

How to Setup QuickLicense And Safe Activation

Excel Software

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QuickLicense and Safe Activation provide a feature rich environment to configure almost any kind of software license. The flexibility and customization opportunities can be somewhat overwhelming at first glance. This document provides a start-to-finish, step-by-step tutorial that results in a product license to protect an application using a custom activation dialog linked to an automated activation server.

To continue this tutorial, you'll need an installed Demo or Product edition of QuickLicense, a browser with Internet access and a vendor account on Safe Activation (SA). You might want to print this document for easy reference and to take a few written notes along the way. The screens in this tutorial came from QuickLicense running on Windows 7 and the Chrome browser logged into a vendor account on SA Service 2. Your screens might look slightly different with the same data depending on the OS, SA service level you have and the browser you use.

There is one important step of the software protection and license management process that is not covered by this tutorial. That step is the binding of the generated Ticket file that defines the license and the QuickLicense runtime that implements the license to your application. This binding process can be done in many ways including the insertion or a few lines of code into your application to call the runtime directly or by wrapping the compiled executable with AddLicense.

SendMessage is a good way to test a license and activation process during development since it allows you to emulate your application by sending a Command string to the QuickLicense runtime and display the response string.

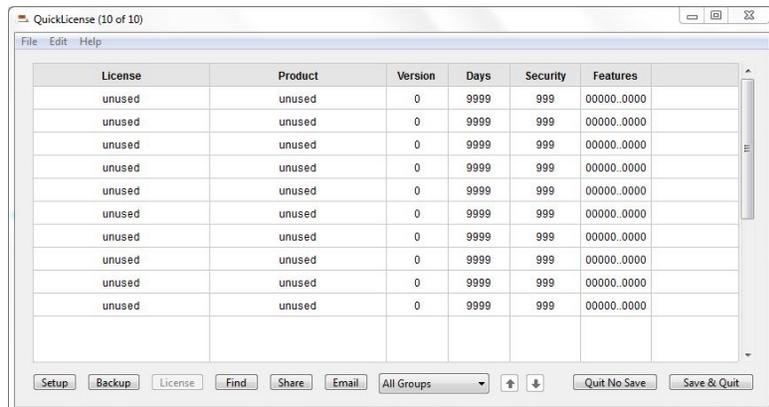
During the development process, you should always use a dummy Ticket name. You will likely configure a license, generate a ticket, activate the license, then change some configuration options and repeat the process several times.

Once you have explored all the options and know exactly how you want your license to work, build a final Ticket name that can be applied to your application. If your application programmatically calls the QuickLicense runtime, we highly recommend that you read about and used the shared Ticket folder for active licenses. To implement this, you simply put the word "shared" in the Location parameter of the Command string.

Start QuickLicense

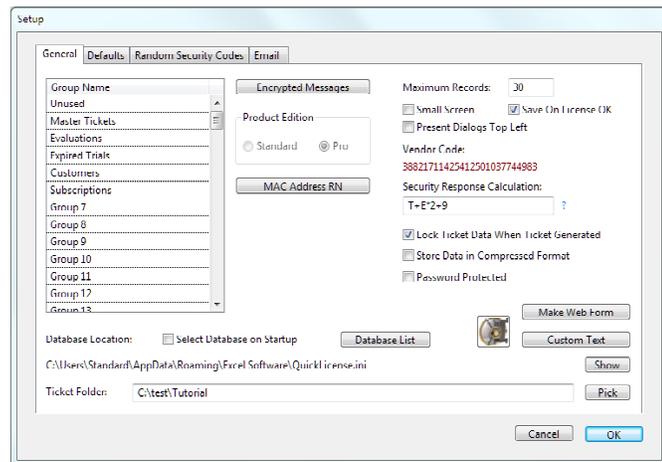
Launch QuickLicense to see the main window. This window shows one row of data for each record in the QuickLicense data file.

When you start QuickLicense the data file is read into memory. When you quit by closing the window or clicking the **Save & Quit** button your data is saved to disk. During this tutorial you may want to occasionally save your data with the **Save** command under the **File** menu.



Click the **Setup** button in the bottom left corner of the main window. The Setup dialog is presented. At the bottom, it shows the full file path to the QuickLicense.ini data file where all of your data is stored.

