

Ruckus IoT Controller 1.0 Software Installation Guide

Supporting Release 1.0

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Preface

Document Conventions

The following tables list the text and notice conventions that are used throughout this guide.

TABLE 1 Text conventions

Convention	Description	Example
monospace	Identifies command syntax examples.	<code>device(config)# interface ethernet 1/1/6</code>
bold	User interface (UI) components such as screen or page names, keyboard keys, software buttons, and field names	On the Start menu, click All Programs .
<i>italics</i>	Publication titles	Refer to the <i>Ruckus Small Cell Release Notes</i> for more information

Notes, Cautions, and Warnings

Notes, cautions, and warning statements may be used in this document. They are listed in the order of increasing severity of potential hazards.

NOTE

A NOTE provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.



CAUTION

A CAUTION statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.



DANGER

A DANGER statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

Command Syntax Conventions

Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

Convention	Description
bold text	Identifies command names, keywords, and command options.
<i>italic text</i>	Identifies a variable.
[]	Syntax components displayed within square brackets are optional.
{ }	Default responses to system prompts are enclosed in square brackets.
{ x y z }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
x y	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, for example, passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, <i>member[member...]</i> .

Convention	Description
\	Indicates a “soft” line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

Document Feedback

Ruckus is interested in improving its documentation and welcomes your comments and suggestions.

You can email your comments to Ruckus at: docs@ruckuswireless.com

When contacting us, please include the following information:

- Document title and release number
- Document part number (on the cover page)
- Page number (if appropriate)
- For example:
 - Ruckus Small Cell Alarms Guide SC Release 1.3
 - Part number: 800-71306-001
 - Page 88

Ruckus Product Documentation Resources

Visit the Ruckus website to locate related documentation for your product and additional Ruckus resources.

Release Notes and other user documentation are available at <https://support.ruckuswireless.com/documents>. You can locate documentation by product or perform a text search. Access to Release Notes requires an active support contract and Ruckus Support Portal user account. Other technical documentation content is available without logging into the Ruckus Support Portal.

White papers, data sheets, and other product documentation are available at <https://www.ruckuswireless.com>.

Online Training Resources

To access a variety of online Ruckus training modules, including free introductory courses to wireless networking essentials, site surveys, and Ruckus products, visit the Ruckus Training Portal at <https://training.ruckuswireless.com>.

Contacting Ruckus Customer Services and Support

The Customer Services and Support (CSS) organization is available to provide assistance to customers with active warranties on their Ruckus Networks products, and customers and partners with active support contracts.

For product support information and details on contacting the Support Team, go directly to the Support Portal using <https://support.ruckuswireless.com>, or go to <https://www.ruckuswireless.com> and select **Support**.

What Support Do I Need?

Technical issues are usually described in terms of priority (or severity). To determine if you need to call and open a case or access the self-service resources use the following criteria:

- Priority 1 (P1)—Critical. Network or service is down and business is impacted. No known workaround. Go to the **Open a Case** section.

About This Guide

- Priority 2 (P2)—High. Network or service is impacted, but not down. Business impact may be high. Workaround may be available. Go to the **Open a Case** section.
- Priority 3 (P3)—Medium. Network or service is moderately impacted, but most business remains functional. Go to the **Self-Service Resources** section.
- Priority 4 (P4)—Low. Request for information, product documentation, or product enhancements. Go to the **Self-Service Resources** section.

Open a Case

When your entire network is down (P1), or severely impacted (P2), call the appropriate telephone number listed below to get help:

- Continental United States: 1-855-782-5871
- Canada: 1-855-782-5871
- Europe, Middle East, Africa, and Asia Pacific, toll-free numbers are available at <https://support.ruckuswireless.com/contact-us> and Live Chat is also available.

Self-Service Resources

The Support Portal at <https://support.ruckuswireless.com/contact-us> offers a number of tools to help you to research and resolve problems with your Ruckus products, including:

- [Technical Documentation](https://support.ruckuswireless.com/documents)—<https://support.ruckuswireless.com/documents>
- [Community Forums](https://forums.ruckuswireless.com/ruckuswireless/categories)—<https://forums.ruckuswireless.com/ruckuswireless/categories>
- [Knowledge Base Articles](https://support.ruckuswireless.com/answers)—<https://support.ruckuswireless.com/answers>
- [Software Downloads and Release Notes](https://support.ruckuswireless.com/software)—<https://support.ruckuswireless.com/software>
- [Security Bulletins](https://support.ruckuswireless.com/security)—<https://support.ruckuswireless.com/security>

Using these resources will help you to resolve some issues, and will provide TAC with additional data from your troubleshooting analysis if you still require assistance through a support case or RMA. If you still require help, open and manage your case at https://support.ruckuswireless.com/case_management

About This Guide

About This Guide

This guide provides information about how to install the Ruckus IoT Controller on a supported hypervisor.

Topics include the list of supported hypervisors and Ruckus IoT Controller installation instructions using the .OVA file.

NOTE

If release notes are shipped with your product and the information there differs from the information in this guide, follow the instructions in the release notes.

This guide is intended for use by those responsible for installing and setting up network equipment. It assumes a basic working knowledge of local area networking, wireless networking, and wireless devices.

Ruckus IoT Controller Overview

Ruckus IoT Controller

Ruckus IoT Controller is a versatile easy-to-deploy service and management component that allows for integration of Internet of Things (IoT) devices and IoT services for a wide range of use cases. It provides a robust, secure, scalable, interoperable, and well managed general transport between IoT devices and cloud services.

The Ruckus IoT Controller is an open-programmable framework that exposes north-bound APIs and is thereby a highly flexible IoT transport for Ruckus partners to integrate a wide range of IoT services and solutions for the enterprise and beyond.

Installing Ruckus IoT Controller on a Hypervisor

System Requirements for Installing Ruckus IoT Controller on a Hypervisor

Ruckus IoT Controller supports a number of hypervisors and requires a virtual machine (VM).

The table lists the hypervisors (and their release versions) on which you can install the Ruckus IoT Controller.

TABLE 2 Supported Hypervisors

Hypervisor	Vendor	Version
ESXi	VMware	5.5 and above
VM VirtualBox	Oracle	5.1.20 and later
VM Player	VMware	12 or later

The Virtual Machine (VM) on which the Ruckus IoT Controller is installed must meet the following requirements:

- The VM for the Oracle VM VirtualBox hypervisor must have a minimum of 2vCPU, 2GB RAM, and 8GB HDD.
- The VM for the VMware ESXi hypervisor must have a minimum of 2vCPU, 2GB RAM, and 8GB HDD.
- The VM for the VM Player hypervisor must have a minimum of 2vCPU, 2GB RAM, and 8GB HDD.
- Ports 80, 443, 1883, and 8883 must be open.

NOTE

For high scale deployment, Ruckus recommends, minimum of 4vCPU and 4GB RAM.

Installing Ruckus IoT Controller on Oracle VM VirtualBox

The Ruckus IoT Controller can be installed on an Oracle VM VirtualBox using a .OVA file.

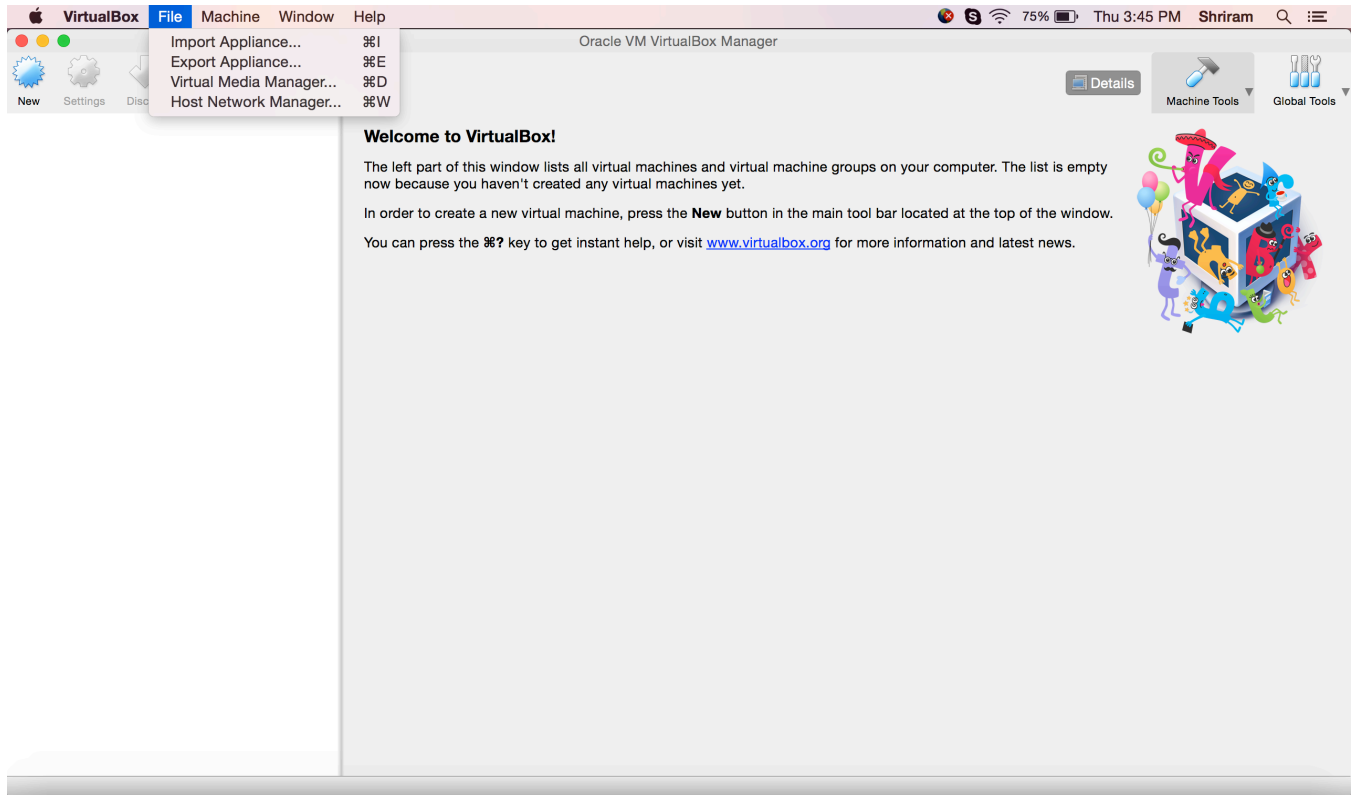
NOTE

Ruckus IoT Controller can be installed on MAC or Windows 64 bit.

Follow these steps to install Ruckus IoT Controller on MAC.

1. Download the Ruckus IoT Controller distribution package in the .OVA file format from the Ruckus Support website at <https://support.ruckuswireless.com>.

