



HCA Tech Note 510

Working with the Ring Doorbell

The Ring doorbell and Ring security camera devices can be linked to HCA. When the Ring device reports an action, a message is sent to your HCA Server and that message can then be examined and responded to.

For this to happen you must first have installed the Ring device and created an account with Ring. Also make sure you can use their application – mobile or web – to view the doorbell. This must all operate before going any further with HCA!

In addition, you must also have a HCA Cloud account and are running HCA Plus in client-server mode as the HCA Server is what is contacted by the HCA Cloud when an event happens. Be sure that you have configured HCA in client-server mode and that the HCA cloud can correctly access the sever. In the HCA server application window menu there are choices “Tools – HCA Cloud Update” and “Tools - HCA Cloud Access Test”. Make sure you perform the update and then the test operation and that the test reports success.

For more information about setting up client-server, please review the HCA Getting Started Guide.

Authorizing Ring into your HCA Cloud Account

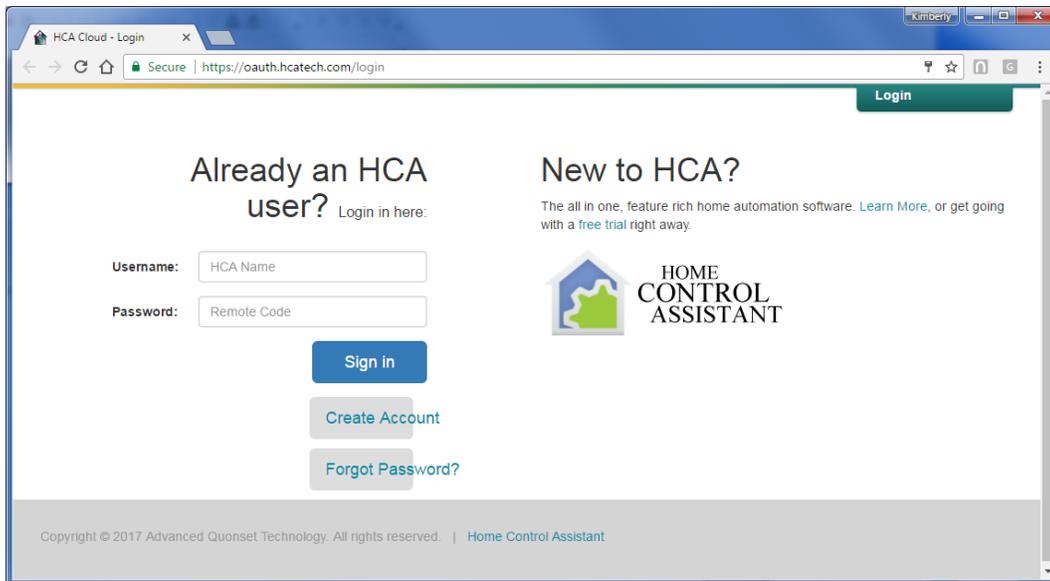
To begin the process with Ring, press the “My Services” button in the “HCA Cloud” ribbon category.



