider Electric Software Holdings Singapore Pte. Ltd. 15 Changi Business Park Central 1 Singapore 486057	7% local taxes

Location	Email Address
Lake Forest, CA, USA	software.denmark@aveva.com
Seville, Spain	software.spain@aveva.com
Singapore	isc.ops@aveva.com

Cancellation Policy

It is recommended that you do not make travel arrangements until 2 weeks / 10 business days prior to the start of the course. Aveva reserves the right to cancel classes up to two weeks prior to the start of the class based on course registration levels.

If your plans change and you cannot attend as scheduled, be sure to notify us as soon as possible at dk-hso-support@aveva.com. Class sizes are limited so tuition charges are refunded ONLY if cancellation notice is received via email at least two weeks / 10 business days prior to the first day of class.

Aquis 8 Fundamentals

Course Description

The Aquis 8 Fundamentals course is a 3-day, instructor-led class designed to provide a fundamental understanding of the features and functionality of the Aquis software. The course provides lectures and hands-on activities to supply and reinforce the knowledge necessary to use Aquis to model hydraulic networks, including online modeling capabilities. The course covers how to configure boundary conditions at model objects, scenario creation, events definition, conditions, measurements, and other design features.

Objectives

Upon completion of this course, you will be able to:

- Create a model and define boundary conditions (hydraulic requirements)
- Add object types (nodes, pipes, sources, and so on)
- Edit data using the generic object editor
- Import external data (such as GIS and CAD files)
- Add units (physical types)
- Validate a model and run a simulation
- Apply measurements
- Work with flow-control zones
- Define conditions
- Close an area or a connection
- Create and configure new object attributes
- Define calculation formulas on attributes
- Apply themes
- View results using graphic elements such as a profile
- Use consumer data and update the data
- Use dashboards
- Create pipe tables and pipe dimensioning
- Apply triggers and timers
- Create reports

Audience

Engineers, Specialist solution providers, consultants, and other individuals who are new to Aquis or have acquired some knowledge through self-study, but need more information on best practices, modeling processes, and sequences, including online modeling capabilities.

Prerequisites

- Fundamental understanding and knowledge of hydraulics
- Previous experience in hydraulic modeling would be helpful

Course Outline

Module 1 – Introduction

Section 1 – Course Introduction

This section describes the objectives of the course and provides the course outline. It explains the philosophy behind Aquis and discusses goals and the benefits that can be obtained with the system.

Section 2 – General User Interface

This section is a general introduction to the Aquis user interface: menus, status line, timeline, dashboards, and multiple editing options.

Section 3 – Layers Menu

This section explains how to use the main **Layers** menu to properly handle the different layers that can make up the model: Background and Topology, Scenario, and Customer layers.

Section 4 – Editing Capabilities

This section explains how to edit data in the model and create new object attributes and model parameters to be adapted to particular customer/project needs.

Section 5 – Test Data Folder and Start-Up Folder

This section explains the sample model and basic template users will use when starting a new project.

Module 2 – Hydraulics

Section 1 – Boundary Conditions

This section describes how to correctly define boundary conditions for simulating a model. It explains the boundary conditions needed for nodes, sources, and reservoirs.

Section 2 – Other Object Attributes

This section goes through the rest of the parameters needed to configure an object, but which are not used as boundary conditions in nodes, pipes, sources, and reservoirs.

Section 3 – How to Define Boundary Conditions

This section describes the different ways to add boundary conditions to objects, including linking to SCADA measurements, calculating by a formula, and defined by a time series.

Section 4 – Units of Measurements

This section shows how to configure different system units and how to create a new unit.

Section 5 – Simulation Options

This section describes the simulation menu and how to view results.

Module 3 – Background Information and Model

Section 1 – Import Background layers

This section describes how to import GIS shapefiles and CAD dxf files to be used as background layer information in the model.

Section 2 – Background Maps

This section explains how background maps can be added to the model. It describes the map transformation process using the known coordinates of three points.

Section 3 – From Model to Scenario

This section explains how to create a 1:1 **Scenario** layer from the **Model** and **Consumer** layers.

Section 4 – Adjusting the View

This section describes the tools and parameters to adjust to view zones of the model and objects. These include predefined views' bookmarks, zoom tools, and display and hide limits.

Module 4 – Edit and Find Objects

Section 1 – Selection

This section explains the different ways to select elements in the model. It reviews Topology and Hydraulic selection.

Section 2 – Edit

This section describes the different tools available in the **Edit All** menu, such as filter, sort, find and replace, copy and paste, and change all values in bulk.

Section 3 – Find

This section explains the **Find** window (Ctrl+F).

Module 5 – Pumps and Valves

Section 1 – Boundary Conditions

This section describes how to properly configure boundary conditions for pumps and valves and the different options available. These options include Q-P curve, pump speed (definition and actual), downstream pressure, upstream pressure, flow, dP, and NRV.

Section 2 – How to Define Boundary Conditions

This section describes the different ways of adding boundary conditions to pumps and valves, including static values, linking to SCADA measurements, calculating by a formula, defining using time series, and applying conditional control.

Section 3 – Convert Valves

This section explains how to convert valves from the **Valve** category to the **Shutoff** category and vice versa.

