COURSE CATALOG

October 16, 2023 Edition

RTI Academy

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RTI Academy - My Dashboard

My Dashboard shows useful information, including the course catalogs. These are the three catalogs available in RTI Academy: Basic, Essential and Premium. Depending on your access level, you may see only the Basic catalog, the Basic and Essential catalogs, or the three of them.

The following pages describe all these courses and learning plans one by one.

Premium

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RTI Ping and RTI Spy Training	**RTI Persistence Service Training**	**RTI Monitor Training**	**RTI Admin Console Training**	**Using Wireshark with Connext**	**RTI Recording Service Training**
ENROLLED	ENROLLED	ENROLLED	ENROLLED	ENROLLED	ENROLLED
EN | 26m 00s	EN | 50m 00s	EN | 38m 00s	EN | 44m 00s	EN | 1h 18m	EN | 1h 44m
▶ E-Learning	▶ E-Learning	▶ E-Learning	▶ E-Learning	▶ E-Learning	▶ E-Learning

Essential

Connext Professional Core Training	**Understanding Connext Micro**	**Understanding Connext Secure**
ENROLLED	ENROLLED	ENROLLED
8 courses | 13h 48m	EN | 4h 10m	EN | 5h 00m
▢ Learning Plan	▶ E-Learning	▶ E-Learning

Basic

Quality of Service in Connext	**Connext 6.1 Product Update**	**Writing a Connext Chat Application using Connector and Python**	**Fundamentals of RTI Connext**	**Writing a Connext Chat Application using the Modern C++ API**
ENROLLED	ENROLLED	ENROLLED	ENROLLED	ENROLLED
3 courses | 7h 26m	EN | 35m 00s	EN | 1h 20m	7 courses | 2h 52m	EN | 2h 05m
▢ Learning Plan	▶ E-Learning	▶ E-Learning	▢ Learning Plan	▶ E-Learning

Connext Developer Training

Course description

The *Connext Developer Training* learning plan contains a set of key courses for any professional building a distributed system using Connext.

The RTI Professional Services team has been training customers for years, gathering experience about what RTI customers need and what use-cases must be addressed in order to train customers efficiently and minimize future risk while at the same time improving efficiency at work.

The syllabus covered in the live training *Connext DDS Professional Training* delivered by the RTI Professional Services team has been enhanced and recorded in short easy-to-watch videos. You can even find topics covered in this *Connext Developer Training* course in RTI Academy that are not covered in the Virtual Instructor-Led Training (VILT) offerings.

If you decide to go through the full *Connext Developer Training*, you will become an expert in topics that will be crucial for the success of your project.

This course is targeted for Developers. Architects may also benefit from parts of this course.

Course content

This Learning Plan is formed by 18 courses:

- Introduction to Connext (1h 14m)
- Coding and Compiling (30m)
- Hands-on exercises (5h)
- API Walkthroughs (1h 15m)
- Basic Data Modeling (44m)
- Protocols (2h 35m)
- Quality of Service (Part 1) (2h 43m)
- Quality of Service (Part 2) (2h 30m)
- XML and QoS (2h 13m)
- Sending Data (3h 19m)
- Receiving Data (2h 35m)
- Conditions and WaitSets (1h 51m)
- Statuses and Listeners (2h 32m)
- Using Keyed Topics (Part 1) (3h 21m)
- Using Keyed Topics (Part 2) (1h 39m)
- Request Reply API (2h 30m)
- XML Application Creation (2h 15m)
- Performance and RTI Perftest (43m)

Prerequisites

No previous knowledge about Connext is required for this course.

Access Level

This course is available for customers with Premium Support.

Required material

We recommend you to have Connext Professional installed. You may want to follow the demonstrations.

Duration

The course has 39.5 hours of content.

Evaluation mechanisms

The Connext Developer Training contains hands-on exercises and a lot of demonstrations. We recommend doing the exercises before looking at the solutions (that are also provided). The duration of the exercises is expected to be 5 hours.

