



# Freescal<sup>e</sup> MQX<sup>™</sup> RTOS

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## Support User's Guide



***How to Reach Us:***

**Home Page:**  
[freescale.com](http://freescale.com)

**Web Support:**  
[freescale.com/support](http://freescale.com/support)

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## Revision History

Revision	Date	Changes
1.0	1-August-2013	Initial release.
2.0	1-June-2014	Document updated to reflect change in package names and new package details. Also, the document was updated to improve clarity.

# 1 Freescale MQX™ RTOS Support Overview

## 1.1 Subject matter

This Support User's Guide defines the technical support services available from Freescale for Freescale MQX RTOS. It also provides instructions on how to purchase, activate, and gain access to support services. This document is the official source of information for Freescale MQX support packages.

## 1.2 Technical support services

MQX software technical support services provided by Freescale help users solve specific technical problems related to MQX software development projects and provide MQX software-based product maintenance activities.

Technical support services are not consulting or training services. No major customizations, intellectual property development, or other professional engineering services are considered to be technical support services.

## 1.3 Supported software

Support is provided for the following Freescale MQX software:

- Freescale MQX Real-Time Operating System (RTOS)
- Freescale MQX Real-Time TCP/IP Communication Suite (RTCS) - IP Networking Protocol Suite
- Freescale MQX File System (MFS)
- Freescale MQX USB Host / Device Protocol Stack (USB)
- Freescale MQX Command Line Interface (Shell)
- Freescale MQX Flash File System (FFS)
- Freescale MQX Multicore Communication (MMC)

Support is provided exclusively for Freescale MQX software downloaded directly from Freescale websites and is subject to Freescale MQX Support Services Agreement.

### Note

MQX-Lite is only eligible for community support at this time.

## 1.4 Supported software release versions

Support is available for all Freescale MQX release versions, including current and prior versions.

Freescale encourages periodic upgrading to the latest releases (free of charge) to take advantage of potential bug fixes and enhancements. However, if you do not plan to upgrade to the latest MQX version, you can still receive technical support.

Please note that support for older versions may require additional support time.

## 1.5 Freescale MQX RTOS support reference documents

- Freescale MQX RTOS Fact Sheet
- Freescale MQX RTOS Support User's Guide (this document)
- Freescale MQX Support Services Agreement

- Freescale MQX Software License Agreement

## 1.6 MQX software support model

MQX software support is structured in a two-tier system with community and commercial support.

### Community Support Overview

Community support is available via the Freescale MQX online community at [community.freescale.com/community/mqx](http://community.freescale.com/community/mqx). This community is moderated by Freescale technical support professionals with expertise in MQX RTOS.

### Commercial Support Overview

Commercial support is available via a team of senior technical support professionals with advanced MQX software development experience. Commercial support is accessible directly by purchasing an MQX commercial support package.

## 1.7 Freescale MQX support packages overview

Table 1. MQX Support packages overview

	Community	Commercial		Engineering Services
Plan Overview		Standard	Premium	Software development services. On-site support/training. Cost based on project definition.
Releases Available	Approx. once a Quarter	Early <sup>1</sup>	Early <sup>1</sup>	
Moderated MQX Online Community	Yes	Yes	Yes	
Private Support Portal	-	Yes	Yes	
Access to Beta Releases <sup>1</sup>	-	Yes	Yes	
Hot Fixes <sup>2</sup>	-	Yes	Yes	
Initial Response Time <sup>3</sup>	-	1 Business Day	1 Business Day	
Max Hours of Support Engineer's Time <sup>4</sup>	-	50 hours	100 hours	
Web Conferencing to debug issue <sup>5</sup>	-	5 hours	10 hours	
Phone Support <sup>5</sup>	-	Yes	Yes	
Hands-on Support of Customer-Provided Hardware (shipped to Freescale Support)	-	-	Yes	
Support Plan Term	Unlimited	12 Months	12 Months	
Price	Free	See Website	See Website	
Part Number	-	DL-LVL2MQX-050	DL-LVL2MQX-100	

<sup>1</sup> Access to Beta releases weeks or months before quarterly releases are typically available

<sup>2</sup> Access to bug fixes on issues you report immediately when available

<sup>3</sup> Amount of time needed to receive acknowledgement of the support request

<sup>4</sup> Any time support engineer spends including the time for preparing bug fixes.