The Ticket Folder path specified at the bottom of the Setup dialog shows where generated Ticket file are stored. Click the **Pick** button, and create a new folder on disk to hold your un-activated Tickets. Your user account need read and write access to the Ticket folder. Choose a location other than the Desktop or Program Files directory structure on Windows.



Notice the red 26-digit Vendor Code in the Setup dialog. It was generated for you when the QuickLicense.ini file was created and allows you to uniquely assign ownership to named Tickets that you generate.

Backup QuickLicense Data

The **Backup** button in the main window simply makes a copy of the QuickLicense.ini file to an alternate location and gives it a time-stamped name. If disaster strikes, simply quit QuickLicense and replace the QuickLicense.ini file at the specified file path in the Setup dialog. Now start QuickLicense.

Login to Safe Activation

Log into your Safe Activation account. The screen shots in this tutorial were taken from a Test account on Safe Activation Service 2 so your screens may look slightly different if you have Service 1 or 3.

The left side of the screen has links to pages to configure products, custom forms, serial numbers and view customer activation data. Click the blue ? to see the online help page.

Click the **Vendor** link to see the Vendor Info page. This page contains an 8 digit Vendor ID that you will use later within a URL to present an automated activation web form.

To receive an email message containing customer data when activation occurs, enter your email address into the Activation Email field. That email address can also be used to retrieve a batch of generated Serial Numbers for distribution to customers.

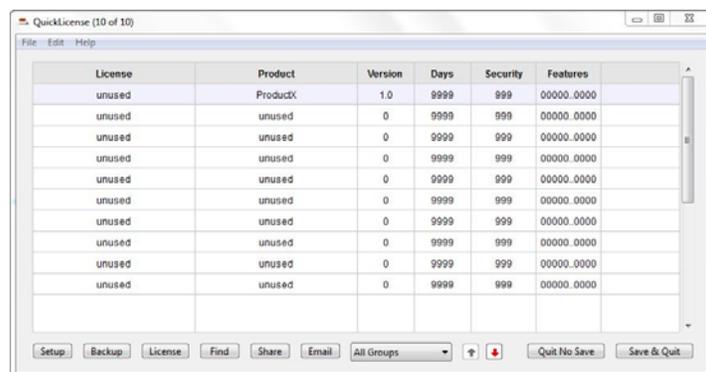
Enter the 26-digit Vendor Code from the Setup dialog in QuickLicense into the bottom right field of the Vendor Info page in Safe Activation. Within the Setup dialog, if you click the red 26-digit vendor code it gets copied into the clipboard for easy pasting into the web page. Click the **Save Data** button to submit editing changes on the Vendor Info page.



Configure a License

From the main QuickLicense window, data values in the Product, Version and Security fields of a row are used to bind an application to a specific license defined by a generated Ticket file.

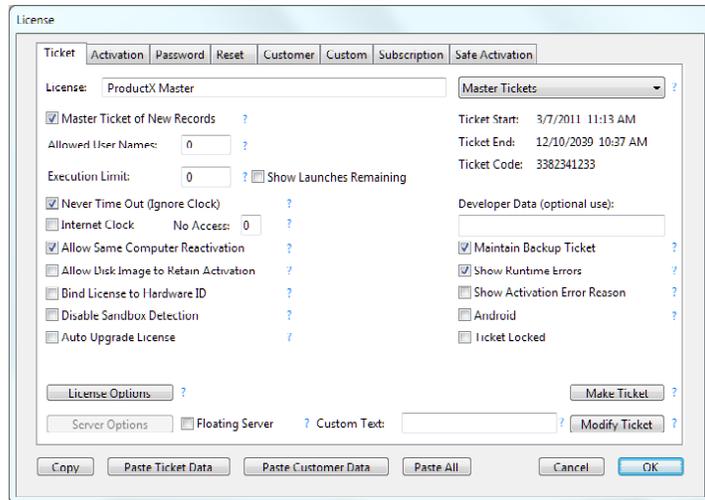
Enter "ProductX" into the Product column of the first empty row. This becomes the base name of the generated ProductX.Ticket file.



For this tutorial, enter "1.0" and "999" into the Version and Security fields, respectively. These fields are used to help ensure that your application is using the correct Ticket that you configured.

Click on the License column of the row to present the License dialog for this record. This dialog is used to configure the license. Type any name you want into the License field since it is only used to identify that record within QuickLicense.

In this tutorial, you will configure a standard product license that requires activation on first application launch and then works forever on that computer. The license is validated on each launch to ensure that files have not been copied to a different computer.