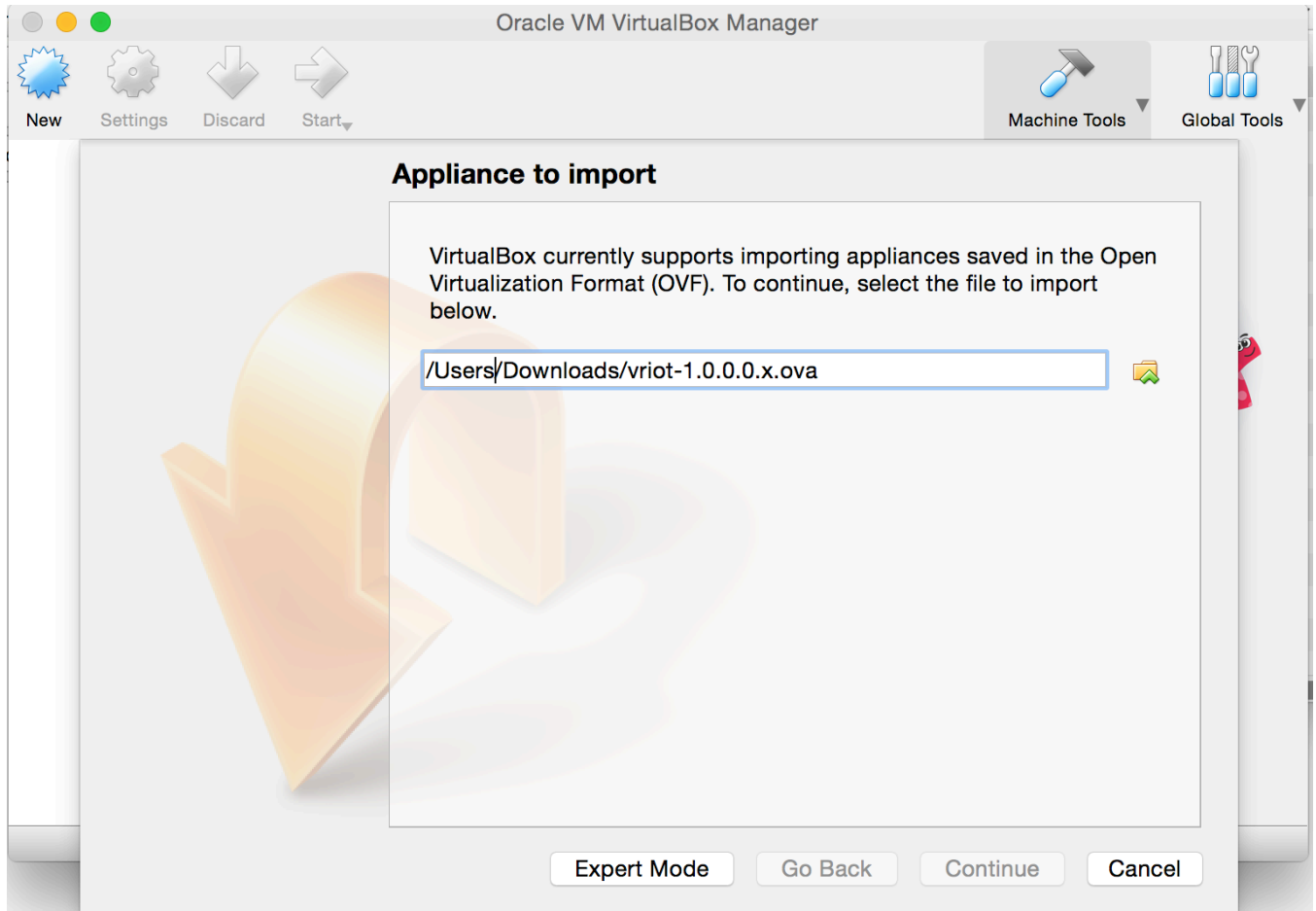
2. Open the **Oracle VM VirtualBox Manager** and select **File > Import Appliance**.



This will start the installation.

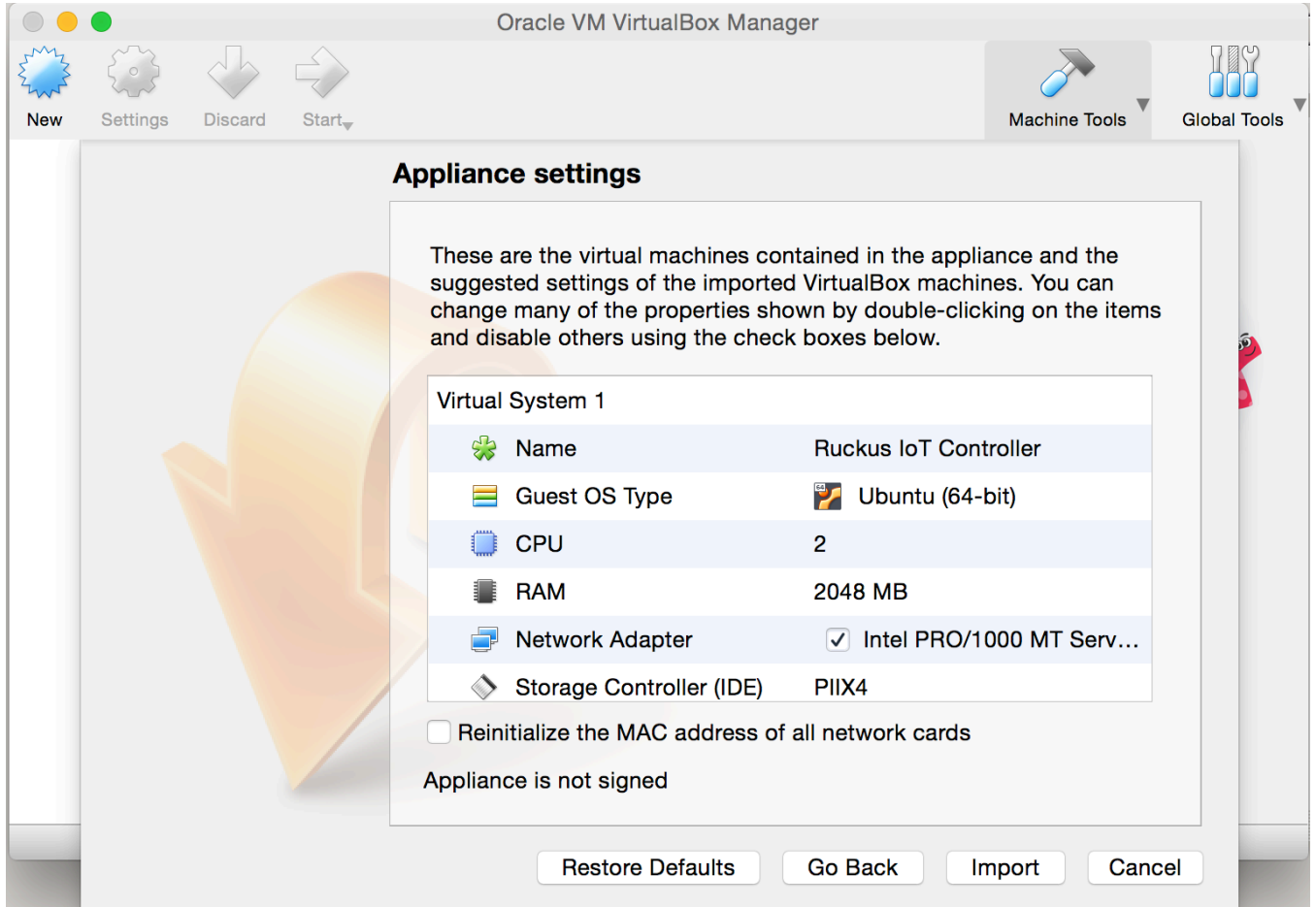
3. Import the .OVA file of the virtual appliance and click **Continue** .

FIGURE 1 Importing Virtual Appliance



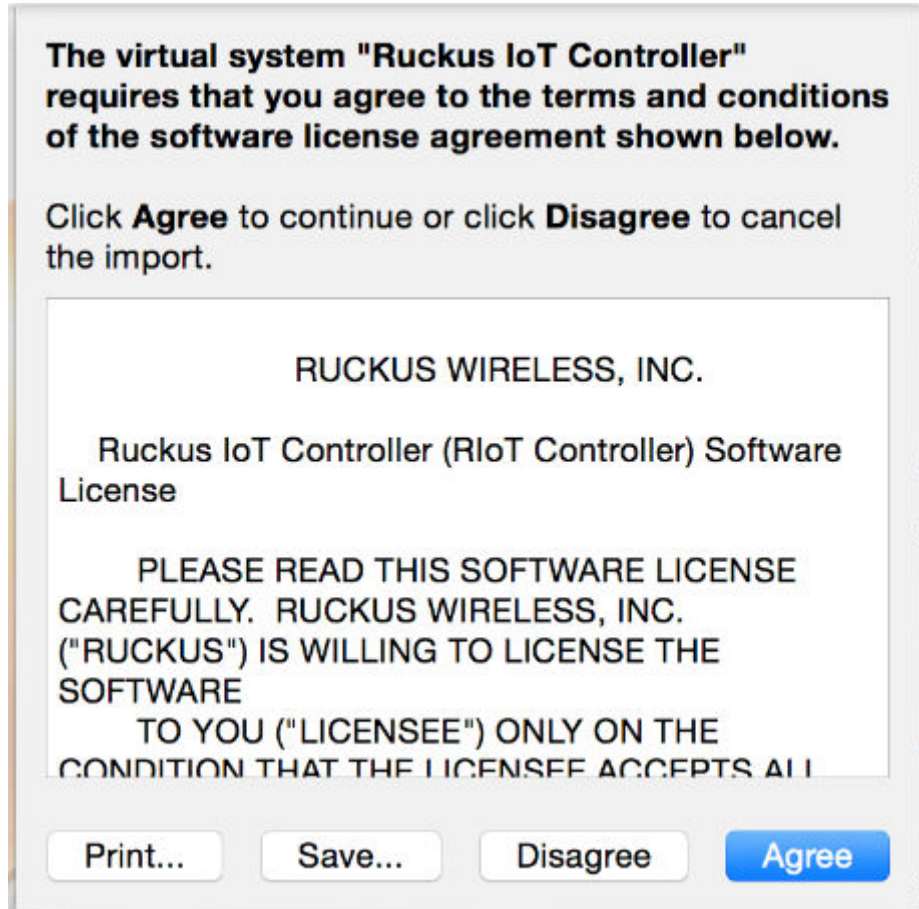
4. Click **Import**.