<sup>5</sup> Hours counted in the Support Engineers Time

## 1.8 On-Site training and support

On-Site MQX Training and Support is available for purchase.

Contact your local Freescale representatives for more details.

## 1.9 Professional engineering services overview

Freescale and our partners offer hardware and software engineering services to assist with development projects. These engineering services are not a part of the typical technical support services available through MQX commercial support packages. Engineering services include, but are not limited to, the creation of custom board support packages for customer hardware, driver updates for new peripherals, creation of custom boot loaders, application development, integration with third party packages, and porting of legacy application code to MQX software. These services are priced based on the project definition.

Contact your local Freescale representatives for more details.

## 2 Freescale MQX Community Support

Freescale MQX community support is designed to help MQX users get started with MQX software.

### ***What do you get with MQX Community Support?***

- Free access to code examples, application notes, and online video training available at [freescale.com/mqx](http://freescale.com/mqx).
- Free help via a moderated online community (see details below).
- Free software releases, approximately every quarter, with Board Support Packages (BSPs) for Freescale evaluation hardware, which are available at [freescale.com/mqx](http://freescale.com/mqx).
- Free support for minimally-modified Freescale MQX software running on Freescale evaluation hardware only.

### ***How do you get MQX Community Support?***

- Community support provided at [community.freescale.com/community/mqx](http://community.freescale.com/community/mqx)
- Response times may vary depending on subject and volume of support activity.

### ***Who provides MQX Community Support?***

Community support is provided by MQX users and Freescale technical support professionals who moderate the community. These technical support professionals have expertise with Freescale MQX software including demos, examples, board support packages, libraries, common questions, and common issues.

### ***Reporting bugs for possible fix in quarterly releases***

Bug fixes and feature requests reported on the community are implemented on, approximately, a quarterly basis. However, no guarantee is provided that a specific fix or request will be made. Fixes are implemented based on severity and priority. Report bugs and feature requests by posting on the MQX online community.

For increased probability of a bug fix, please provide a simple software example that demonstrates the bug on a Freescale evaluation board.

### 3 Freescale MQX Commercial Support

MQX Commercial Support provides commercial-level support for MQX software development projects.

#### ***What do you get with MQX Commercial Support?***

*All the benefits of community support plus the following:*

- Support for software customizations and software running on custom hardware
- Help to troubleshoot MQX software porting to hardware
- Faster and more direct access to senior support engineers
- Higher priority for answering questions and bug fixes
- More ways to communicate with support – private portal, phone, web conferencing
- Early access to software releases and bug fixes

#### ***How do you get MQX Commercial Support?***

- Available for purchase via the instructions in Chapter 4 “[Freescale MQX Commercial Support Instructions](#)”.

#### ***Who provides MQX Commercial Support?***

Commercial support engineers are senior technical support professionals with advanced MQX software development experience.

#### ***When is Commercial Support a good idea?***

Commercial support is recommended when you are in development of an MQX software-based project and need quick answers to complex questions, or when you are troubleshooting challenging issues.

#### ***When should you consider purchasing MQX Commercial Support?***

MQX Commercial Support is recommended for purchase at the start of your development project.

#### ***What plan is right for my project, Standard or Premium?***

When choosing a package, consider the benefits of each package and the number of support hours.

- Commercial Support - Standard is well suited for support needs such as the following:
  - Projects with mostly familiar technology
  - Questions about hardware and software setup changes
  - Application development guidance
  - BSP porting help
  - Code size optimizations
  - Configuration choices
  - Software integration
  - Questions and troubleshooting issues such as task timing and interrupt priorities



- Commercial Support - Premium support is recommended for these support needs:
  - Projects which incorporate new technology (i.e. new hardware/software)
  - More questions of greater complexity on anything mentioned above
  - Difficult to isolate problems requiring system diagnosis
  - Questions and troubleshooting issues such as hardware and software integration, memory leaks, timing issues, and networking problems
  - Help to tune performance and make typical customizations and optimizations
  - Projects with important timelines requiring fast and efficient support

## 3.1 Scope of support package

### 3.1.1 Per-project only

A support package must be purchased for each unique customer project. “Customer Project” means any activity related to the development or maintenance of a single Customer Product or group of related Customer Products that use the same CPU, perform the same general function, and utilize the same software code base (version of Freescale MQX RTOS, etc).