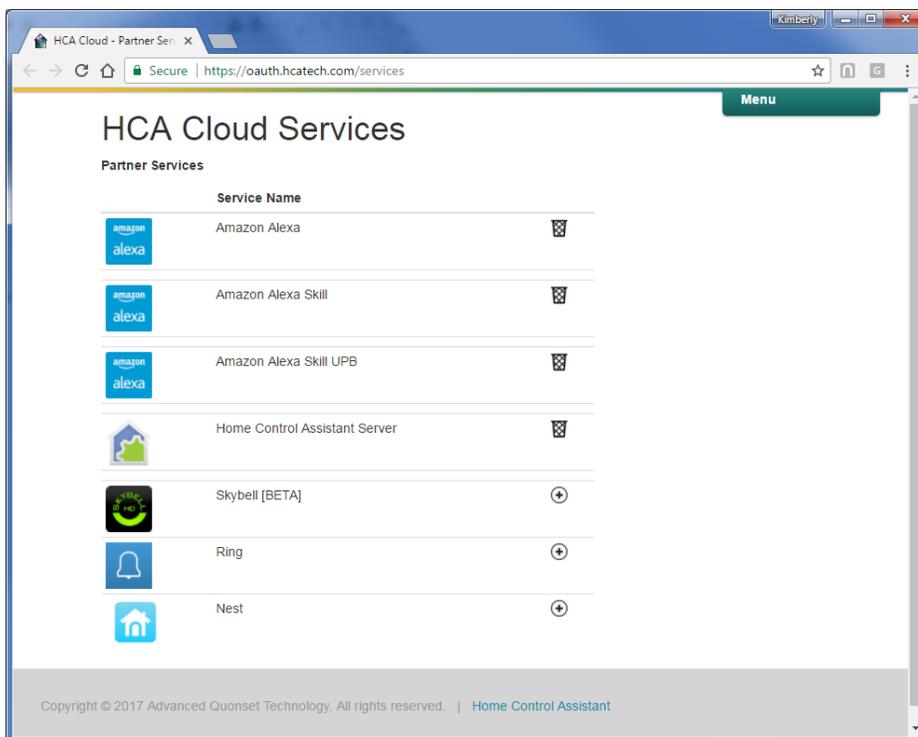
You are first asked to login to your Cloud account.



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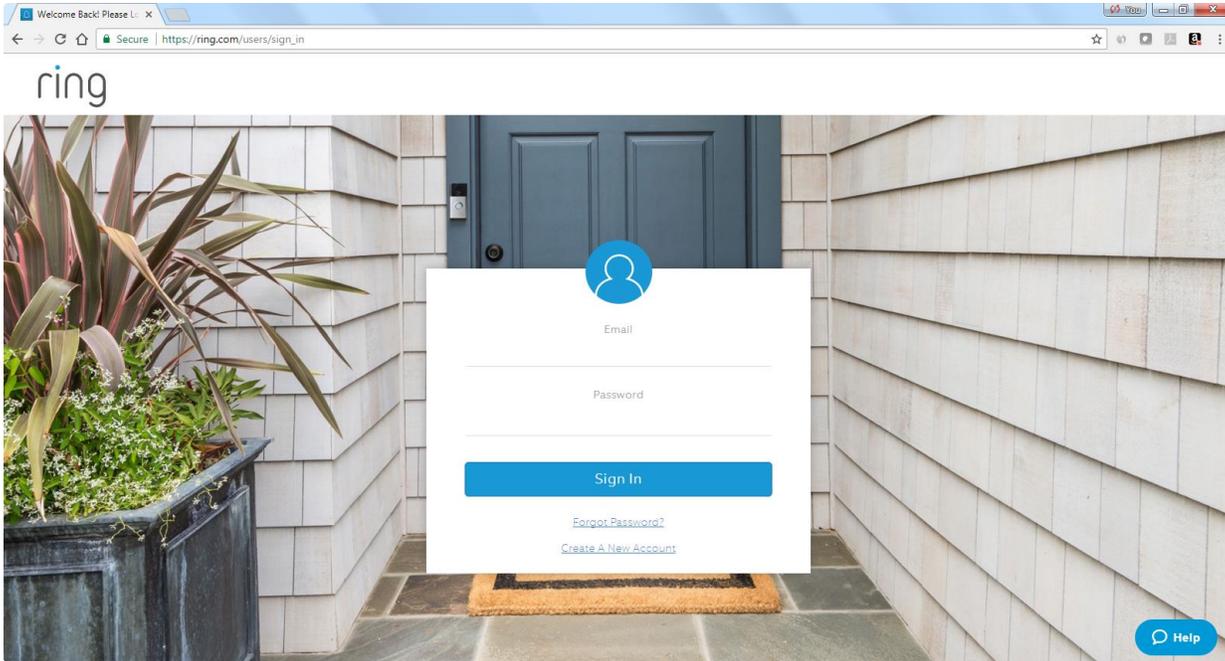
After a successful login the services page displays.



To the right of each service is a “Plus” icon or a “trash can” icon. The “Plus” icon adds this service to your account and the “Trash can” icon removes it. Press the “Plus” icon to add “Ring” to your account.



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Once you do that, the browser redirects back to your cloud account and you can see that Ring is now authorized.



