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Sign up

OPC UA© (Unified Architecture) training

2 days (14 hours)

Presentation

OPC UA© training provides the skills you need to use this cross-platform, opensource and independent protocol for exchanging information between sensors and cloud applications.

Interoperability lets you design customized industrial systems using software or equipment from multiple suppliers. Platform independence means you can integrate any type of software.

Widely used in industrial systems, the technology is also functional for IoT (Internet of Things), transferring data into the cloud to examine equipment efficiency and utilization.

Our OPC UA© training course will introduce you to secure and reliable data exchange. As a scalable and extensible tool, thanks to this technology, you'll be able to master the various OPC UA© functionalities and develop scalable SCADA systems for your company.

Objectives

- Understanding the OPC UA© protocol
- Securing data transmission
- Setting up client-server services
- Simplify machine-to-machine (M2M) communication

Target audience

- System administrators
- Cloud administrators
- Safety engineers

- Developers

Prerequisites

- Knowledge of cloud services
- Systems administration

Note: Ambient IT is not the owner of the technology. OPC UA© is a registered trademark of the OPC© Foundation.

Program of our OPC UA© Training

An introduction to OPC UA©.

- What is OPC UA©?
- Prerequisites
- Installing OPC© Router
- The different types of OPC©
- OPC UA© benefits

Features

- Discovering the availability of OPC© servers
- Notify important information according to customer criteria
- Execute programs based on server methods
- Monitor information or data and generate reports when values change in relation to the customer
- Discover and use simple OPC© client structures
- Write and read data or information in relation to access authorizations
- Can be integrated into a new, improved system

Independent platform

- Hardware platforms
- Availability on several operating systems
  - Microsoft Windows
  - Apple OSX
  - Linux
  - Android
- Infrastructure interoperability with multiple OPC UA© participants

Security

- Binary transport OPC© or JSON
- Transmit messages at different encryption levels
- Verify the integrity and origin of messages received via message signing
- Eliminate message replay attacks with sequencing
- User authentication and control

Extensibility

- Integrate new technologies and innovative methodologies
- Maintain backward compatibility of existing products
- Use the right programming language for application development
- Custom system implementation

Information access and modeling

- Turn data into information
- Define the rules and building blocks needed to present an information model
- Define the necessary access mechanisms
  - Locate instances and semantics of search mechanisms
  - Execute the
  - Read and write operation for historical and current data
  - Event and data notification
- Follow the SOA (Service-Oriented Architecture) paradigm
- Managing web microservices
- Setting up multiple client-server communication with PubSub
- Configuration of the editor-subscriber model to be notified each time a value or quality is modified

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.