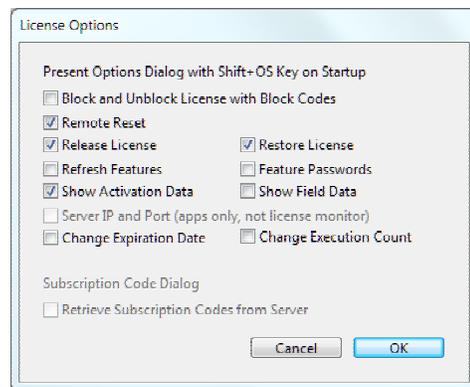


Set all checkboxes as shown in the License dialog shown above. Click the blue ? next to each option for a popup help message. The “Never Time Out” checkbox ensures that the license is not affected by user changes to the computer clock. The “Allow Reactivation” checkbox allows the user to install, activate, uninstall and then activate the license again if necessary. If you later want to configure a time-limited Trial license, you would not set either of these checkboxes.

License Options

Click the **License Options** button to present the License Options dialog. Checkboxes in this dialog determine which licensing features are available to application users. The user can present the License Options dialog by holding down the **Shift** and **OS** keys when launching a protected application.

The Remote Reset feature allows the vendor to remotely reset the license for a specific Serial Number to its original un-activated state.



The Release License and Restore License features allow a user to securely move a license from one computer to another with a couple button clicks and no vendor involvement. Click **OK** to dismiss the License Options configuration dialog.

Make Ticket

Click the **Make Ticket** button and notice that a Ticket Code is assigned to the license and displayed in the Ticket panel. The ProductX.Ticket file is generated to the Ticket folder defined earlier in the Setup dialog.

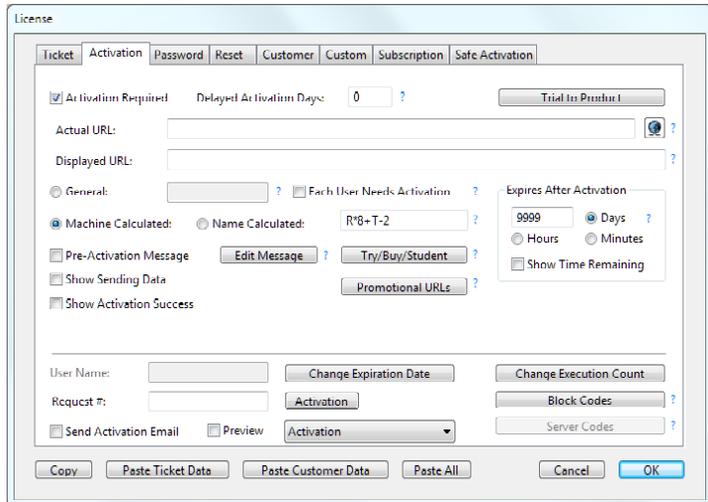
When clicking the **Make Ticket** or **Modify Ticket** button, most fields are dimmed and the Ticket Locked checkbox is set. You are not done with license configuration, so clear the Ticket Locked checkbox.

From now on, always use the **Modify Ticket** button. This allows changes to be made to the generated Ticket file without changing the Ticket Code. Normally, the **Make Ticket** button is only used once to initially generate a Ticket file and assign a unique Ticket code.

Select the Activation panel of the License dialog. Set the Activation Required checkbox and select the Machine Calculated radio button.

The Activation Calculation field has a randomly generated activation calculation that can turn a Request Number (computer fingerprint number) into a computer specific Activation Code.

While leaving the License dialog of QuickLicense open, it is now time to setup the product on the Safe Activation vendor account. Later, you will return to QuickLicense to complete the license configuration and generate the final Ticket file.



Configure Custom Form

Click the **Add** link in the Custom Forms section within the Safe Activation vendor account.

Type "Simple" to name the form, then set checkboxes to make fields Visible and Required as shown here. The Serial Number and Request Number fields are essential since they enable the activation server to grant an activation of a specific product and return a valid Activation Code.

Make sure all Visible and Require checkboxes are set correctly. In addition to Request Number and Serial Number, this tutorial sets the First Name, Last Name and Email fields. Click the **Save Data** button at the bottom of the page to save the custom form.



Serial Number Groups

Click the **Group** link in the Serial Number section to present the Serial Number Group Names page.