Ring



Creating a handler program for Ring events

The next step is to add to your design a program that is started each time Ring reports an event. An event handling program must have the “Supports Parameters” option enabled. This is on the “Advanced” tab of the program properties.

This program supports parameters and/or local variables

Parameters are defined in the *Begin-Here* element. When started from another program using the *Start-Program* element, the actual objects or data are selected to use when elements in this program operate upon one of its parameters.

The data passed from Ring to the HCA Cloud and then on to your server, arrives in the handler program through these parameters and is described below.

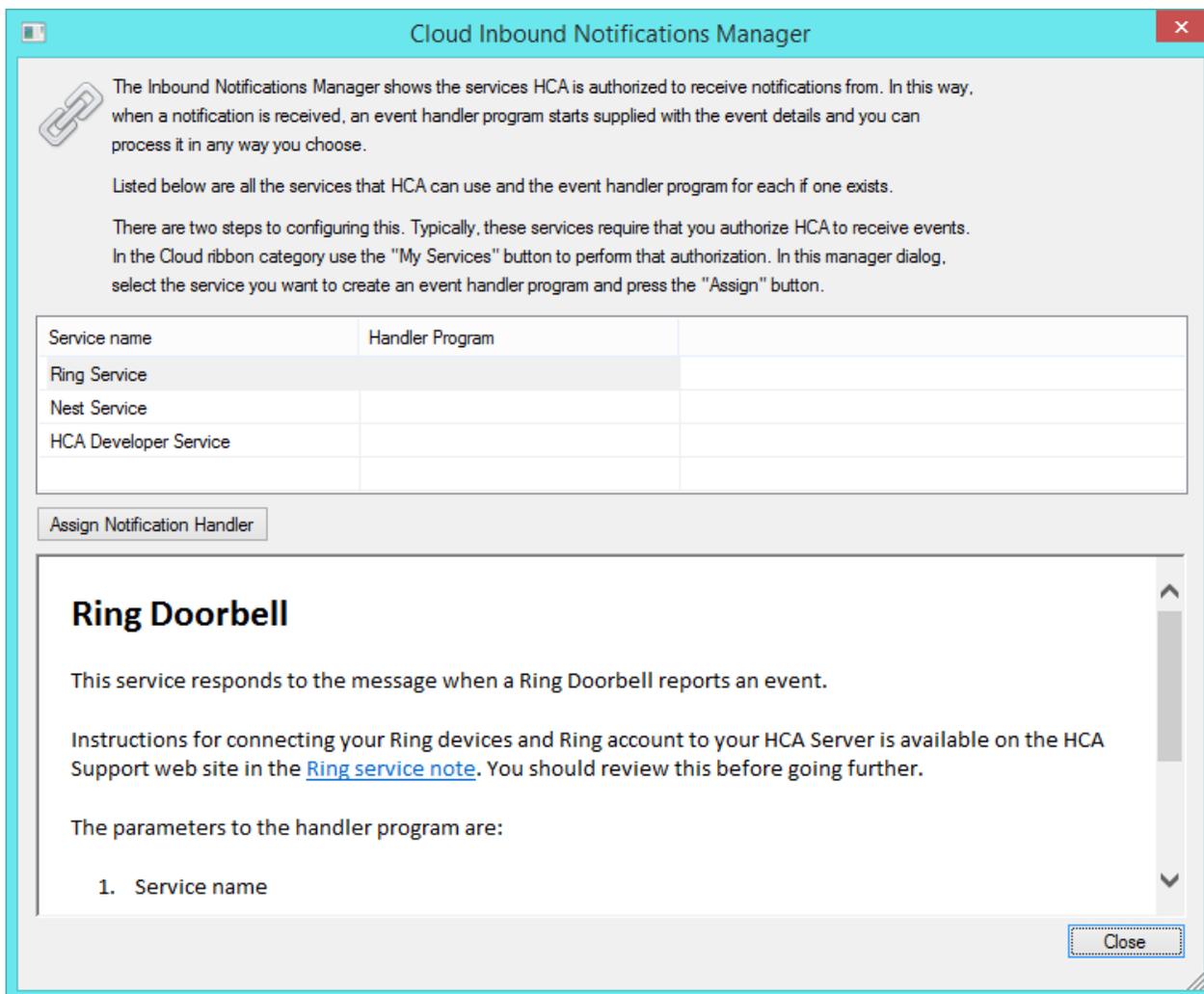


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In the HCA Cloud ribbon category, press the "Inbound Notifications Manager" button.