#### Customer Contacts

No more than three individuals are allowed to make contact with the Commercial support team. This keeps communication more efficient.

### 3.1.2 Support package terms

Commercial support packages end either when support hours are fully depleted or 12 months after activation, whichever comes first.

## 3.2 Details of benefits

### 3.2.1 Releases

#### **General Releases**

General Releases are available approximately every quarter at [freescale.com/mqx](http://freescale.com/mqx).

#### **Beta Releases**

Access to some Beta releases is available to MQX commercial support customers potentially weeks or months before general releases are typically available. Beta releases are accessible via a special Freescale extranet website with managed access. Commercial support customers receive instructions to access the extranet website.

### 3.2.2 Private support portal

Each MQX commercial support customer gets a unique secure private support portal to post questions, get answers, exchange files, and track interaction with the commercial Support team.

The private portals are built using the same technology as Freescale communities, and offer many of the same abilities as community pages. However, access to each portal is limited to three customer contacts, Freescale MQX commercial support staff, and a limited number of other Freescale support staff.

Posting to the private portal is the primary method of initiating contact with MQX Commercial Support.

See [How to gain access to your private support portal](#) for instructions to access the private portal website.

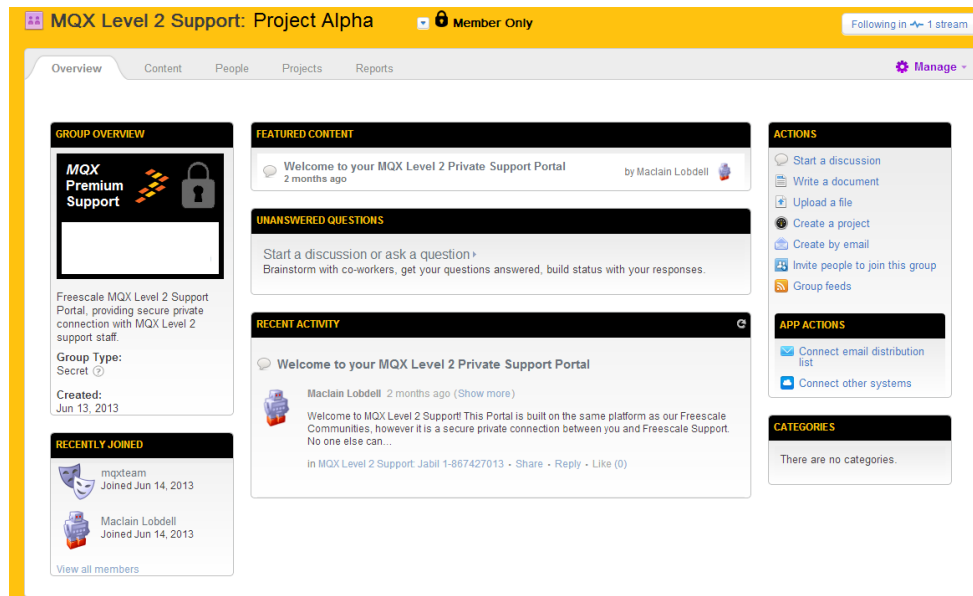


Figure 1. MQX Commercial Private Portal (AKA Private Community)

### 3.2.3 Telephone communication

A telephone hot line is not provided by the MQX Commercial support. However, telephone communication is available if questions and issues can be more efficiently discussed over the telephone. A special conference call line with special access pin number is available to facilitate telephone calls. To ask your MQX Commercial support staff to schedule a call with you, post to the private portal.

### 3.2.4 Types of resolutions

#### Hot Fixes

Hot fixes are quick-turnaround releases for specific components of the Supported Software. A Hot Fix release addresses specific errors in the Supported Software to remove any encountered blocking issues. A Hot Fix will only be provided to those specific customers who have encountered the error. Hot Fix releases will be sufficiently tested to ensure that the error is corrected, but may not undergo the complete test suite to which a full release is subjected.