Change "Group1" to "ProductX" and click **Save Data** at the bottom of the page.

A group name is used to assign a list of Serial Numbers to a specific product. A vendor account may configure many different products each assigned to a different group of serial numbers.



Generate Serial Numbers

Click the **Select & Search** link to present the Serial Number Select & Search page.

In the Generate Range section, enter 1 in the From ID field and 10 in the To ID field. Choose ProductX in the Default Serial Group selector.

Some vendors allow customers to active on both a business and home computer. Enter 2 in the Max Activation field.



Serial Numbers can be generated with a Long, Short or Shorter format. Select Short format consisting of 4 groups of 5 numeric digits separated by dashes. Click Generate to generate Serial Numbers into slots 1 through 10.

View Serial Numbers

Click the **Edit** link to present the Serial Number Edit page. Notice that slots 1 to 10 are filled with newly generated Serial Numbers. Each is given 2 allowed activations and assigned to the ProductX group.

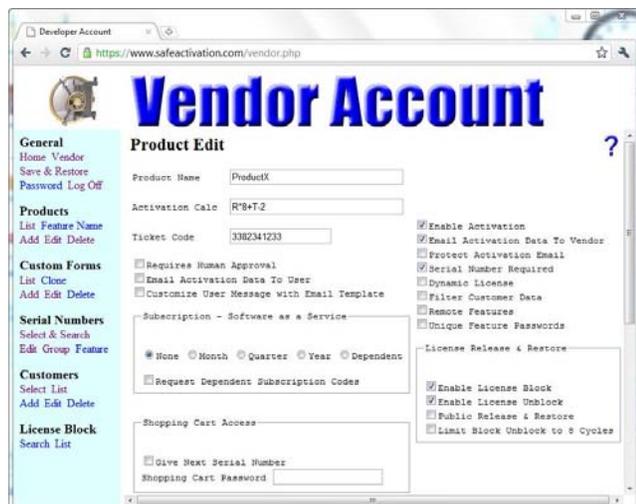


| ID | Serial Number | Max Activations | Group | Suspend | Reset | Subscriber | Used | Notify |
|----|-------------------------|-----------------|----------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1 | 34201-10000-12366-80503 | 2 | ProductX | <input type="checkbox"/> |
| 2 | 34201-10001-64186-80503 | 2 | ProductX | <input type="checkbox"/> |
| 3 | 34201-10002-20186-80503 | 2 | ProductX | <input type="checkbox"/> |
| 4 | 34201-10003-20247-80503 | 2 | ProductX | <input type="checkbox"/> |
| 5 | 34201-10004-42954-80503 | 2 | ProductX | <input type="checkbox"/> |
| 6 | 34201-10005-58785-80503 | 2 | ProductX | <input type="checkbox"/> |
| 7 | 34201-10006-29961-80503 | 2 | ProductX | <input type="checkbox"/> |
| 8 | 34201-10007-39784-80503 | 2 | ProductX | <input type="checkbox"/> |
| 9 | 34201-10008-81768-80503 | 2 | ProductX | <input type="checkbox"/> |
| 10 | 34201-10009-50541-80503 | 2 | ProductX | <input type="checkbox"/> |

Product Edit

Click the **Add** button in the Product section to present the Product Edit page. Enter any alphanumeric name for the product record. Copy and paste the Activation Calculation from the Activation panel of License dialog in QuickLicense. Copy and paste the Ticket Code from the Ticket panel in License dialog.

Set the Enable Activation checkbox to enable an Activation page on the web. Set the Email Activation Data to Vendor checkbox if you want to receive customer entered data when activations occur.



Set the Serial Number Required checkbox to require Serial Number validation by the server before granting an Activation Code. The Enable License Block and Enable License Unblock checkboxes provide the foundation for the automated License Release and License Restore features.

Scroll to the bottom of the Product Edit page to select the "Simple" custom form and "ProductX" serial group. Click the **Save Data** button. The live Activation web page is now ready for use.

View Activation Page

After saving the Product Edit page, the URL of the live activation page is displayed on the screen. Notice the DB, Vendor ID and Product ID values on this page. This data is later used to complete the Ticket.

Click the URL to see the web page.

The help topic, "Show Activation Page for a Specific Product" shows how to construct the URL of the activation web page.

The URL for the activation web page is embedded within a configured Ticket. Most users will activate software through a custom activation dialog without typing or seeing the activation URL in a web browser.