The manager opens:

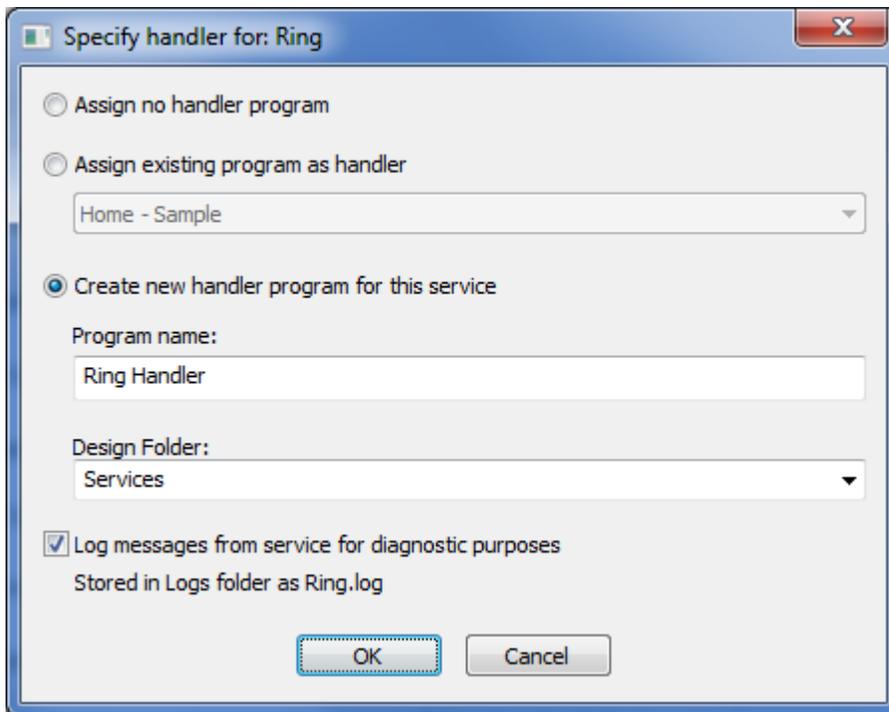




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The online library is queried and the shows information about all the currently available services that can send notifications. In the manager is also where you assign a handler program for that service.

Select “Ring” and then click the “Assign Notification Handler” button.



In here you have an option of removing the handler program (“Assign no handler program”), selecting an existing program, or creating a new program where you provide its name and folder. If a new program is created it is automatically be created with the necessary “Support parameters” option enabled.

The data the program receives is as described in the information in the Manager dialog. For the case of Ring there are two parameters. The first is the name of the service (“Ring”) and the second is the JSON object given to the HCA Cloud by Ring.

If you are unfamiliar with JSON please review the JSON support technical note.

The handler program uses the JsonOpen, JsonClose, and Json functions in the Compute and Compute-Test Visual Programmer elements to extract pieces out what Ring sent and handle it in whatever way it wants to.

If you choose to let HCA create a handler program for you, it will add elements that open the JSON and extract out the event and the description. The Event tells you what happened and is a string containing either “new-



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ding” or “new-motion”. The description is the name of the doorbell that created the event. This is the name you provided when you installed the doorbell and created your ring account.