Connext Professional Core Training

Course description

The *Connext Professional Core Training* learning plan contains a subset of courses from the Connext Developer Training. This Learning Plan is tailored specifically to replace the standard Connext Virtual Instructor Lead Training (VILT).

The program begins with an overview of Connext Professional and explores the semantics and terminology associated with the databus and anonymous publish/subscribe communication. The training continues by explaining how to define a data model and use Quality of Service (QoS) policies to specify the behavior of the system. Finally, it provides detailed descriptions and demonstrations of Connext Professional capabilities, APIs, features and tools.

This course is targeted for everyone new to Connext and DDS in general.

Course content

This Learning Plan is formed by 8 courses:

- Introduction to Connext (44m)
- Basic Data Modeling (43m)
- Quality of Service (2h 21m)
- QoS Configuration in XML (1h 44m)
- Protocols (Discovery, Reliability) (2h 04m)
- Using Keyed Topics and Instances (2h 28m)
- Sending Data (2h 20m)
- Receiving Data (1h 24m)

Prerequisites

No previous knowledge about Connext is required for this course.

Access Level

This course is available for customers with Essential Support.

Required material

We recommend you to have Connext Professional installed.

Duration

The course has 17 hours of content.

RTI Routing Service Training

Course description

This course is a must if you are using RTI Routing Service in your system.

This course is targeted for Developers and Architects who need to plan for using RTI Routing Service in their system or who will start to use it soon.

Course content

This Course is formed by the following topics:

- Why Routing Service
- Use Cases
- Architecture Overview
- Basic Configuration
- Creation Modes
- Running Routing Service
- Best Practices
- Remote Administration
- Plugins
- Demonstrations

Prerequisites

We recommend having a minimum level of knowledge about Connext before going through this course. If you don't have it, you can get it by going through the *Fundamentals of RTI Connext*.

Access Level

This course is available for customers with Premium Support.

Required material

We recommend you to follow the demonstrations if you have access to Connext Professional.

Duration

The course has 3 hours of content.

Evaluation mechanisms

This course contains a Test for self-evaluation purposes.

RTI Recording Service Training

Course description

This course is a must if you are using RTI Recording Service in your system.

This course is targeted for Developers and Architects who need to plan for using RTI Recording Service in their system or who will start to use it soon.

Course content

This Course is formed by the following topics:

- Overview
- Recording Service
- Recording Service Configuration
- Replay Service
- Replay Service Configuration
- Recording Service Demo
- Remote Administration
- Remote Administration Demo
- Converter
- Converter Configuration
- Converter Demo
- Recording Service SDK

Prerequisites

We recommend having a minimum level of knowledge about Connext before going through this course. If you don't have it, you can get it by going through the *Fundamentals of RTI Connext*.

Access Level

This course is available for customers with Premium Support.

Required material

We recommend you to follow the demonstrations if you have access to Connext Professional.

Duration

The course has 1 hour and 45 minutes of content.

Evaluation mechanisms

This course contains a Test for self-evaluation purposes.

RTI Persistence Service Training

Course description

This course is recommended if you are using RTI Persistence Service in your system.

This course is targeted for Developers and Architects who need to plan for using RTI Persistence Service in their system or who will start to use it soon.

Course content

This Course is formed by the following topics:

- Overview
- Durability
- Configuration
- Remote Administration
- Advanced Scenarios
- Persistent Durability
- Synchronization

Prerequisites

We recommend having a minimum level of knowledge about Connext before going through this course. If you don't have it, you can get it by going through the *Fundamentals of RTI Connext*.

Access Level

This course is available for customers with Premium Support.

Required material

We recommend you to follow the demonstrations if you have access to Connext Professional.

Duration

The course has 50 minutes of content.

Evaluation mechanisms

None.