#### Patches

Patches contain a collection of Hot Fixes. Patches may be occasionally provided to all Commercial support customers to address various issues before a full release is available. Like Hot Fixes, patches will be sufficiently tested to ensure that errors are corrected, but may not undergo the complete test suite to which a full release is subjected.

#### Releases

Full release of all files with a collection of features, enhancements, improvements, and fixes.

### 3.2.5 Reporting issues

Provide detailed information when reporting issues including your assessment of the severity level - critical, high, medium, or low. Bug fixes are serviced on a priority basis which is determined by the Freescale MQX software team.

### 3.2.6 Response times

#### **First Response**

Freescale will acknowledge that the support request was received within 1 business day.

#### **Note**

Support team hours of operation are between 8am to 5pm Eastern Standard Time (EST).

#### **Assessment Response**

Depending on the severity and complexity of the issues, an assessment will be provided within 3-6 business days.

#### **Error Resolution**

Because of the variety of potential errors, no guarantee can be made if and when an error can be resolved.

### 3.2.7 Maximum support hours

The number of hours that the Commercial support staff is available to work on questions and issues is capped to the following levels. See [Freescale MQX Commercial Support FAQ](#) for a detailed explanation of Support Engineers' Time.

#### **Commercial Support Standard**

- Maximum of 50 hours of total support
- Up to 5 hours of web based debugging support

#### **Commercial Support Premium**

- Maximum of 100 hours of total support
- Up to 10 hours of web based debugging support

Support hours used will be communicated via your private support portal. Contact your MQX Commercial support staff to determine what actions can be taken if the support hours are nearing their maximum levels and further support is necessary.

### 3.2.8 Web conferencing to debug issues

Depending on the type of an issue, the MQX Commercial support team may recommend a web conferencing session to facilitate debugging. With your permission, an engineer will connect with your computer remotely to view the development environment and step through the code or perform other diagnostic techniques.

### 3.2.9 Hands-on support of customer-provided hardware (premium package only)

We recommend that you try to duplicate issues you encounter on Freescale evaluation hardware. This allows Freescale engineers to quickly recreate and troubleshoot the issue. However, for challenging issues that can only be replicated on your custom hardware, you may send your hardware to the MQX Commercial Support team to analyze. Contact the MQX Commercial Support team for the shipping address and instructions.

### 3.3 Special situations

#### 3.3.1 Proprietary hardware and software

Any materials forwarded to Freescale for evaluation under a Commercial support package that are identified as customer confidential will be treated accordingly under the provisions in the Freescale MQX Support Services Agreement.

#### 3.3.2 Contacting MQX commercial support manager

The MQX Commercial Support operations are overseen by a business manager. You can contact the manager directly at [mqxL2mgr@freescale.com](mailto:mqxL2mgr@freescale.com). Submit comments and suggestions to the manager.

#### 3.3.3 Surveys

You may be asked to fill out a short survey to help Freescale improve our services.

## 4 Freescale MQX Commercial Support Instructions

### 4.1 How to buy support

1. Go to [freescale.com/mqx/support](http://freescale.com/mqx/support).
2. Click on the **Buy/Specifications** tab
3. Log in to your freescale.com account. If you do not have an account, create one.
4. Select the package you wish to purchase and click the **Buy Direct** button.
5. Process your payment via the **Buy Direct** online purchasing system.

#### *What happens next?*

You must register to activate your support package and start receiving support.

### 4.2 How to activate

#### 4.2.1 Register your support package

1. Log in to [freescale.com/](http://freescale.com/).  
Select **My Freescale** in the top right corner.  
Select **View My Orders** under Orders.
2. Click the **Order ID** of your support purchase.