FIGURE 2 Oracle VM VirtualBox Manager



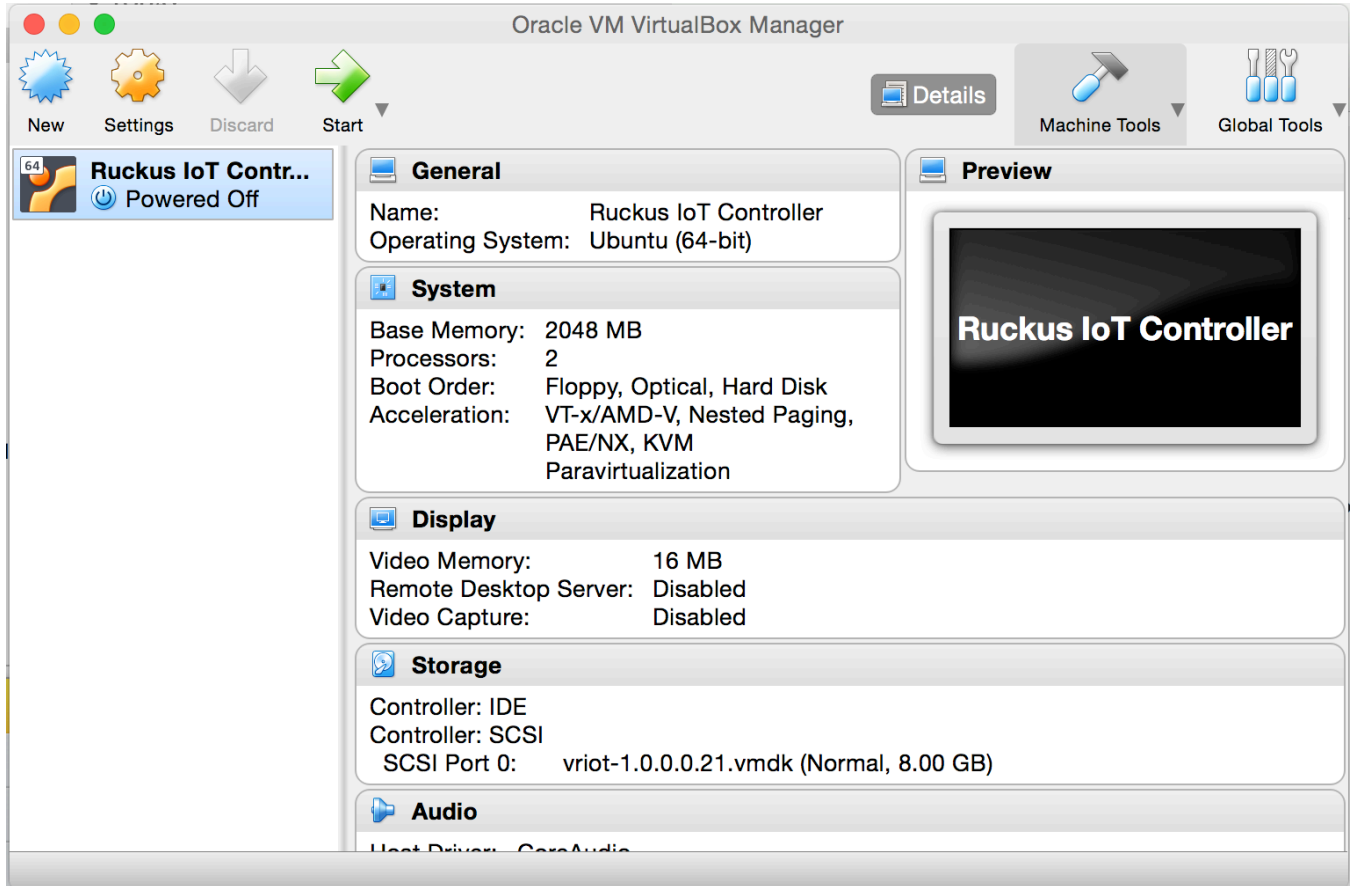
5. Accept the terms of the license agreement and click **Agree**

FIGURE 3 License Agreement



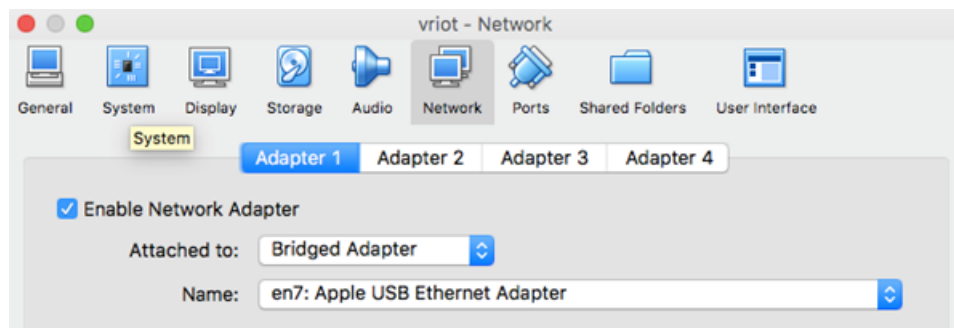
- When the import has completed, the vRIOT .OVA file runs in VirtualBox

FIGURE 4 Ruckus IoT Controller.OVA File Running in VirtualBox



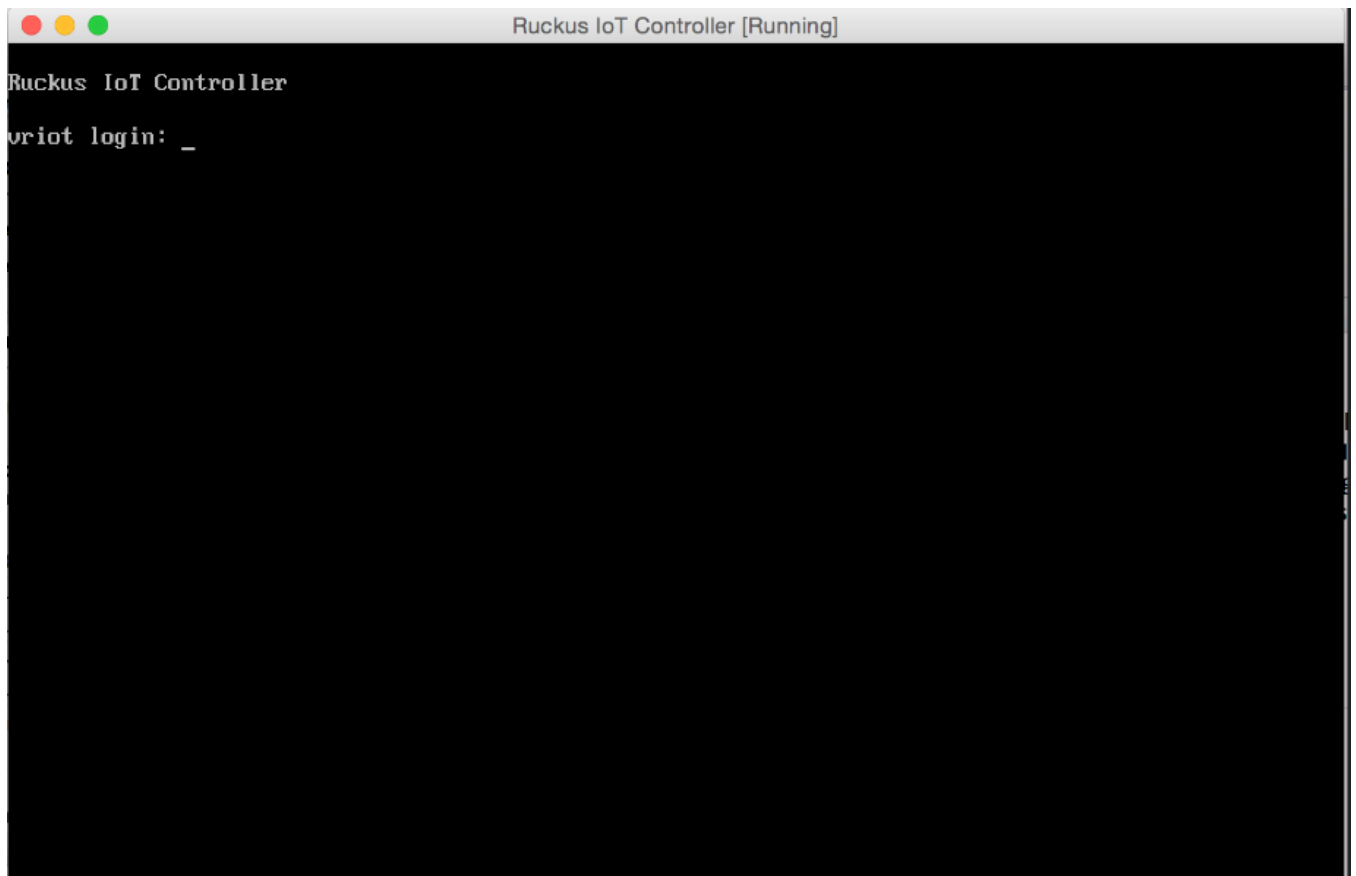
- Select **Bridged Adapter** to configure the VirtualBox interfaces.

FIGURE 5 VM Interface Configuration



8. Power on the virtual machine and wait for the login prompt.

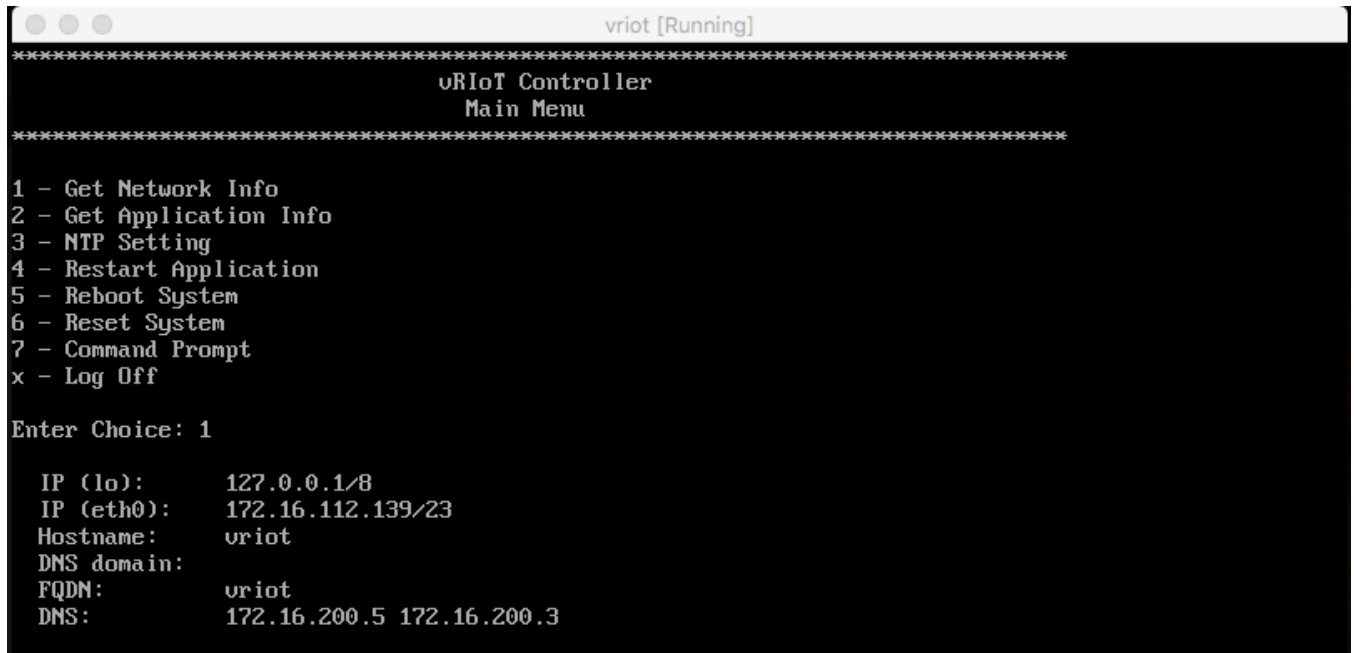
FIGURE 6 Ruckus IoT Controller Login Prompt



9. Log into the virtual machine using the username "admin" and password "admin".

10. Enter **1** in the **Enter Choice** field to get the IP address of the virtual machine.
This information is needed to access the IoT Controller **Initialization** page.

