

RTI Connex DDS Core Libraries

Getting Started Guide

Addendum for iOS Systems

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The security features of this product include software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>).

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Chapter 1 Installing Connex DDS and Xcode

This document supplements the [RTI Connex DDS Core Libraries Getting Started Guide](#) with additional steps for working with iOS® platforms.

- To install the Xcode® development software:

Download the software from the Apple® App Store® or developer website and follow the instructions.

- To install *Connex DDS*:

Follow the installation instructions in the [RTI Connex DDS Installation Guide](#). Install the desired iOS architecture package(s).

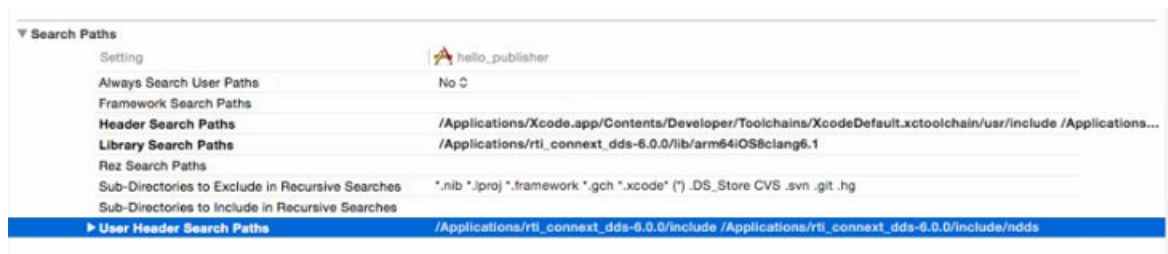
Chapter 2 Creating an Xcode Project

1. Create a new iOS Project of whatever type is appropriate for your use case.

Follow instructions on the Apple Developer's website (<https://help.apple.com/xcode/mac/current/#/dev07db0e578>)

2. Add the *Connex* DDS core to your project:
 - a. Select the project and go to the **Build Settings** tab.
 - b. Add the path to the *Connex* DDS include files.

```
/Applications/rti_connex_dds-x.y.z/include /Applications/rti_connex_dds-x.y.z/include/ndds
```



- c. Add preprocessor definitions

Add the **RTI_UNIX** preprocessor declaration and compiler option **-Wno-return-type-c-linkage**.

3. Access the QoS files

Connex DDS locates the Quality of Service (QoS) XML file using a number of search paths (see the *User's Manual*). The Xcode development software transfers files to the target device via a settings bundle.

- a. Create a **Settings.bundle** resource following Apple's instructions, then place the QoS file(s) in the **Settings.bundle** folder.
- b. In your application code, do one of the following:
 - Set `NDDS_QOS_PROFILES` to the QoS file in the application's resource path.
 - Change the default directory to the application's resource bundle path.
 - Copy the QoS file(s) to the application's **documents** directory and change the default directory to the application's **documents** directory.

Chapter 3 Generating Example Code and an Xcode Project with *rtiddsgen*

1. Run *rtiddsgen*:

From a terminal or ssh window, run *rtiddsgen* as per other *Connex* DDS architectures specifying the iOS architecture name.

2. Open the generated workspace or project:

rtiddsgen creates a workspace with two project files, one for the publisher and one for the subscriber. Open the workspace or project with the Xcode development software just as you would open any other Xcode project.

3.1 About the Generated Code

The code generated by *rtiddsgen* for iOS is slightly different than the code generated for other architectures.

- For most architectures, the main function, looping, and messaging are controlled completely by the application. However for an iOS architecture, the main event loop is within the operating environment framework.
- For an iOS architecture, the default output from **print()** goes to the debugger window.

It is important not to do any lengthy processing in the main loop of an iOS application. For this reason, the generated publisher code writes on a timer rather than in a 'for' loop with a sleep. The generated subscriber project contains commented-out code that can redirect *Connex* DDS core messages to a text window. To enable this code, define `REDIRECT_LOGGING` before building the application.

The generated examples place a default QoS file in the **Settings.bundle** folder and set the application's default directory to the resource path. (See [Access the QoS files on page 4](#)).

Chapter 4 Executing the Code

Execute the application via the Xcode development software, just as you would execute any other iOS application.