#	Item	Item Type	Order Qty	Shpd. Qty	Retd. Qty	Status	UnitPrice (\$ US)	Discount Amount (\$ US)	Item Total (\$ US)	Actual Ship Date	Scheduled Ship Date	Software Download / Entitlement Id
1	Ordered Part # : DL-MQXLVL2-P Part Description: MQX Level 2 Premium Support -	Tech Support Download	1	--	--	Scheduled	\$12,000.00	--	\$12,000.00	--	18-JUL-2013	<a href="#">Download/Register</a>

Figure 2. Find Support Purchase Record

3. On the Order Details page, click **Download/Register**.

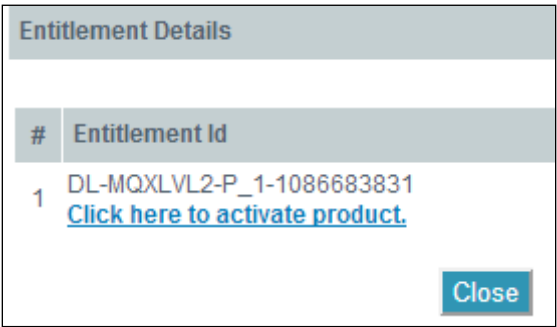


Figure 3. Entitlement ID of Support Purchase

A window appears with your Support Entitlement ID. Select **Click here to activate product**.

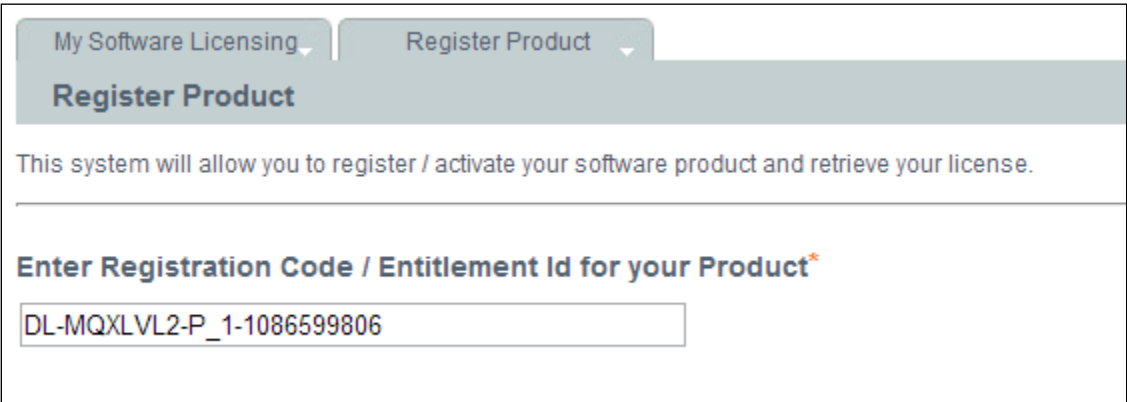


Figure 4. Register Entitlement ID to Activate Support

4. The Register Product page opens with your support entitlement ID pre-entered.

MQX Support Form	
Company name:	TechCo
Entitlement ID:	DL-MQXLVL2-S_1-1347154101
Project Name:	Project Alpha
Freescale - MCU's or MPU's Part Number:	MK64FN1M0VLL12
MQX RTOS Version:	MQX 4.1
Project Overview:	Industrial automation control system
Development Tools:	CodeWarrior
Development Tool Version:	10.6
MQX Support Terms:	<input checked="" type="checkbox"/> Click to Agree
<b>Contact 1:</b>	<b>Contact 2:</b>
Name :	Name :
Joe Customer	Jane Customer
Email contact:	Email contact:
joe customer@techco.com	janecustomer@techco.com
Phone Number:	Phone Number:
555-555-1234	555-555-4321
<p>Please complete and submit the form to finish your registration</p> <p><b>Submit</b></p>	

Figure 5. Submit form

#### 5. Click **Continue Activation**.

Fill out the online form to submit your project details. These are necessary to set up your private portal. View the MQX Support Terms document by clicking MQX Support Terms. If you agree to the terms, click the check-box Click to Agree. If you do not agree, stop and contact a Freescale representative.

#### Note

The Entitlement ID field is optional.

6. Click the **Submit** button. Your registration is now complete.

### 4.3 How to gain access to your private support portal

Within 2 business days of activating your support, you will receive an email that looks similar to the figure.

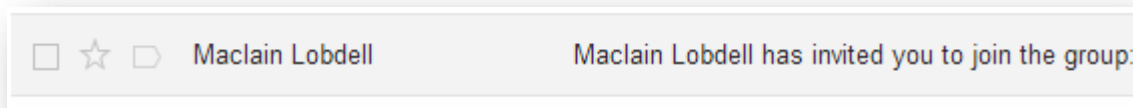


Figure 6. Email confirmation

Click the first link within the email to validate your email address and register.