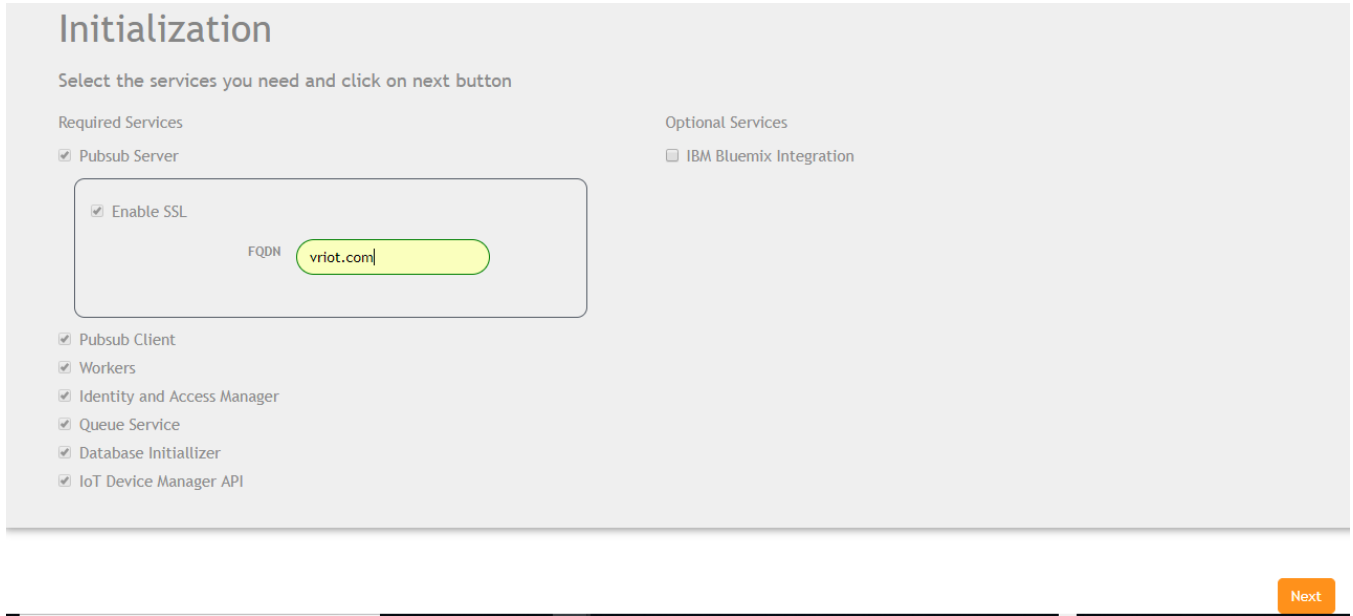
FIGURE 7 Display the IP Address



11. Access the IoT Controller **Initialization** page using the IP address of VM by opening a browser on your host machine and entering the IP address of the VM in the address bar.

HTTP and HTTPS on ports 80 and 443 are supported; for example, <http://vRIoT-machine-IP-address> or <https://vRIoT-machine-IP-address>. The Initialization page appears. Click **Next**.

FIGURE 8 Intialization Page



12. Click **Start**.

FIGURE 9 Initialization Page

RUCKUS IoT Controller IoT API 1.0.0.0.16 Version
Thu Jul 05 2018 09:49:40

Initialization

Select the services you need and click on start button

VM Configurations

Hostname:

Time Zone:

Set Time Automatically using NTP Set Time Manually

IP Configurations

DHCP Static

IP Address:

Netmask:

Gateway:

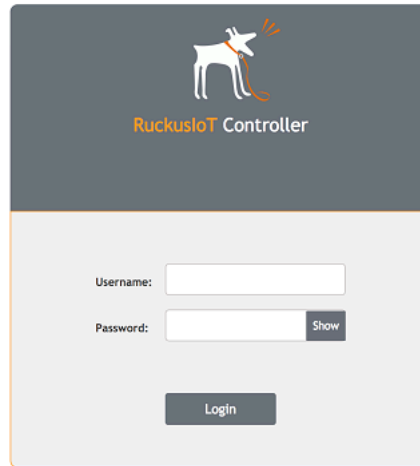
DNS Server 1:

DNS Server 2:

13. Click **Start**.

Login page appears.

FIGURE 10 Login Page



You are ready to configure and start the Ruckus IoT Controller services. Refer to the *Ruckus IoT Controller Configuration Guide* for more information.

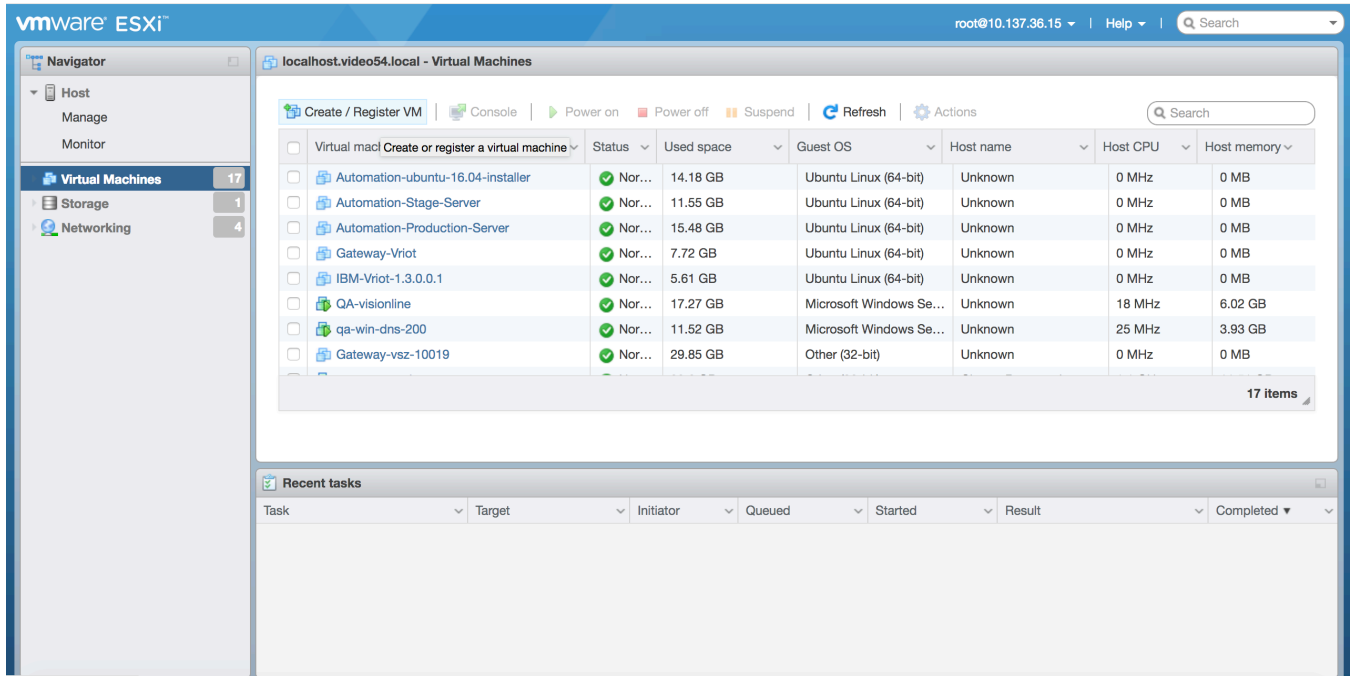
Installing Ruckus IoT Controller on a VMware ESXi

The Ruckus IoT Controller software can be installed on a VMWare ESXi hypervisor using a .OVA file.

1. Download the Ruckus IoT Controller distribution package in the .OVA file format from the Ruckus Support website at <https://support.ruckuswireless.com>.

2. Open **VMware ESXi** and select **Virtual Machines** from the **Navigator** pane.

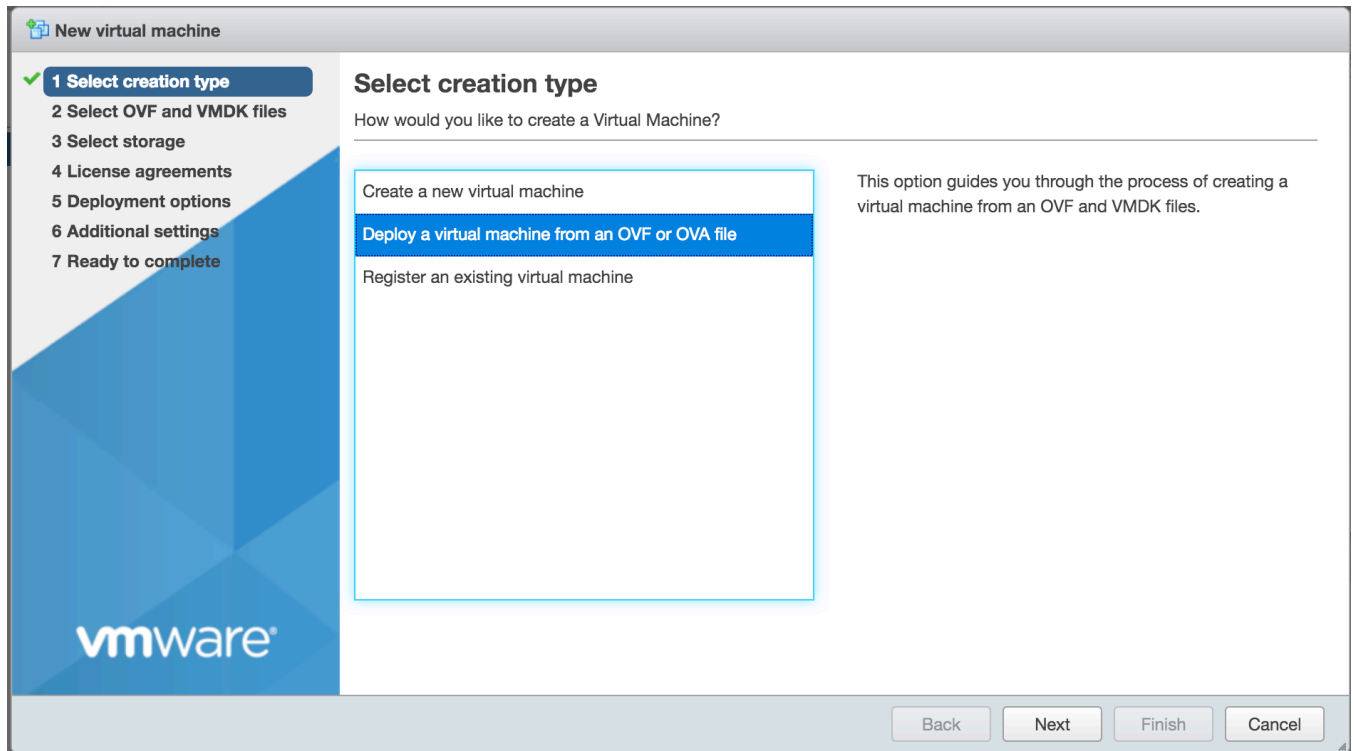
FIGURE 11 Creating or Registering Virtual Machines



3. Click **Create/Register VM**.

4. In the **New virtual machine** page, click **Select creation type**.
In the **Select creation type** page, select **Deploy a virtual machine from an OVF or OVA file**.