For special situations, a user may want to activate a computer that is not connected to the Internet by using a different connected computer.

Safe Activation Service 1 uses a longer URL with parameters db, vendor and product.

Safe Activation Service 2 and 3 support an abbreviated URL notation as illustrated in this tutorial. The abbreviated URL is much shorter and easier for a user to type since it replaces all of the parameters with one 10-digit value.

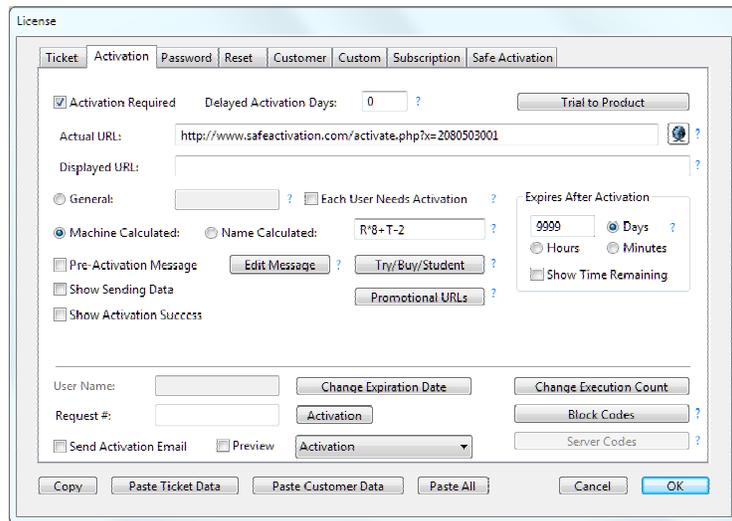


Activation Panel

Complete the Activation Panel of the License dialog in QuickLicense by pasting in the abbreviated URL into the Actual URL field.

For the unlikely case where Internet access is not available during the activation process, a Select Activation Type dialog is presented. The user is given a choice of Manual or Internet activation.

For a manual activation, the URL is of the activation page is presented. The user can get the required Activation Code from a different connected computer.



The screenshot shows the 'License' dialog box with the 'Activation' tab selected. The 'Actual URL' field contains 'http://www.safeactivation.com/activate.php?x=2080503001'. The 'Expires After Activation' section is set to '9999 Days'. The 'Machine Calculated' radio button is selected. The 'Activation' button is visible at the bottom.

Reset Panel

Set the Reset Enabled checkbox on the Reset panel. This enables the manual reset process for a protected product. The Reset process allows a Reset Code to be applied by a user to an activated Ticket. It restores the Ticket to its original, un-activated state. Refer to the QuickLicense User Guide if you want to learn more about manual reset codes.

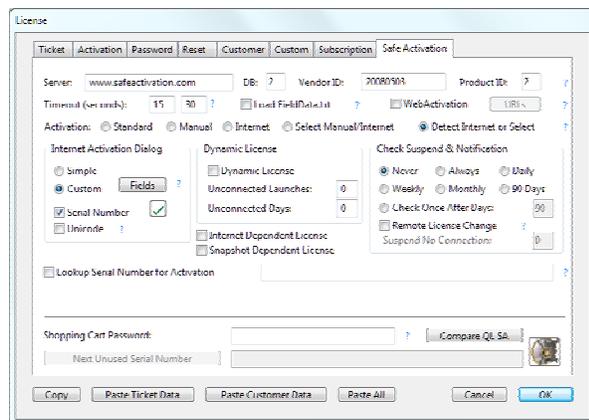
Safe Activation Panel

Select the Safe Activation panel of the License dialog. This dialog includes the data required to link a protected application to an activation server.

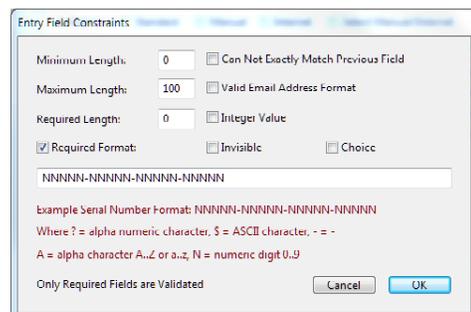
The Server field identifies the activation server, the DB field is set to 2 for Safe Activation Service 2, the Vendor ID field is your 8-digit vendor ID and Product ID field is the ID number of a product.