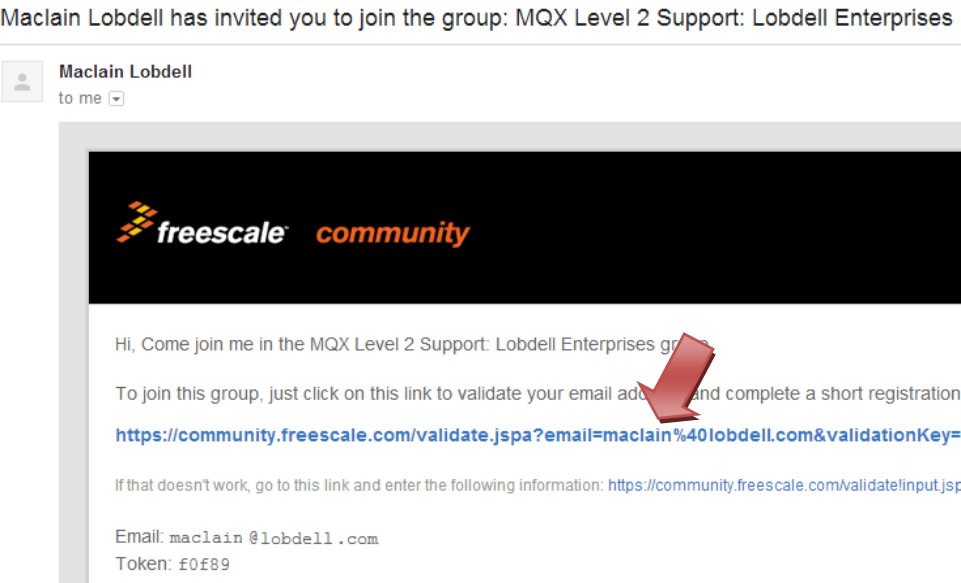
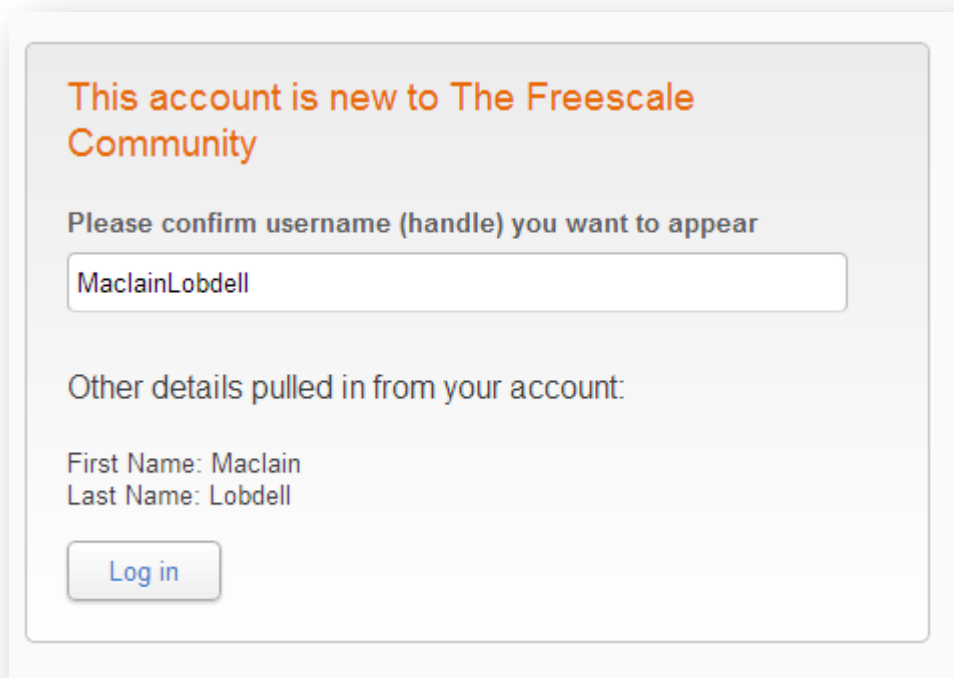


Figure 7. Validate email and register

If you have never logged into the Freescale Communities, set up your community profile. Give yourself a handle and click Log in.