RTI Admin Console Training

Course description

This course will help you understand all the features available in RTI Admin Console. It is a great course for those users who will use RTI Admin Console to debug issues or manage/visualize their system.

This course is targeted for Developers, Testers or System Engineers that will debug issues or try to understand how their Connext distributed system behaves.

Course content

This Course is formed by the following topics:

- Overview and Configuration
- Physical and Logical Views
- Match Graph and Analysis
- QoS and Type Views
- Data Visualization
- Exporting System Data

Prerequisites

We recommend having a minimum level of knowledge about Connext before going through this course. If you don't have it, you can get it by going through the *Fundamentals of RTI Connext*.

Access Level

This course is available for customers with Premium Support.

Required material

We recommend you to follow the demonstrations if you have access to Connext Professional.

Duration

The course has 45 minutes of content.

Evaluation mechanisms

None.

RTI Monitor Training

Course description

This course will help you understand all the features available in RTI Monitor. It is a great course for those users who will use RTI Monitor to debug reliability issues or visualize traffic statistics in their system.

This course is targeted for Developers, Testers or System Engineers that will debug reliability-related issues or try to understand how their Connext distributed system behaves.

Course content

This Course is formed by the following topics:

- Overview and Libraries
- Basic Status Panel
- Advanced Status Panel
- QoS, Notifications and Charts

Prerequisites

We recommend having a minimum level of knowledge about Connext before going through this course. If you don't have it, you can get it by going through the *Fundamentals of RTI Connext*.

Access Level

This course is available for customers with Premium Support.

Required material

We recommend you to follow the demonstrations if you have access to Connext Professional.

Duration

The course has 38 minutes of content.

Evaluation mechanisms

None.

RTI Ping and RTI Spy Training

Course description

This course will help you understand all the features available in RTI Ping and RTI Spy. This short course is for users who will use RTI Spy and RTI Ping to troubleshoot issues in their system, from the command line.

This course is targeted for Developers, Testers or System Engineers that need to use the command line to troubleshoot communication issues.

Course content

This Course is formed by the following topics:

- RTI DDS Spy
- RTI DDS Ping

Prerequisites

We recommend having a minimum level of knowledge about Connext before going through this course. If you don't have it, you can get it by going through the *Fundamentals of RTI Connext*.

Access Level

This course is available for customers with Premium Support.

Required material

We recommend you to follow the demonstrations if you have access to Connext Professional.

Duration

The course has 26 minutes of content.

Evaluation mechanisms

None.

Using Wireshark with Connext

Course description

This course covers everything you need to begin debugging Connext systems using Wireshark. It goes through the basics of the RTPS protocol and offers a brief overview of how Discovery and Reliability works in Connext. A special chapter is dedicated to Connext Network Capture, a feature in Connext that can be used together with Wireshark in order to troubleshoot various issues.

This course is targeted for Developers, Testers or System Engineers that need to troubleshoot communication issues and debug discovery related problems at the protocol level.

Course content

This Course is formed by the following topics:

- RTPS Overview
- RTPS Messages
- Discovery Overview
- Reliability Overview
- Wireshark Overview
- I/O Graph
- High Level Traffic Analysis
- Data(p)s and Participant Discovery
- Data(r)s, Data(w)s and Endpoint Discovery
- Using Filters
- User Data Traffic
- Connext Network Capture

Prerequisites

We recommend having a solid level of knowledge about Connext before going through this course. You can get that by going through the Connext Professional Core Training. A basic understanding of Wireshark is also recommended.

Access Level

This course is available for customers with Premium Support.

Required material

We recommend you to follow the demonstrations if you have access to Connext Professional and Wireshark.

Duration

The course has 1 hour and 18 minutes of content.

Evaluation mechanisms

None.

Fundamentals of RTI Connext

Course description

The *Fundamentals of RTI Connext* learning plan covers very quickly the most basic concepts you need to know in order to begin using Connext. It is a very simple introduction built to create awareness about those basic concepts, so it cannot be considered a full training.