Set the "Detect Internet or Select" radio button for the Activation Type. In the Internet Activation dialog section, set the Custom radio and the Serial Number checkbox.

Click the green checkmark icon to the right of the Serial Number checkbox to apply a data entry constraint. This will help guide the user when typing a Serial Number into the custom activation dialog. The constraint shown here consists of four groups of five N's where each N represents a numeric digit 0 to 9.



The screenshot shows the 'License' dialog box with the 'Safe Activation' tab selected. The 'Server' field is 'www.safeactivation.com', 'DB' is '2', 'Vendor ID' is '2080503001', and 'Product ID' is '2080503001'. The 'Activation Type' is set to 'Detect Internet or Select'. The 'Internet Activation Dialog' section has 'Custom' selected and 'Serial Number' checked. The 'Dynamic License' section has 'Dynamic License' selected. The 'Check Suspend & Notification' section has 'Never' selected. The 'Shopping Cart Password' field is empty.



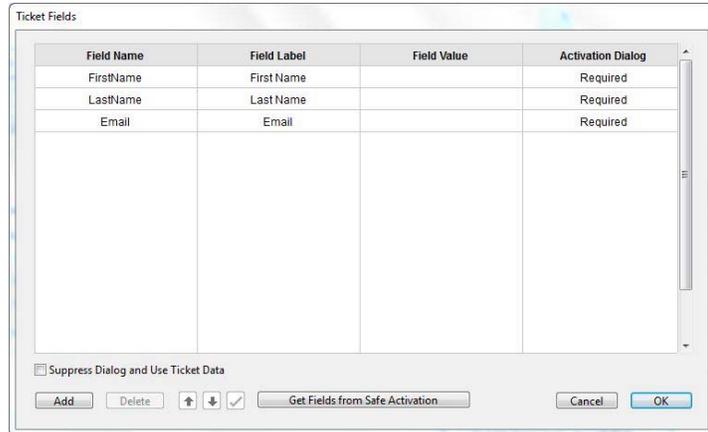
The screenshot shows the 'Entry Field Constraints' dialog box. The 'Required Format' checkbox is checked, and the format is 'NNNNN-NNNNN-NNNNN-NNNNN'. The 'Example Serial Number Format' is 'NNNNN-NNNNN-NNNNN-NNNNN'. The 'Where ? = alpha numeric character, \$ = ASCII character, - = alpha character A..Z or a..z, N = numeric digit 0..9' is displayed. The 'Only Required Fields are Validated' checkbox is checked. The 'OK' button is highlighted.

Ticket Fields

Click the **Fields** button to present the Ticket Fields dialog.

This dialog constructs a custom activation dialog that matches the fields previously configured for the activation web form.

The **Add** button can be used to add each field and specify the Field Name, Field Label, Field Value and Field Type. Since the activation web page is already online, click the **Get Fields from Safe Activation** button to retrieve and configure the fields automatically.



The Request Number and Serial Number fields are special. The Request Number field isn't seen or typed in by the user, it is automatically sent to the server by the protected application. The Serial Number field is controlled by the Serial Number checkbox discussed earlier.

As a developer, you can customize the text of Field Labels presented in the custom activation dialog. Field names, however must exactly match the field names in the activation web page generated by the Safe Activation server.

By default, all fields are assumed to be required. To make a field visible, but not required, change the field type selector to Visible in the fourth column of each row. If you choose to do this, that field in the Custom Form used by Safe Activation must also be visible but not required.

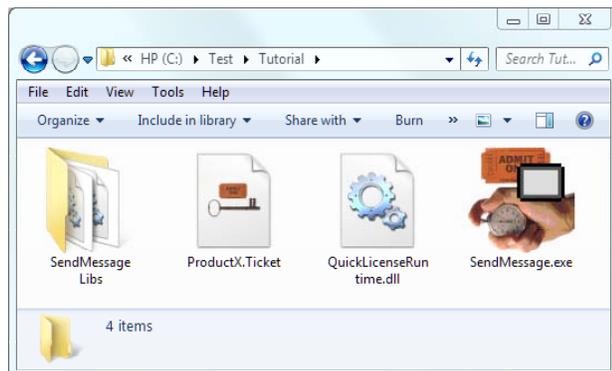
Test License

From the Ticket panel of the License dialog, click the **Modify Ticket** button to generate a fresh Ticket containing all of the configured options. Click the **Save & Quit** button at the bottom right of the QuickLicense window to save the data file and quit the application.