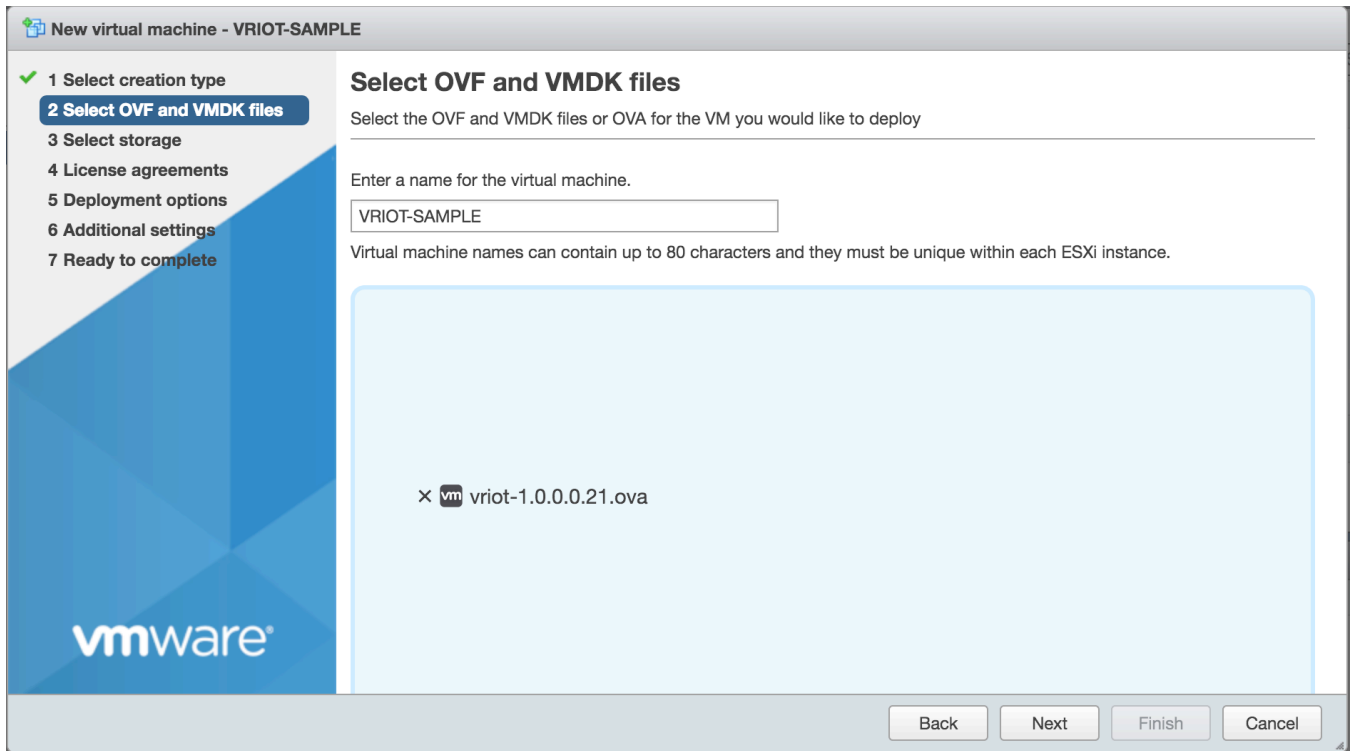
FIGURE 12 Selecting Creation Type



5. Click **Select OVF and VMDK files** .

In the **Select OVF and VMDK files** page enter the name for the virtual machine, select the OVF file and click **Next**.

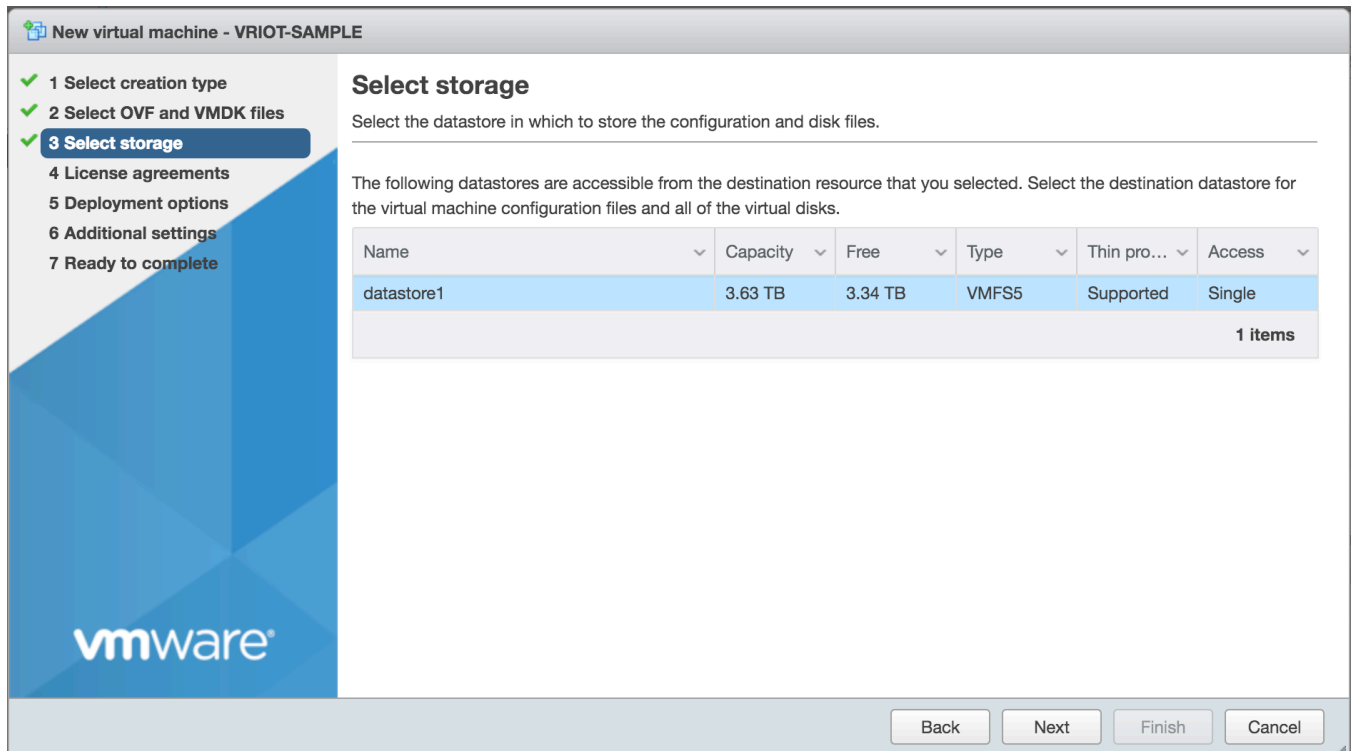
FIGURE 13 Selecting OVF and VMDK Files



6. Click **Select storage**.

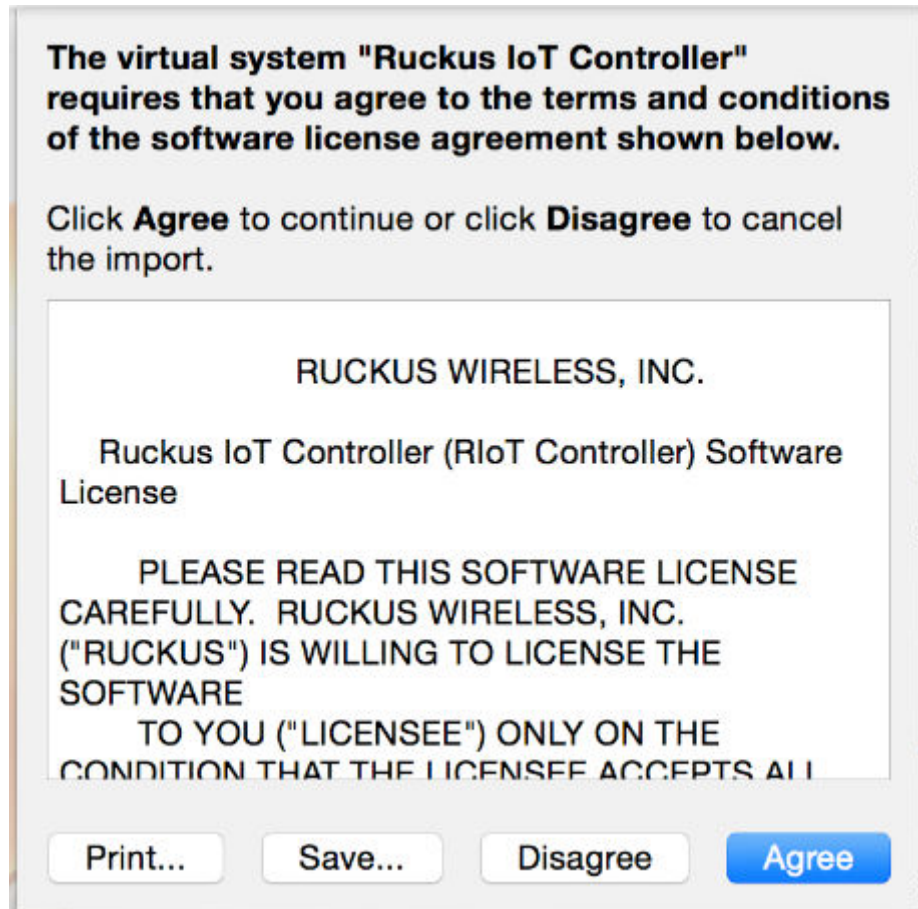
In the **Select storage** page, select the datastore in which you want to save the configuration and disk files.