With this course you will also learn about which tools and features Connext provides to ease your task of building a distributed system.

This course is targeted for everyone who wants to learn the basics of Connext (Developers, Project Managers, Architects, etc.).

Course content

This Learning Plan is formed by 6 different courses:

- Connext Product Suite (30m)
- DDS Introduction (26m)
- Basic Data Modeling (44m)
- Publishing and Subscribing (17m)
- QoS and Application Configuration (35m)
- Connectivity and Discovery (15m)

Prerequisites

No previous knowledge about Connext is required for this course.

Access Level

This course is available for customers with Basic, Essential and Premium Support.

Required material

No requirements.

Duration

The course has 3 hours of content.

Evaluation mechanisms

Each of the 6 different courses contains a Test for self-evaluation purposes.

Quality of Service in Connext

Course description

The *Quality of Service in Connext* learning plan covers the concepts needed to understand how to configure your Quality of Service policies when using Connext to build your distributed system. It contains three of the courses available in the Connext Developer Training.

Course content

This Learning Plan is formed by 3 different courses:

- Quality of Service (Part 1) (2h 43m)
- Quality of Service (Part 2) (2h 30m)
- XML and QoS (2h 13m)

Prerequisites

As a minimum, we recommend going through the *Fundamentals of RTI Connext* before going through this course.

Access Level

This course is available for customers with Basic, Essential and Premium Support.

Required material

No requirements.

Duration

The course has 7.5 hours of content.

Evaluation mechanisms

Each of the 3 different courses contains a Test for self-evaluation purposes.

Writing a Connext Chat Application using the Modern C++ API

Course description

The course *Writing a Connext Chat Application using the Modern C++ API* shows how to approach a practical problem from scratch. From analyzing the requirements to configuring the QoS policies to meet the last requirement.

With this course you will put in practice some of the concepts learned in other courses and you will see how one of the RTI Professional Services engineers approaches the typical challenges found during development of a simple application.

This course is targeted for Developers that want to get more hands-on experience with Connext Professional.

Course content

This Course is formed by 18 different lessons covering the following topics:

- Requirements
- System Overview
- Data Model
- DDS System Overview and Design
- QoS Design and Configuration
- Generating code from IDL
- Entity creation
- Setting QoS
- Publishing and subscribing to messages and User Info (using WaitSets and polling)
- Using Content-filtered Topics
- Using Partitions
- Implementing graceful and ungraceful exits

Prerequisites

We recommend going through the *Fundamentals of RTI Connext* before going through this course.

Access Level

This course is available for customers with Basic, Essential and Premium Support.

Required material

We recommend having Connext installed on your environment and being able to compile and run a simple Hello World application.

Duration

The course has 2 hours of content.

Evaluation mechanisms

There are no tests or evaluation mechanisms built into this course.

Writing a Connext Chat Application using Connector and Python

Course description

The course *Writing a Connext Chat Application using Connector and Python* shows how to approach a practical problem from scratch. The implementation is done using XML Application Creation, System Designer, Connector and the Python API for Connector: a different approach compared with the course *Writing a Connext Chat Application using the Modern C++ API.*

This course is a great resource to see how to design a system using XML Application Creation.

This course is targeted for Developers that want to get more hands-on experience with Connext Professional.

Course content

This Course is formed by 11 different lessons covering the following topics:

- Introduction
- Creating Types, QoS and DDS entities using System Designer
- Creating connector, inputs and outputs
- Publishing and Subscribing to user info and chat messages
- Filtering chat messages using CFT
- Creating chat groups using Partitions
- Detecting when an user is gone

Prerequisites

You must watch before:

- *Fundamentals of RTI Connext*

- *Writing a Connext Chat Application using the Modern C++ API*

Access Level

This course is available for customers with Basic, Essential and Premium Support.