The SendMessage program can be used to test the configured license by emulating a protected application. Copy SendMessage and the QuickLicense runtime file to the Tutorial folder holding the generated ticket.

On Windows, you will also need to copy the SendMessage Libs support folder to the Tutorial folder.

SendMessage support several variations of the QuickLicense runtime including QuickLicenseRT.exe on Windows, QuickLicenseRT.app on Mac and QuickLicenseRuntime.dll on Windows.



SendMessage supports several different communication interfaces with the runtime file. For this tutorial, we will use QuickLicenseRuntime.dll on Windows (hereafter referred to as the runtime) and call the QuickLicenseRT external method.

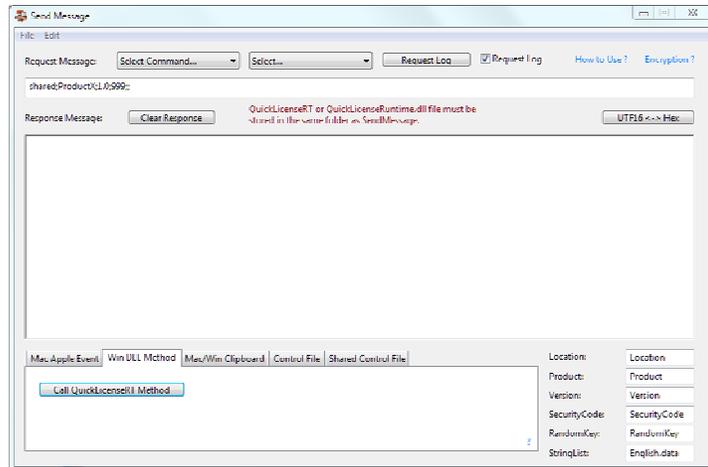
Launch SendMessage, then type and send the Command string to the QuickLicense runtime. This command consists of 6 semi-colon delimited parameters.

```
Shared;ProductX;1.0;999;;
```

The *shared* parameter tells the runtime to copy the un-activated Ticket from the current folder to the shared Ticket folder on this computer if it doesn't already exist.

That shared Ticket file will be the active license for all user accounts on this computer.

The *ProductX* parameter identifies the Ticket file to use. The *1.0* and *999* must match the Version and Security value of the generated Ticket file.



Activation Dialog

An Activation dialog is presented. This is the same dialog that a customer would see on first launch.

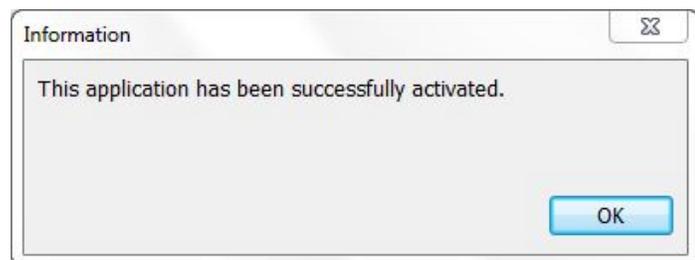
The Activation dialog is ready to accept the Serial Number provided to the customer when their order was processed.



As a vendor, you can customize each step of the activation process during Ticket configuration. For example, there is an option to present a Pre-Activation message such as a license agreement. The user must confirm the message before activating the software. The dialog title, field labels and button names can be changed with a Custom Text file to support vendor specific wording or other human languages. You can also insert a few lines of text before or after the entry fields using a Custom Text file.

Use a Serial Number from the Safe Activation account and complete the dialog, then click **Activate Now**.

A Sending Data dialog is presented as data is sent to the server, then the Information dialog is presented.



The text of these dialogs can be controlled with a Custom Text file. These dialogs can be suppressed with a checkbox option during Ticket setup.

The Response Message field in SendMessage contains the Response string returned by the runtime. The Response string is an ASCII string containing parameters separated by semi-colons. The last parameter is the Return Message string and next to last is the Return Code that is negative if the license is not active. Refer to the QuickLicense User Guide for details.

View Customer Record

Click the **List** link in the Customer section of the Safe Activation vendor account. Now click the link to the new customer record created by the activation process.

The Customer Edit page shows information collected during activation. Safe Activation keeps track of how many activations are allowed based on the Max

Activation count assigned to a Serial Number and the number of active customer records (one for each computer that is activated).