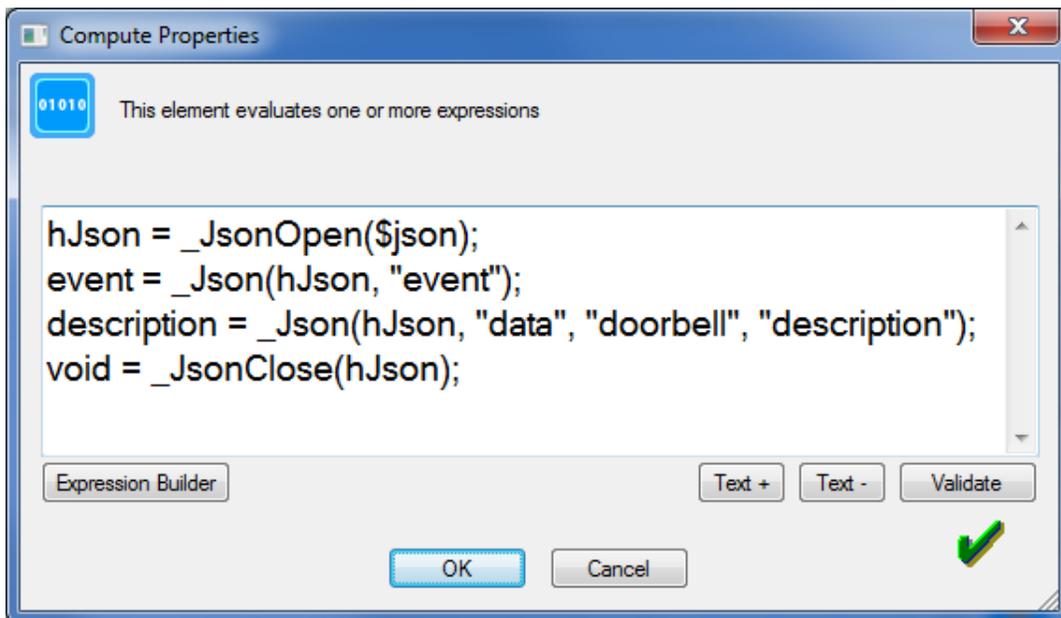
Once you complete the handler dialog, the service manager updates to show the program selected.

Service name	Handler Program	
Ring Service	Services - Ring Handler	
Nest Service		
HCA Developer Service		

If you ever want to change the assignment of the handler program or any option for it, double-click on the line to open it for editing.

Example

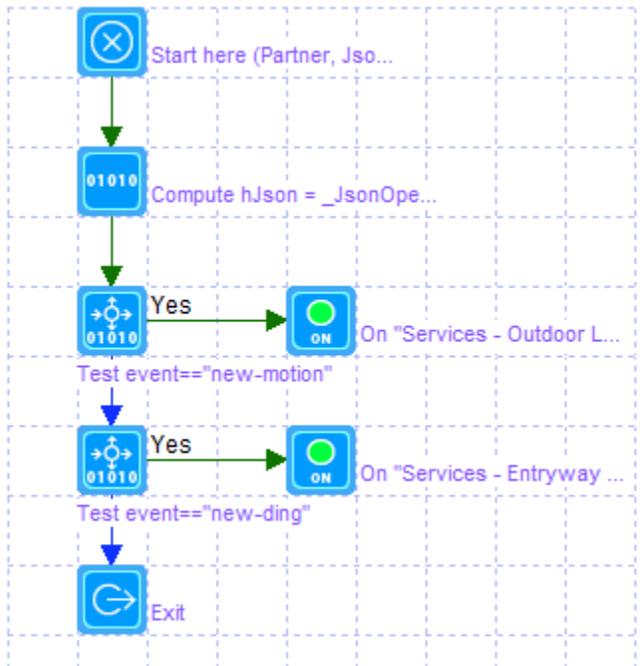
The JSON that Ring sends is very simple and if you have HCA create the handler program for it the JSON extraction is done for you.





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It is a simple matter to use “event” and “description”. For example, here is a simple program for a home with a single doorbell –no need to look at “description”. If the “new-motion” event is received then the outdoor lights come on. If the “new-ding” event is received then the entryway lights come on.



You can get much more complex than this of course. You can conditionally turn the lights on only if it is dark or turn them on and then return them to their previous level after ‘n’ minutes. It’s all up to you.

If you want to look at the actual JSON that ring sends, you can enable logging for the Ring service. Open the service manager and edit the properties of the Ring service – where you specified the handler program – and tick the “Log messages” checkbox. This creates a log of all the JSON that is sent to your server. Look in the HCA Documents area in the “Logs” subfolder for the “Ring.log” file.

If you want to decode the JSON into a more readable format, copy it from the log file and then use one of the online JSON decoders to view it. The one we use is: <http://json.parser.online.fr/>

##end##