Chariot MQTT Server as a VM

Prerequisites:

- Have a computer/server capable of running VMWare or VirtualBox.
- Download the latest Chariot MQTT Server.

Overview:

Chariot MQTT Server is a MQTT 3.1.1 compliant MQTT server. It is capable of providing a functional replacement for MQTT Distributor in larger scale deployments. Like Inductive Automation's Ignition platform, it comes with a two hour re-settable trail period. It can also be set up with a license key from Cirrus Link to enable it permanently. Chariot MQTT Server provides a web based administration page for enabling and limiting user access to the MQTT server via an Access Control List (ACLs). Like MQTT Distributor it also supports TLS security and username/password authentication in addition to ACLs for user authorization.

Installing a Virtual Machine Manager:

Chariot MQTT Server can be run in a number of different Virtual Machine managers. Any Virtual Machine manager that supports importing of .ofv appliances should work. Tested versions include the following:

- Virtual Box 5.1.2
- VMWare Fusion 8.1.1

Installing Chariot MQTT Server:

Installation of Chariot MQTT Server is dependent upon the VM Manager being used. Below shows basic instructions for the various tested managers. First you will need to unzip the Chariot_MQTT_Server-latest.zip file to access the Cirrus Link Chariot_*.ovf file.

• Installing Chariot MQTT Server into VirtualBox:

• First, open VirtualBox

	Oracle VM VirtualBox Manager
	🚍 Details
New Settings Discard Start _y	Machine Tools Global Tools
	Welcome to VirtualBox!The left part of this window lists all virtual machines and virtual machine groups on your computer. The list is empty now because you haven't created any virtual machines yet.In order to create a new virtual machine, press the New button in the main tool bar located at the top of the window.You can press the \$\$7 key to get instant help, or visit www.virtualbox.org for more information and latest news.

 Now, select 'Import Appliance...', browse to Cirrus Link Chariot_*.ovf (which came from Chariot_MQTT_Server-latest.zip) and select Open. This will show the following window:

New Settings	Discard Start _♥	•			Machine Tools	Global Too
		Appila	ice settings			
		Thes sugg chan and c	e are the virtual machine ested settings of the imp ge many of the propertie lisable others using the	es contained in the appliance ar ported VirtualBox machines. Yo es shown by double-clicking on check boxes below.	nd the u can the items	
		Virtu	al System 1			33
		*	🖢 Name	Cirrus Link Chariot 1.2.1		2
			Guest OS Type	岁 Ubuntu (64-bit)		
			CPU	1		
			RAM	2048 MB		
		E	- Floppy			
			DVD 🔍			
		Re	initialize the MAC addre	ss of all network cards		
		Applia	nce is not signed			
			Restore Defaults	Go Back Import	Cancel	

Change the Name to 'Cirrus Link Chariot' and select 'Import'. The VM will take a few minutes to import depending on your computer. When this is complete, you will see the new VM in the list as shown below. Note a machine with 4 CPUs and 8 GB of RAM is the recommended minimum.

New Settings Discard Start	Oracle VM VirtualBox Manager	Machine Tools	
Cirrus Link Chariot 1.2.1	📃 General 📃 Previ	iew	
Powered Off	Name: Cirrus Link Chariot 1.2.1 Operating System: Ubuntu (64-bit)		
	System	Oirrus Link Obsrict	
	Base Memory: 2048 MB Boot Order: Floppy, Optical, Hard Disk Acceleration: VT-x/AMD-V, Nested Paging, PAE/NX, KVM Paravirtualization	1.2.1	
	Display		
	Video Memory: 16 MB Remote Desktop Server: Disabled Video Capture: Disabled		
	Storage		
	Controller: IDE IDE Secondary Master: Chariot_MQTT_Server_1.2.1-disk Controller: Floppy Floppy Device 0: Empty	1.vmdk (Normal, 20.00 GB)	
	🍃 Audio		
	Host Driver: CoreAudio Controller: ICH AC97		
	Setwork		
	Adapter 1: Intel PRO/1000 MT Server (Bridged Adapter, er	n0: Wi-Fi (AirPort))	

Simply click the Start button to start the VM. You may get an error mentioning the lack of a configured sound card. You can ignore this. You may also get some messages talking about keyboard capture and mouse pointer integration as shown below. These can also be ignored. One you are on the Welcome screen below you can begin setting up the network configuration.



• Configure the following:

- Hostname
- IP Address
- Network Mask
- Gateway IP Address
- Primary/Secondary DNS
- $^{\circ}~$ Once you see the following, the Chariot MQTT Server is up and running.



	Select	the Installation M	ethod
	0	Install from disc or imag	je
	Di	ag your ISO file here to start installin	3
	E Miarate your PC	Install macOS from the	
	*	recovery partition	virtual machine
	Install from Boot Camp	Create a custom virtual machine	
?	Cancel		Continue

Choos	Choose an Existing Virtual Machine				
Choose Virtual Machine	Configuration	Importing	O Finish		
Recent items:			\$	ŀ~	
	Choos	e File			

 Select 'Choose File...' and browse to Cirrus Link Chariot_*.ovf (which came from Chariot_MQTT_Server_1.2.1.zip) and select Open. This will show the following window.

	Choose	an Existing	J Virtual M	achine	
	Choose Virtual Machine	Configuration	Importing	Finish	
Rece	nt items:			÷.	~
Ę	Chariot_MQTT_S Size: Unknown	Server_1.2.1			
	Type: Other			Show in Finder	J
		Choose F	ile		
? Ci	ancel			Go Back Cont	inue

Click 'Continue' and then click save to save the new Virtual Machine to your disk. At this point, you may get the following error. If so, simply click 'Retry'.

5	The import failed because /Users/wes/ Desktop/Cirrus Link Chariot/Cirrus Link Chariot.ovf did not pass OVF specification conformance or virtual hardware compliance checks.
	Click Retry to relax OVF specification and virtual hardware compliance checks and try the import again, or click Cancel to cancel the import. If you retry the import, you might not be able to use the virtual machine in VMware Fusion.
	Do not show this message again
	Cancel

° At this point, the Chariot MQTT Server VM will be imported into your computer. This will take a few minutes.

° Once imported, you will something similar to the following. Click Finish to finalize the import.

_	Fin	ish	
The con	figuration of the virtu	al machine is now co	omplete.
Choose Virtual Machine	Configuration	Importing	Finish
	Virtual Machi	ne Summary	
Gues	st Operating System (Jbuntu 64-bit	
	Memory	2 GB	
	Networking A	Autodetect (Bridged	
	Device Summary (CD/DVD, Floppy	
To change the defaul	t virtual machine setti virtual machine n Customize	ings, click Customizo ow, click Finish. Settings	e Settings. To run the

• At this point you can start the VM. Once you see the following, you are ready to configure the network as described above.



Using Chariot MQTT Server:

At this point the Chariot MQTT server is up and running with it's initial network settings. In order for you to be able to browse to it, the host computer OS must be on the same network. Once you are on the same network, you can browse (**NOTE: Internet Explorer is not supported for connecting to the Chariot MQTT Server web front-end. Please use Chrome or Firefox.**) to Chariot MQTT Server by going to the IP Address that you configured via HTTPS (for example: https://192.168.1.150). For configuration and usage instructions, visit this page.