FIGURE 14 Selecting Storage



7. Accept the terms of the license agreement, and click **Next**

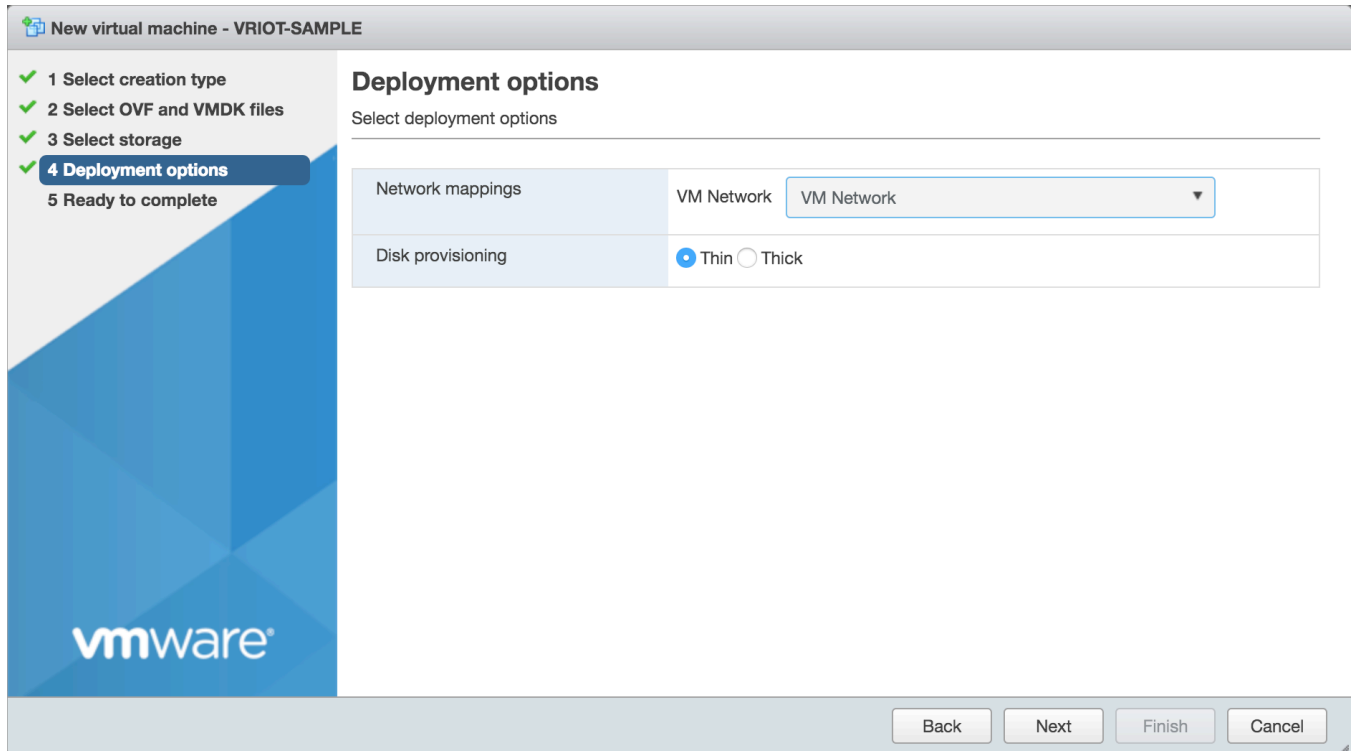
FIGURE 15 License Agreement



8. Click **Deployment options**.

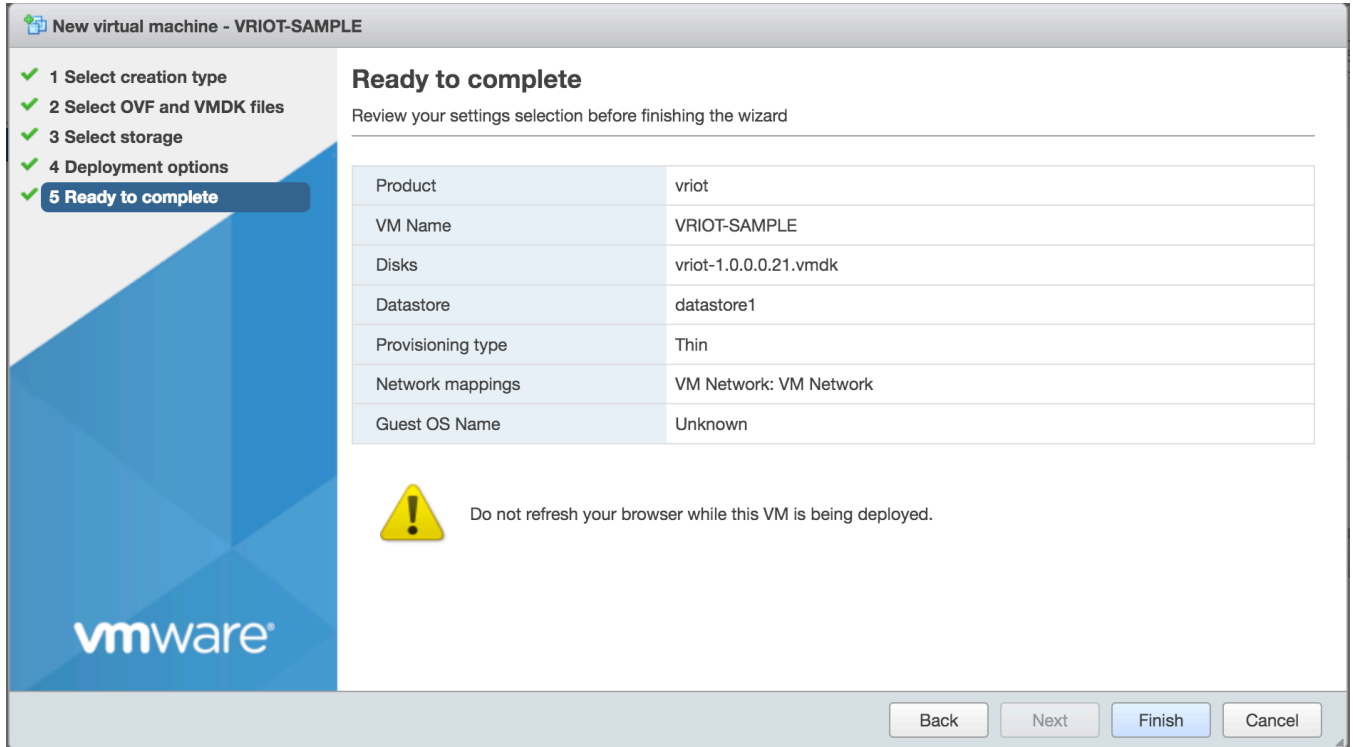
9. In the **Deployment options** page, select the **Network mappings** , choose the **Disk provisioning** and click **Next**.

FIGURE 16 Deployment Options Page



10. Click **Ready to Complete**.

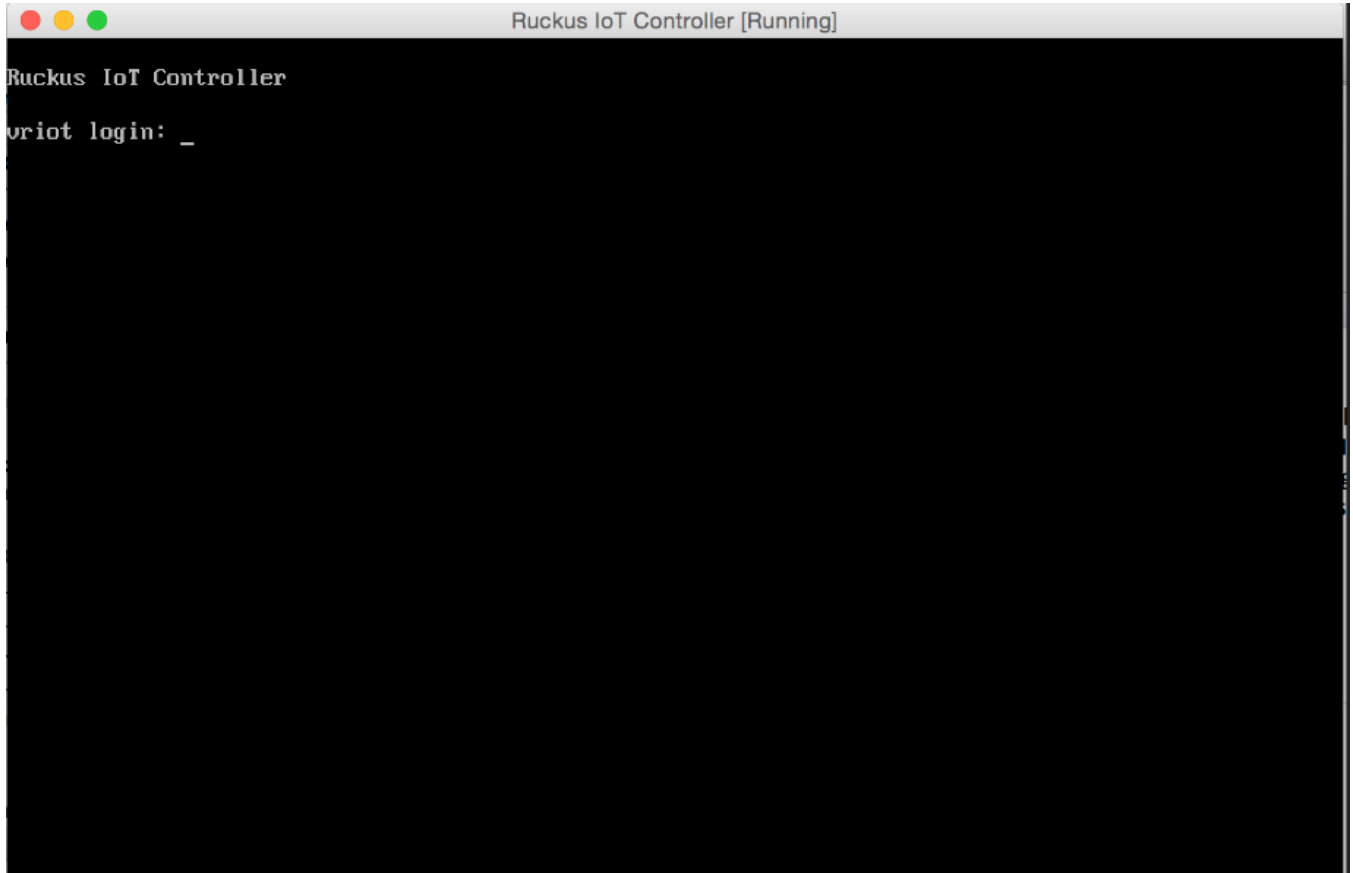
FIGURE 17 Ready to Complete Page



Review the settings and click **Finish**

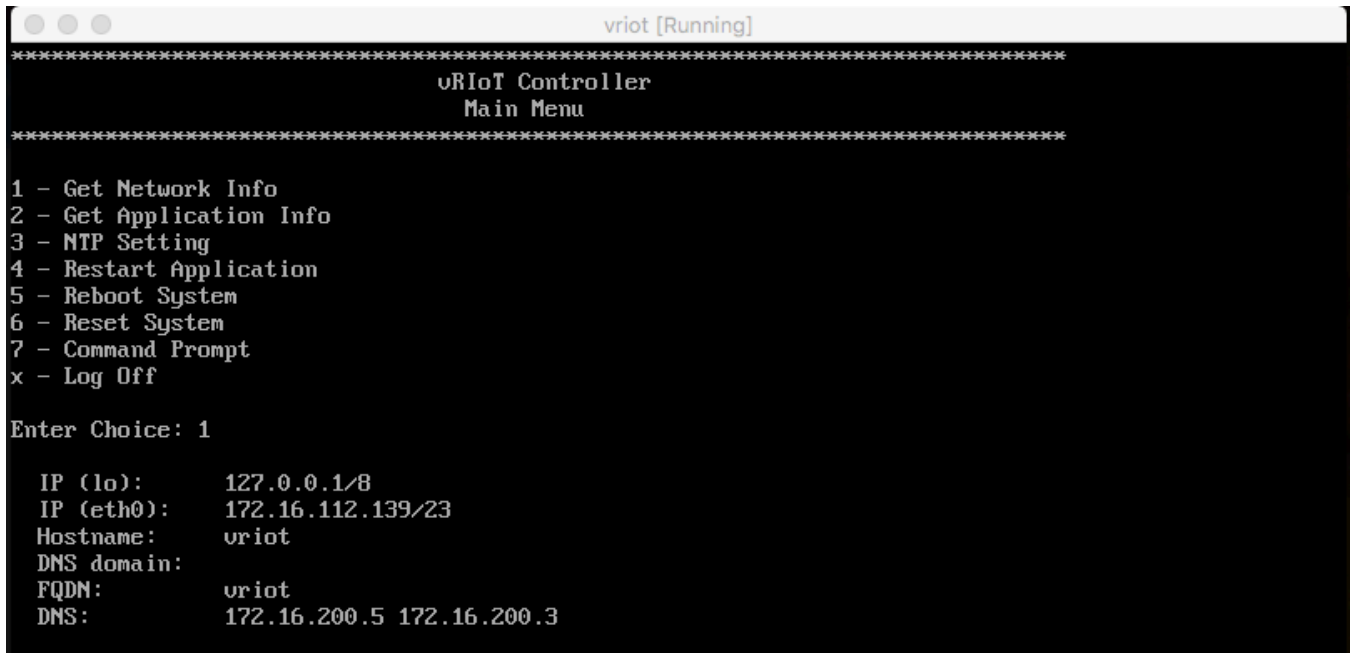
11. Log in to the virtual machine using the **Username** "admin" and **Password** "admin".

FIGURE 18 Ruckus IoT Controller Login Prompt



12. Enter **1** in the **Enter Choice** field to get the IP address of the virtual machine.
This information is needed to access the Ruckus IoT Controller **Initialization** page.

FIGURE 19 Displaying the IP Address



13. Access the IoT Controller **Initialization** page using the IP address of VM by opening a browser on your host machine and entering the IP address of the VM in the address bar.