**This account is new to The Freescale Community**

Please confirm username (handle) you want to appear

MaclainLobdell

Other details pulled in from your account:

First Name: Maclain  
Last Name: Lobdell

Log in

Figure 8. Profile setup

Read and either accept or decline the terms and conditions of use.

Now, you are logged in. Note that you can change your avatar image and other account settings by clicking the arrow next to your name.

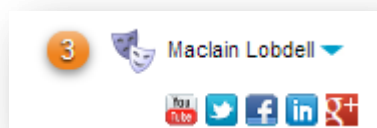


Figure 9. Avatar image

Go back to the confirmation email and click the last link, which is the link to your private space. Ensure that you remember this link.



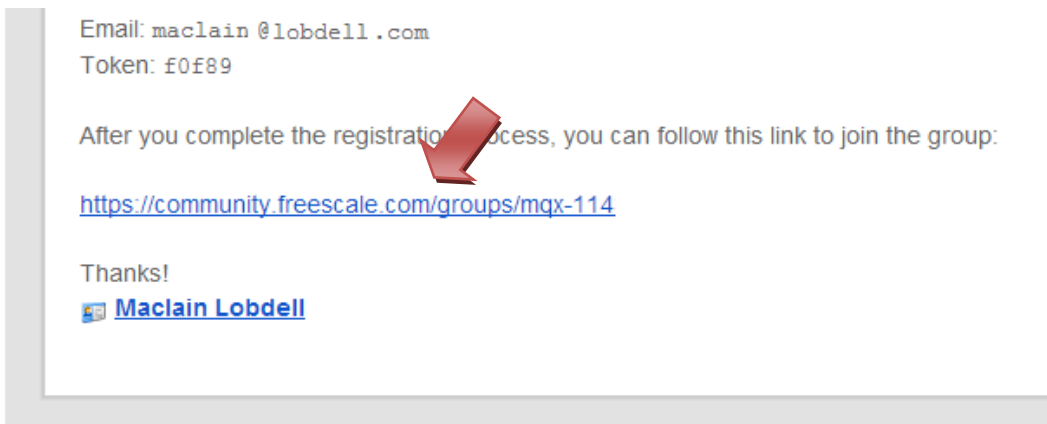


Figure 10. Link to private space

After you click the link, you are re-directed to a page asking you to join the group. Click **Join the group**.

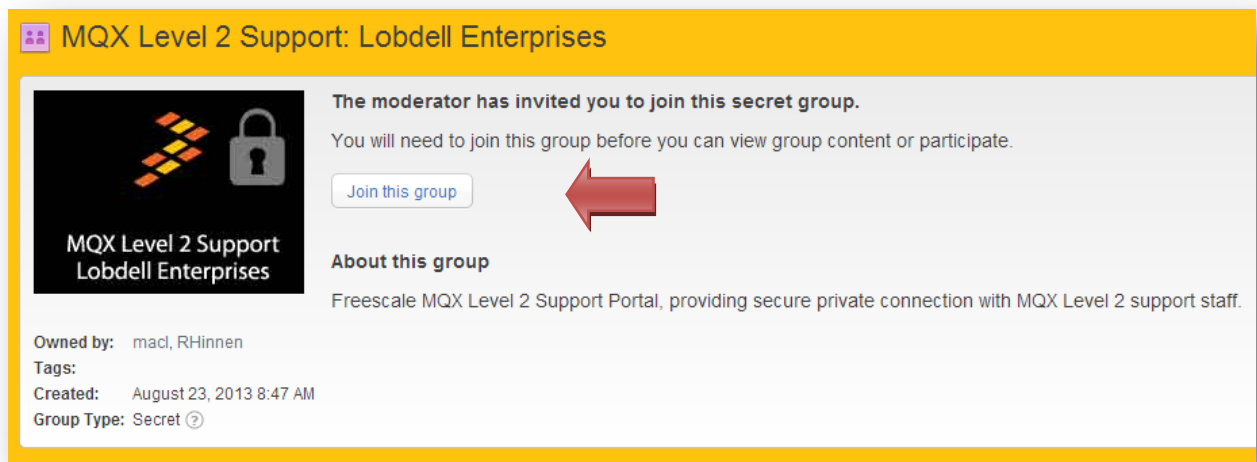


Figure 11. Joining the group

Now click the page link on the top.