Use a License

When the license was activated, the Ticket file was copied to the shared Ticket folder and activated at that location. On Windows 7 or 8, the shared Ticket folder is located here:

```
/Users/Public/Ticket
```

You should see a file named ProductX.Ticket at that location. If you run on a different OS, consult the User Guide to find the location of the shared Ticket folder on your computer.

Click the **Call QuickLicenseRT** button again in SendMessage. Each time the license is validated and the Execution count parameter of the Response Message string is incremented.

Move a License

When configuring the Ticket and Safe Activation, you granted the ability for users to securely move a license from one computer to another. This makes it easy for a user to move the license to a new computer without vendor assistance.

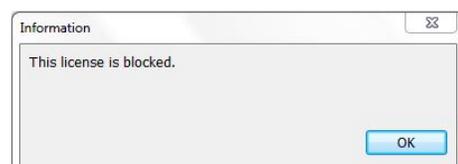
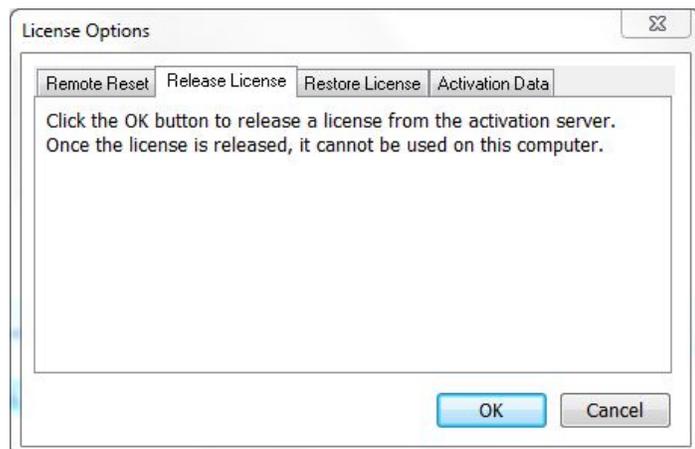
Press the **Shift** and **OS** keys and click the **Call QuickLicenseRT** button in SendMessage.

The License Options dialog is presented. It has a panel for each licensing feature granted during the license setup process.

Select the Release License panel. Click the **OK** button to release the license from Safe Activation server.

When a product license has been released, the product can be installed and activated on another computer.

If the user attempts to run the protected application again on this computer, the License Blocked message is presented.



Track Licenses

Safe Activation includes several features to help keep track of licenses that have been sold, activated, blocked, etc. For example, you can search for all customer records with a specific value within a specific field, like First Name, Last Name, Email Address or Serial Number.

The Customer List page can be customized. From the Customer Select & Search page, locate the Data Shown on Customer List Page section. Set the Status radio button and click the **Set Options** button.

Using the Customer Select & Search page, search for the Serial Number used for activation.

The Customer List shows the status of that Serial Number with one row of data for each activated computer.

Notice that the Status column indicates if the software is currently Active or Blocked on a specific computer.



Troubleshoot Problems

When configuring a license, protecting an application and setting up the activation server, there are many options to consider. That's great for presenting a polished, vendor-branded solution to an end user. That flexibility presents developers with plenty of opportunities to make mistakes.

If something does not work as expected, use the time tested debug technique of divide and conquer. Never try to debug your Ticket configuration, program interface code and Safe Activation setup at once. Test each step of the process independently.

For example, an activation page presented by the Safe Activation server can be tested from a web browser. Put the page URL in a browser, enter the customer data including a valid Serial Number and a 10 digit Request Number, then write down the presented Activation Code. Now use QuickLicense to verify that the Activation Code is valid for that specific Request Number.

Use the **Compare QL SA** button on the Safe Activation panel of the License dialog to check for potential errors in the Ticket or Safe Activation setup.

Apply License to Your Software

Once you have a working activation page on the web, use SendMessage to test the generated Ticket file. When the Ticket file and Safe Activation server is correct, its time to apply that Ticket to your application with the API or AddLicense wrapping tool.

If your application calls the QuickLicense runtime directly with the API, start with something simple. Create a function that calls the QuickLicense runtime with a command string and returns the response. Test that function with a simple command like "RequestNumber" that simply returns a 10 digit Request Number for the local computer.

See the Examples PDF for sample code written in popular computer languages.