HTTP and HTTPS on ports 80 and 443 are supported; for example, <http://vRIoT-machine-IP-address> or <https://vRIoT-machine-IP-address>. The **Initialization** page appears. Click **Next**.

FIGURE 20 Ruckus IoT Controller Service Page

Initialization

Select the services you need and click on next button

Required Services

- Pubsub Server
- Enable SSL
- Pubsub Client
- Workers
- Identity and Access Manager
- Queue Service
- Database Initializer
- IoT Device Manager API

FQDN

Optional Services

- IBM Bluemix Integration

Next

Initialization

Select the services you need and click on start button

VM Configurations

Hostname

vr1ot

Time Zone

America/Los_Angeles

Set Time Automatically using NTP

Set Time Manually

IP Configurations

DHCP

Static

IP Address:

172.16.113.29

Netmask:

255.255.254.0

Gateway:

172.16.113.255

DNS Server 1:

172.16.200.3

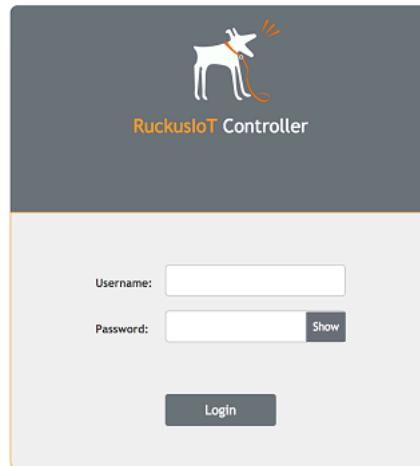
DNS Server 2:

172.16.200.5

Back

14. Click **Start**.
Login page appears.

FIGURE 21 Login Page



15. Enter **Username** "admin" and **Password** "admin".

You are ready to configure and start the Ruckus IoT Controller services. Refer to the *Ruckus IoT Controller Configuration Guide* for more information.

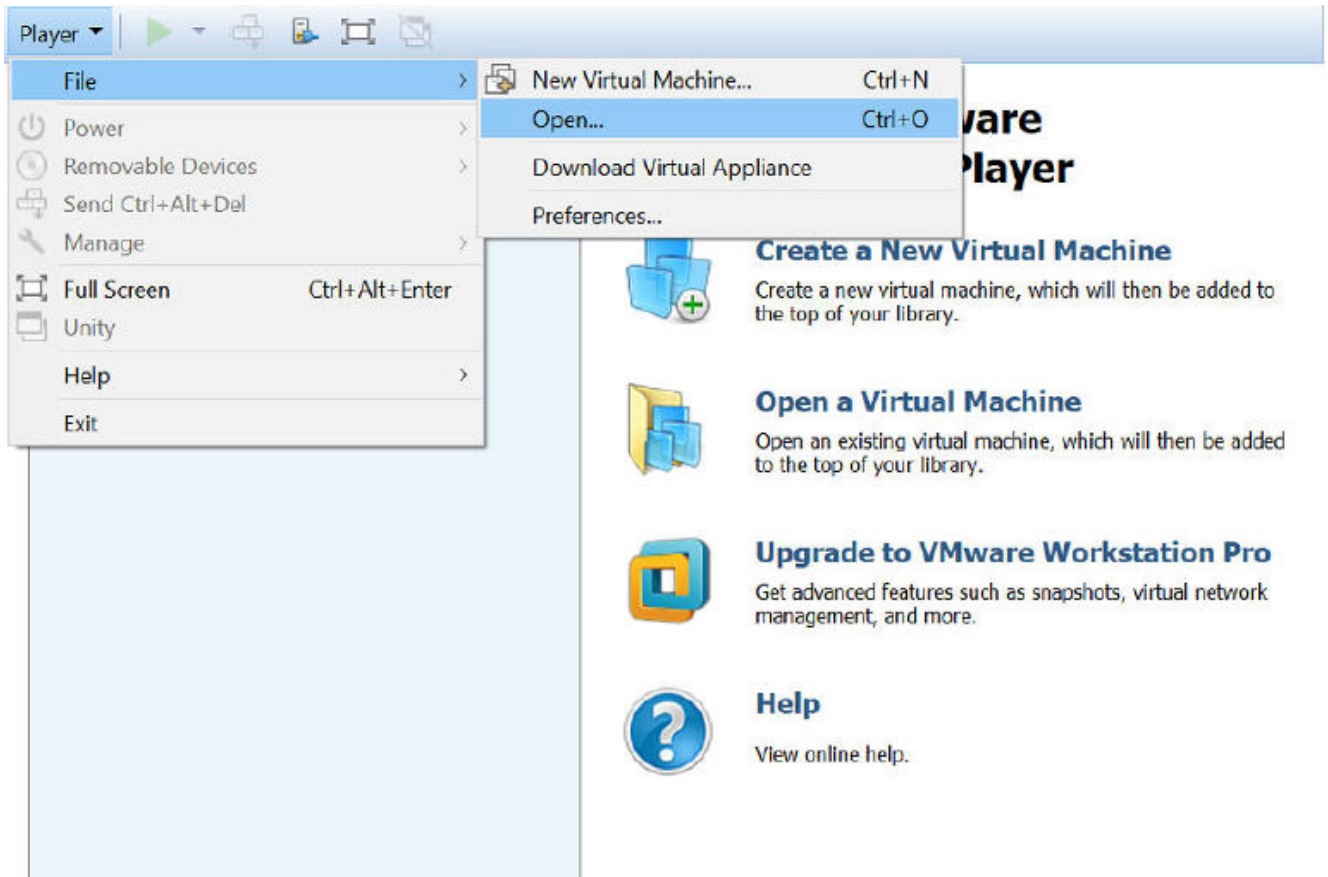
Installing Ruckus IoT Controller Using VMware Player

The Ruckus IoT Controller software can be installed on a virtual machine using VMware Player.

1. Download the Ruckus IoT Controller distribution package in the .OVA file format from the Ruckus Support website at <https://support.ruckuswireless.com>.
2. Open VMware Player.

- From the Player drop-down menu, click File and Open, and then select the .OVA file for Ruckus IoT Controller.

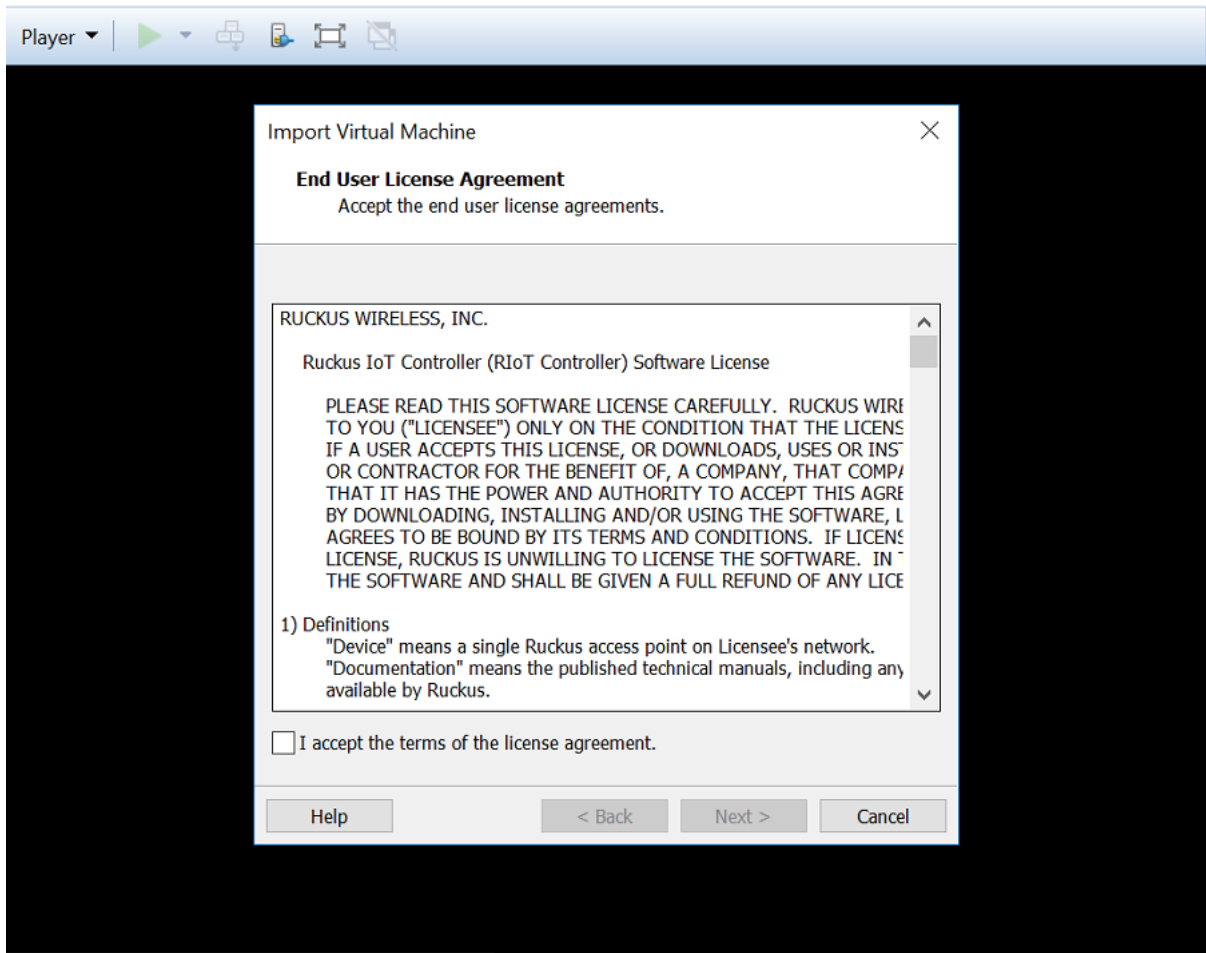
FIGURE 22 Selecting the .OVA File



This will start the installation.

