OPC UA & S2OPC
Training

The OPC UA standard, because of its strong characteristics (open, interoperable, cybersecure…) is at the heart of all industrial initiatives leading to the digitization of processes: IIoT, Cloud, Industry 4.0, Alliance Industrie du Futur…

Systerel decided, with the support of ANSSI, to develop its own OPC UA implementation: Safe & Secure OPC (S2OPC). Through several implementations of the OPC UA technology in an industrial context, Systerel developed a real expertise on the OPC UA standard.

Member of the OPC Foundation, Systerel is active in the diffusion of OPC UA technology, notably through its training offer:

 OPC UA Key concepts

This training exposes the main keys to understanding OPC UA technology and helps to set the technology in the industrial contexts in which it is implemented.
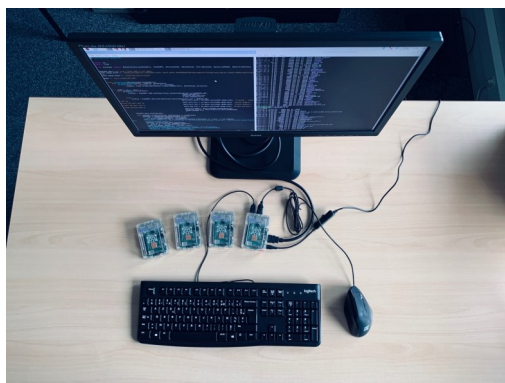
 OPC UA Advanced for developers

The training focuses on the presentation of the major concepts defined in the standard (IEC 62541) which are necessary for a good knowledge of the protocol and a reading of the specification.

 OPC UA Implementation with S2OPC

This training helps development team build applications out of the S2OPC code base.

OPC UA Key concepts

This training program presents the main concepts that are defined in the standard (IEC 62541) and whose understanding is crucial for a good mastery of the protocol and a reading of the specification.

The training is based on experiments with a network of raspberry pi and examples of implementation. A significant part of the training is devoted to security and its implementation in the protocol.

Objectives

This training highlights the key concepts to understand OPC UA technology and the industrial context in which the techno is deployed. The training is organized around three main objectives :

- Acquire all the technical concepts related to the OPC UA protocol
- Understand the requirements for security and their implementation

1-day program

- Introduction to OPC UA
- Concepts
- Presentation of the standard
- Security
- Functional safety
- Feedback on deployment
- Overview of S2OPC

OPC UA Advanced for developers

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Objectives

This training is aimed both at engineers wishing to acquire technical autonomy on the subject of OPC UA, as well as at managers who need to obtain a precise and global understanding of the subject.

- Acquire all the technical concepts related to the OPC UA protocol
- Understand security principles and their implementation
- Be able to configure OPC UA servers and clients

2-day program

- Introduction to OPC UA
- Concepts
- Presentation of the standard
- Security implementation
- Configuration
- Feedback on implementation
- Practical workshops

OPC UA Implementation with S2OPC

Safe & Secure OPC (2OPC) is an open source implementation of the OPC UA protocol focused on safety and security (see www.s2opc.com).

This training is a logical continuation to the training "OPC UA Advanced for developers". It starts with an in-depth exploration of the S2OPC higher level interface written in Python to continue with the higher performance C interface.

It is a practical training, based on demo applications that the trainee will build with S2OPC.
A significant part of the training focuses on information security and its practical configuration within S2OPC.

The training requires knowledge of the key OPC UA concepts, such as the address space nodes and references, the secure channel, the read and write services, the subscription service, ...

Objectives

- Set up requirements for building S2OPC (docker or dependencies)
- Understand the server and client APIs and libraries
- Develop applications in Python and in C
- Configure applications (security, address space, ...)

3-day program

- S2OPC project presentation
- S2OPC compilation
- Hands on PyS2OPC Client/Server
- Hands on the C Client/Server library
- Security
- Building an Address Space
- Design your application based on S2OPC

Some references

Gaël THOMAS - Design engineer for hydroelectric facilities - Orange Business Services

"The training fully met my expectations. I was mainly looking to learn the main principles of OPC UA without any need to configure a server/client after the training. The practical application carried out every half-day is a very good idea to have some rest from questions and to encourage learning."

CONTACT US

Please do not hesitate to contact us for further information or booking: formation@systerel.fr

Training activity registered under the reference 93 13 12834 13 to the Provence-Alpes-Côte d'Azur French administration.