Required material

We recommend having Connext installed on your environment and being able to compile and run a simple Hello World application.

Duration

The course has 1.5 hours of content.

Evaluation mechanisms

There are no tests or evaluation mechanisms built into this course.

Understanding Connext Secure

Course description

This course covers how to enable Connext Secure and configure it for various security use cases. You will also learn about how to monitor and deploy Connext Secure.

This course is targeted for Developers and Architects who need to plan for using Connext Secure in their system or who will start to use it soon.

Course content

This Course is formed by 27 different lessons covering the following topics:

- Threat Model
- DDS Secure Intro
- Governance
- Permissions
- Security Logging
- Deployment and Migration
- 9 different Demonstrations

Prerequisites

We recommend having a minimum level of knowledge about Connext before going through this course. If you don't have it, you can get it by going through the *Fundamentals of RTI Connext*.

Access Level

This course is available for customers with Essential and Premium Support.

Required material

The course provides a bundle with the application used during the demonstrations.

Duration

The course has 5 hours of content.

Evaluation mechanisms

There are no tests or evaluation mechanisms built into this course.

Understanding Connext Micro

Course description

This course begins with an overview of Connext Micro, focusing on its modular architecture and configurability. It continues by exploring the various features of Connext Micro, paying particular attention to those features with which Connext Professional users may not be familiar.

It also covers the details that make Connext Micro appropriate for resource-constrained systems, and how to tune for such systems.

Finally, the course explores the specific differences between Connext Micro and Connext Professional, how these products can work together, and how to leverage RTI tools in Micro-based systems.

This course is targeted for Developers and Architects that will use Connext Micro in their system.

Course content

This Course is formed by 55 different lessons covering the following topics:

- Introduction to Connext Micro
- Architecture Overview
- Architecture in Practice
- Getting Started
- Transports
- Configuring Discovery
- Working with QoS
- Configuring DomainParticipant Resource Allocations
- Configuring Endpoint Resource Allocations
- Logging
- Comparison to Connext Professional
- Demonstrations

Prerequisites

We recommend having a minimum level of knowledge about Connext before going through this course. If you don't have it, you can get it by going through the *Fundamentals of RTI Connext*.

Access Level

This course is available for customers with Essential and Premium Support.

Required material

We recommend you to follow the demonstrations if you have access to the Connext Micro product.

Duration

The course has 4 hours of content.

Evaluation mechanisms

There are no tests or evaluation mechanisms built into this course.

Connext 6.1 Product Update

Course description
This course provides an update on what's new in Connext 6.1.

This course is targeted for everybody using RTI products.

Course content
This Course is formed by 7 different videos covering the following topics:

- Introduction
- Connectivity across WAN
- Scalability improvements
- Languages and APIs
- OpenSSL
- Developer Productivity
- Observability

Prerequisites
None.

Access Level
This course is available for customers with Basic, Essential and Premium Support.

Required material
None.

Duration
The course has 30 minutes of content.

Evaluation mechanisms
There are no tests or evaluation mechanisms built into this course.

About RTI

Real-Time Innovations (RTI) is the largest software framework company for autonomous systems. RTI Connext® is the world's leading architecture for developing intelligent distributed systems. Uniquely, Connext shares data directly, connecting AI algorithms to real-time networks of devices to build autonomous systems.

RTI is the best in the world at ensuring our customers' success in deploying production systems. With over 1,800 designs, RTI software runs over 250 autonomous vehicle programs, controls the largest power plants in North America, coordinates combat management on U.S. Navy ships, drives a new generation of medical robotics, enables flying cars, and provides 24/7 intelligence for hospital and emergency medicine. RTI runs a smarter world.

RTI is the leading vendor of products compliant with the Object Management Group® (OMG®) Data Distribution Service (DDS™) standard. RTI is privately held and headquartered in Sunnyvale, California with regional offices in Colorado, Spain and Singapore.

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