Section 4 – Closing Elements

This section describes the differences and tools used for closing a connection, an area, and elements using work orders.

Module 6 – Other Objects and Configuration of Objects

Section 1 – Other Objects

This section explains how to configure reservoirs, ACVs, and hydrants.

Section 2 – Object Editor Configuration Menu

This section describes the **Object Editor Configuration** menu and explains how to modify the attributes associated with an object, and define new ones. It discusses the high-level revision available for the list of functions (CALC).

Module 7 – Results

Section 1 – Themes

This section describes a theme and how it is created and modified. It explains how to add legends and discusses the different visualization options included in the **Layers** and **Show** menus.

Section 2 – Paths and Profiles

This section explains a path and how it is used. It discusses how to create profiles.

Section 3 – Scenario Comparison

This section describes how to compare two different scenarios in the model.

Section 4 – Export Options

This section describes how to export model information to different formats, such as shapefile, dxf, and Excel.

Module 8 – Consumers

Section 1 – Data

This section describes the minimum information needed in a **Consumers** layer. It explains how consumer information can be imported into the model, and the suitable formats for importing the information.

Section 2 – Affiliation

This section explains in detail how to affiliate consumer demands to model nodes.

Module 9 – Model Configuration

Section 1 – Pipe Table

This section describes how to create a pipe catalog and use it by applying the look-up function.

Section 2 – Pipe Dimensioning

This section explains the different criteria that can be used in Aquis for pipeline design using the auto-dimensioning tool.

Module 10 – Advance Simulation Data

Section 1 – Using Time Series

This section describes the two main purposes of using time series in the model: visualization and control. It explains the different ways of creating time series, including manually, by reference, by using a measurement, copying an existing time series, or by calculation.

Section 2 – Flow Control Zones

This section explains the Flow Control Zone (FCZ) object. It discusses how to create the object and the benefits of having FCZ in the model.

Module 11 – Dashboards

Section 1 – General Overview

This section describes the Edit/**Dashboards** menu. It explains how dashboards can be exported and imported, and how the different *user levels* are used to manage access.

Section 2 – Working with Dashboards

This section explains the most relevant elements that can be configured in a model. It presents and discusses the default model dashboards.

Module 12 – Advanced Features

Section 1 – Conditional Controls

This section further explores conditional controls, including global and local, 7Flow conditions, how to define conditional controls, and how they are used.

Section 2 – Timers and Triggers

This section explains how timers and triggers work and how they are used in combination to automatic reports.

Section 3 – Reports

This section describes how to work with reports, including default reports, custom definition, and storing folders.

Aquis 8 Advanced

Course Description

The Aquis 8 Advanced course is a 1-day, instructor-led class designed to provide in-depth knowledge of the Topology tools and the Leak Detection System (LDS).

This compact workshop provides lectures and hands-on activities that explain how to use external data (GIS, CAD, and consumer databases) to create a model from scratch. Model update and scenario simplification tools are also covered as part of the Topology module. Besides, the student will learn how to configure and use the Leak Detection System for detecting and locating leaks in real time (connected to a SCADA system) in Transmission lines.

Objectives

Upon completion of this course, you will be able to:

- Create models based on external data, including importing network geometry, elevation, and consumption
- Create scenarios and perform scenario simplification
- Update a model and use the Smart Update tool
- Work with spatial attributes
- Understand the methodology, feasibility and limitations of LDS
- Configure Leak Detection Objects.
- Configure Leak Location Objects.
- Leak position and Estimated leak size.

Audience

Engineers, Specialist solution providers, consultants, and other individuals who have fundamental knowledge in Aquis, but need more information on best practices; modeling processes; and sequences in model creation, update, and simplification.

Engineers, Specialist solution providers and consultants interested in learning where to apply and how to configure the Leak Detection and Location module.

Prerequisites

- Fundamental understanding and knowledge in Aquis
- 3-day Aquis Fundamentals course, which is delivered the same week (highly recommended)
- Previous experience in hydraulic modeling would be helpful

Course Outline

Section 1 – Model Creation Workflow

This section describes the sequence for creating a model based on external data. It covers the different sources of information, suitable file formats, data structure for attribute mapping, and parameters to ensure connectivity.

Section 2 – Model Update

This section explains how to add additional information once the model is created. It describes how to reload data from the same source of information or from a new source. It also explains how to use the Smart Update tool.

Section 3 – Consumers and Elevation

This section describes how to work with consumers and elevation in the model, both of which are relevant data, usually coming from external data sources, but which are not part of the previous Model Creation Workflow.

Section 4 – Scenario Simplification

This section explains how to create a simplification scenario of the model, which is hydraulically equivalent to the 1:1 model, but more manageable and has better performance. This is especially important for the online models, which should be running in cyclic mode every “x” minutes, and where key points for hydraulic supervision are monitored.

Section 5 – Leak Detection System

This section is a general overview of the Leak Detection System. It describes the pre-requisites, limitations and feasibility for a correct use of the tool so that the user can understand in which projects this tool can be offered.

Section 6 – Configuration and Results

This section explains how to configure the Leak Detection System tool to detect and pinpoint leaks in real time in a transmission line. It is also explained the types of results obtained by the tool: Estimated leak size; Leak position: minimum, central and maximum.

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