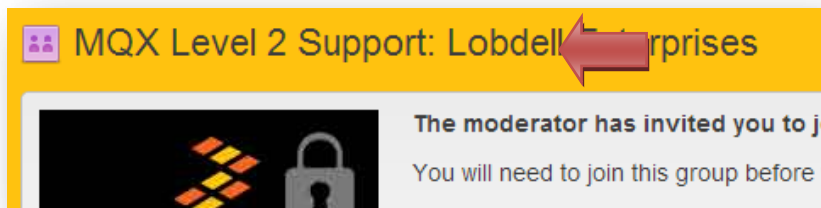


Figure 12. Private space

You should have access to your private space. Use the link from the email invite to access the private space at your convenience.

### 4.3.1 Finding your private portal page

If you misplace the link, you can also use these steps to find your private portal:

1. Log into [community.freescale.com](http://community.freescale.com).
2. Click **Places** on the top bar.
3. Click **Group Member** on the left bar.
4. Find your private group.

## 4.4 How to post a question

Click **Start a discussion or ask a question**.

## 5 Freescale MQX Commercial Support FAQ

### Q: When is the best time to purchase my MQX Commercial Support package?

A: The best time to purchase your support contract is *before* you start your project. Don't wait until you encounter a problem to enroll in the program. Get assurance that your issues and questions will be resolved under your schedule constraints.

### Q: When should I activate my support package?

A: Freescale recommends you purchase and activate your support package whenever you start your MQX RTOS-based development project. However, you can wait to activate later. Note that it takes a few days to set up support systems after your support package is activated.

### Q: Can I purchase a package any time?

A: Yes

### Q: Can I upgrade my package from Standard to Premium?

A: Not at this time. Please contact the [MQX Commercial Support Manager](#) for options.

### Q: Can I get support for any MQX version?

A: Yes, support is available for all Freescale MQX release versions, including current and prior versions. Please note that support for older versions may require additional support time.

### Q: Can I get MQX Commercial Support for MQX Lite?

A: Not at this time. MQX-Lite RTOS is only eligible for community support.

### Q: How many times can a support contract be renewed?

A: Contracts can be renewed as many times as you like.

### Q: Are support contracts available for longer than 1-year terms?

A: No. Plans are available in 12 month terms, but can be renewed to continue support.

### Q: Our Application crashes after a number of hours or days. Which level of support do I need?

A: Typically, this is a time consuming diagnosis and the problem could occur because of a memory leak, exhausted resources, or other potential issues. Premium Support package is recommended to diagnose and solve the problem.

### Q: What is the definition of a Support Engineer's Time?

A: Engineer's Support Time is any time that the support engineer spends including the time fixing bugs found in MQX. If the bug fix is not urgent or critical, it can be submitted to the Freescale MQX development team to be evaluated and possibly fixed in quarterly releases, free of charge, without the use of Support Engineer's Time. See the question about analyzing and fixing bugs.

**Q: Does the time, which is spent analyzing or fixing a bug found in MQX, count towards Support Engineer's Time?**

A: Yes, if a quick MQX software update is requested. Bugs which are reproducible on Freescale hardware can be submitted to the Freescale MQX online community to be evaluated and possibly fixed in quarterly releases, free of charge, without incurring MQX Commercial Support Engineer's Time. However, if help is required to isolate an issue or identify a bug, or the bug fix found in Freescale MQX is required more urgently, then Commercial Support engineer's involvement is required.

**Q: Can I send over my software to the MQX Commercial support team?**

A: Yes. Contact the MQX Commercial Support team for details. See confidentiality details in the *Freescale MQX Support Service Agreement*.

**Q: Can I send over my hardware to the MQX Commercial support team?**

A: Yes. This is reserved for the Premium Support package only. Contact the MQX Commercial Support team for details and see confidentiality details in the *Freescale MQX Support Service Agreement*.