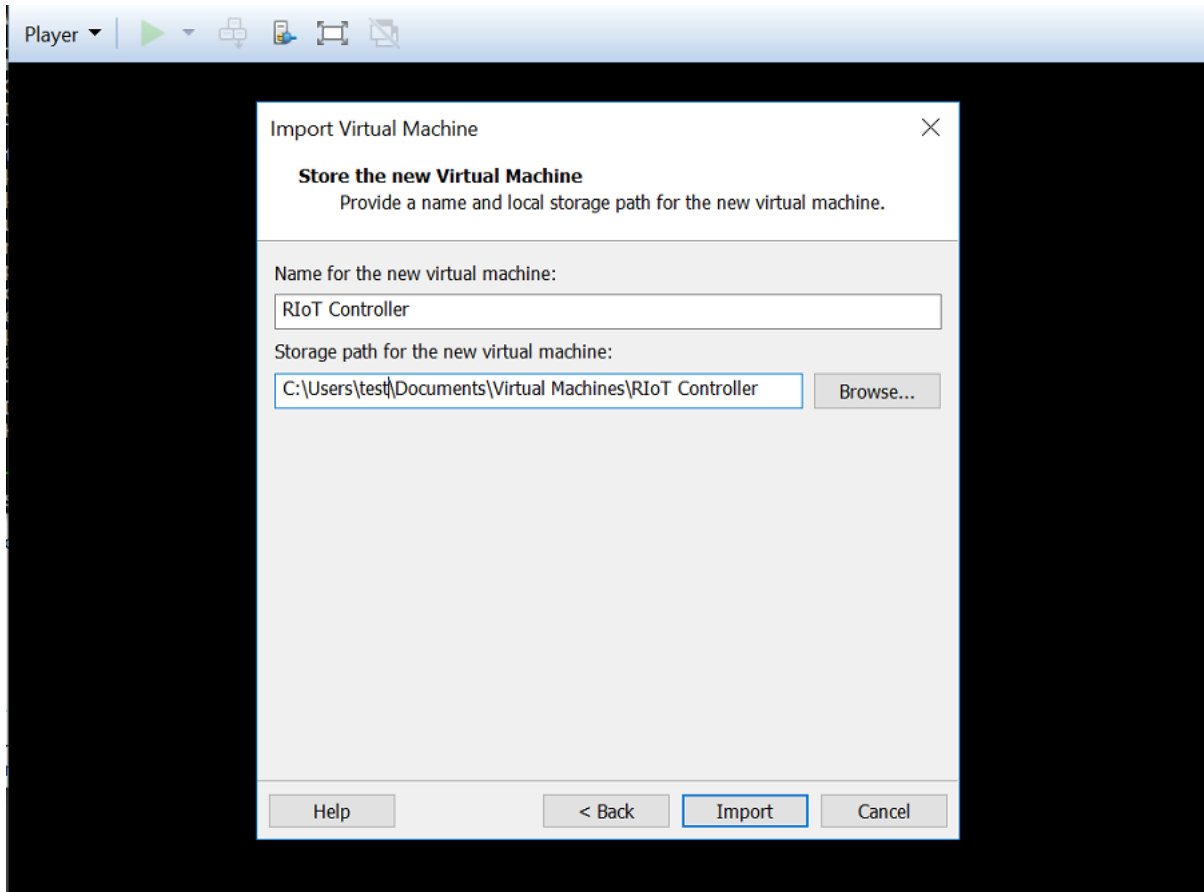
4. Accept the terms of the license agreement, and click **Next**.

FIGURE 23 End User License Agreement

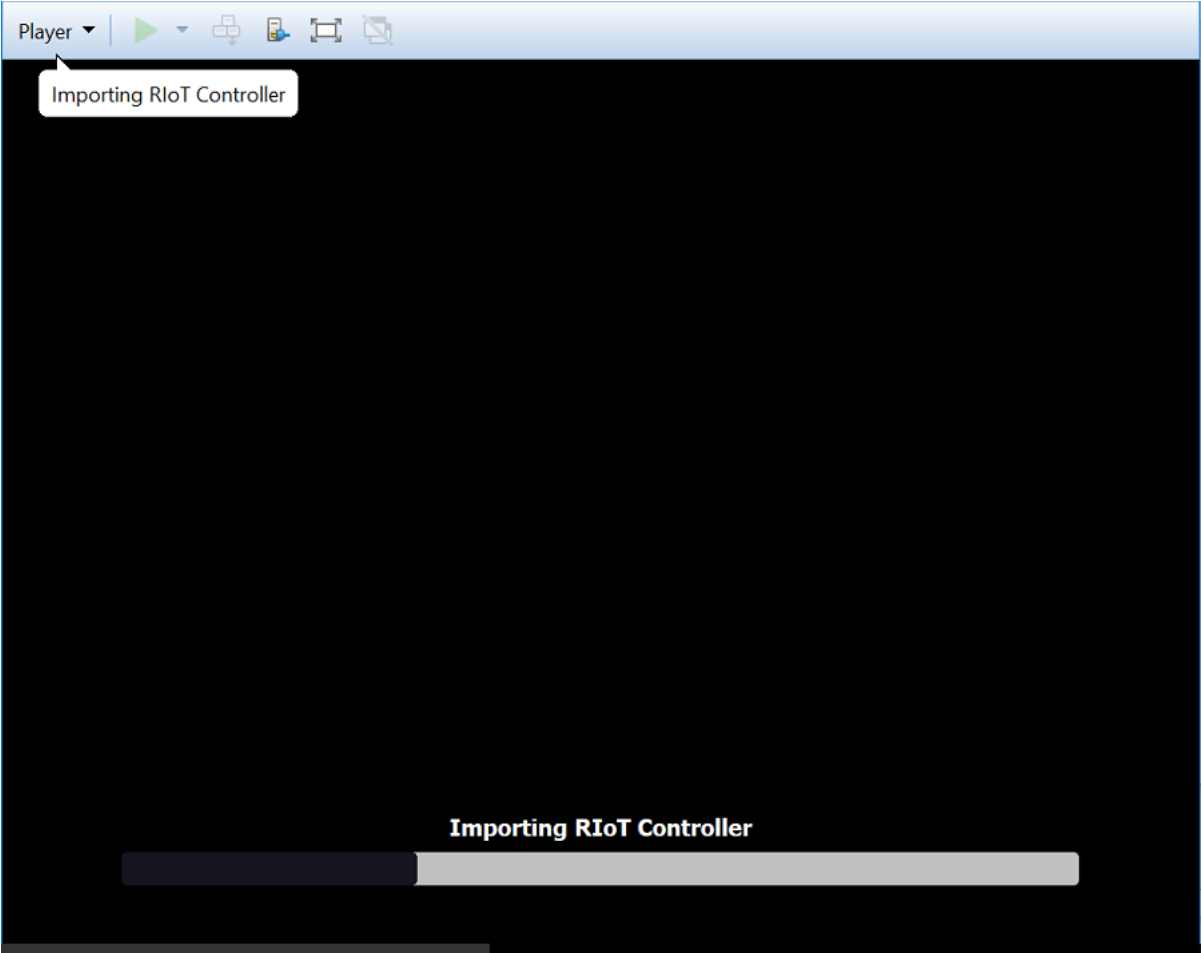


5. Enter a name and storage path for the virtual machine, and then click **Import**.

FIGURE 24 Name the Virtual Machine

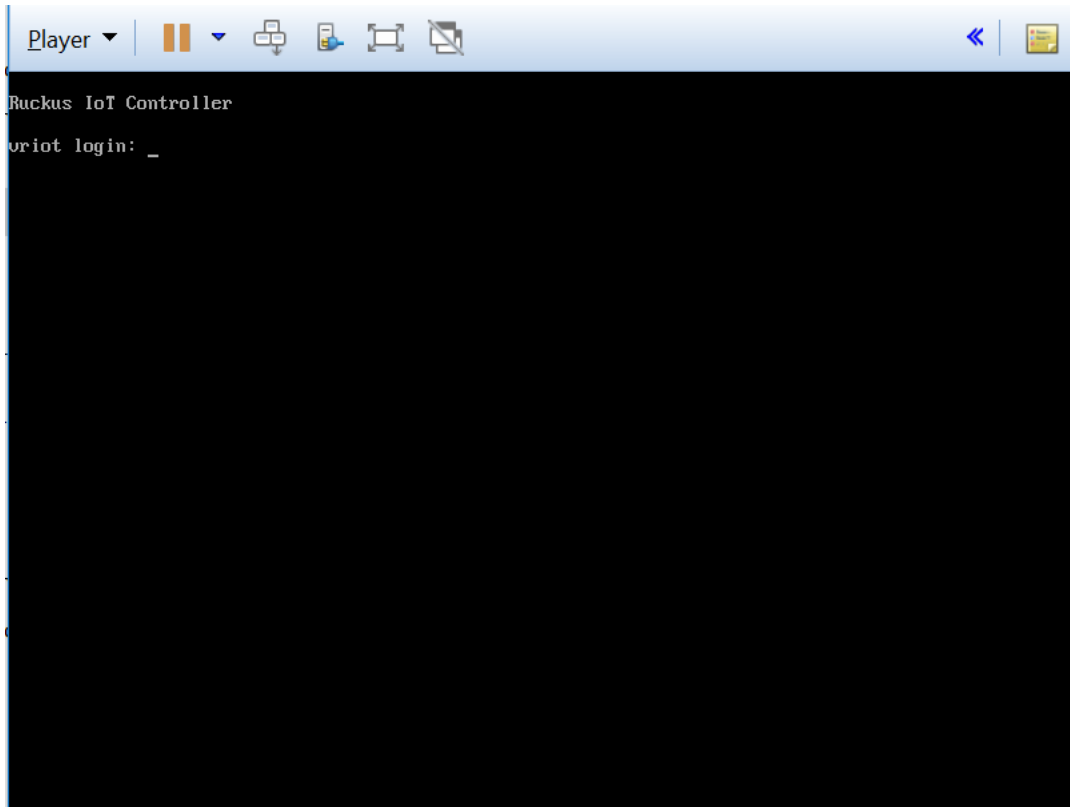


VMware Player will begin importing the IoT Controller.



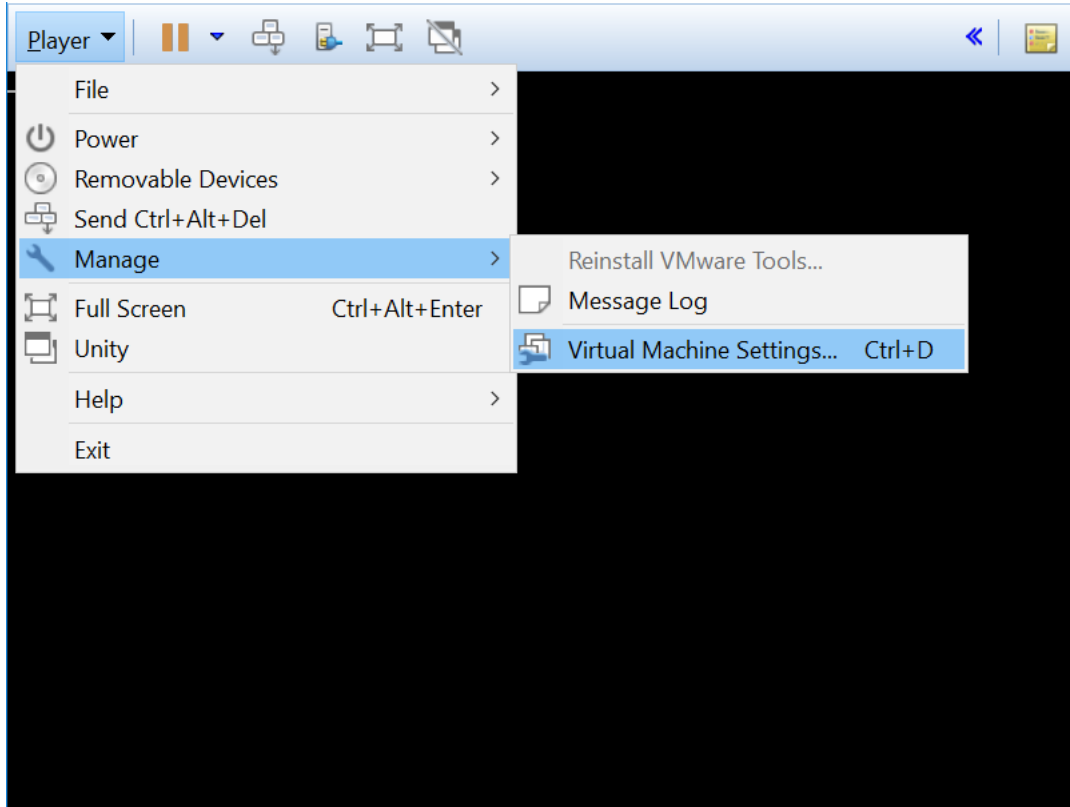
6. After the import, log in to the controller using the username "admin" and password "admin".

FIGURE 25 Ruckus IoT Controller Login Prompt



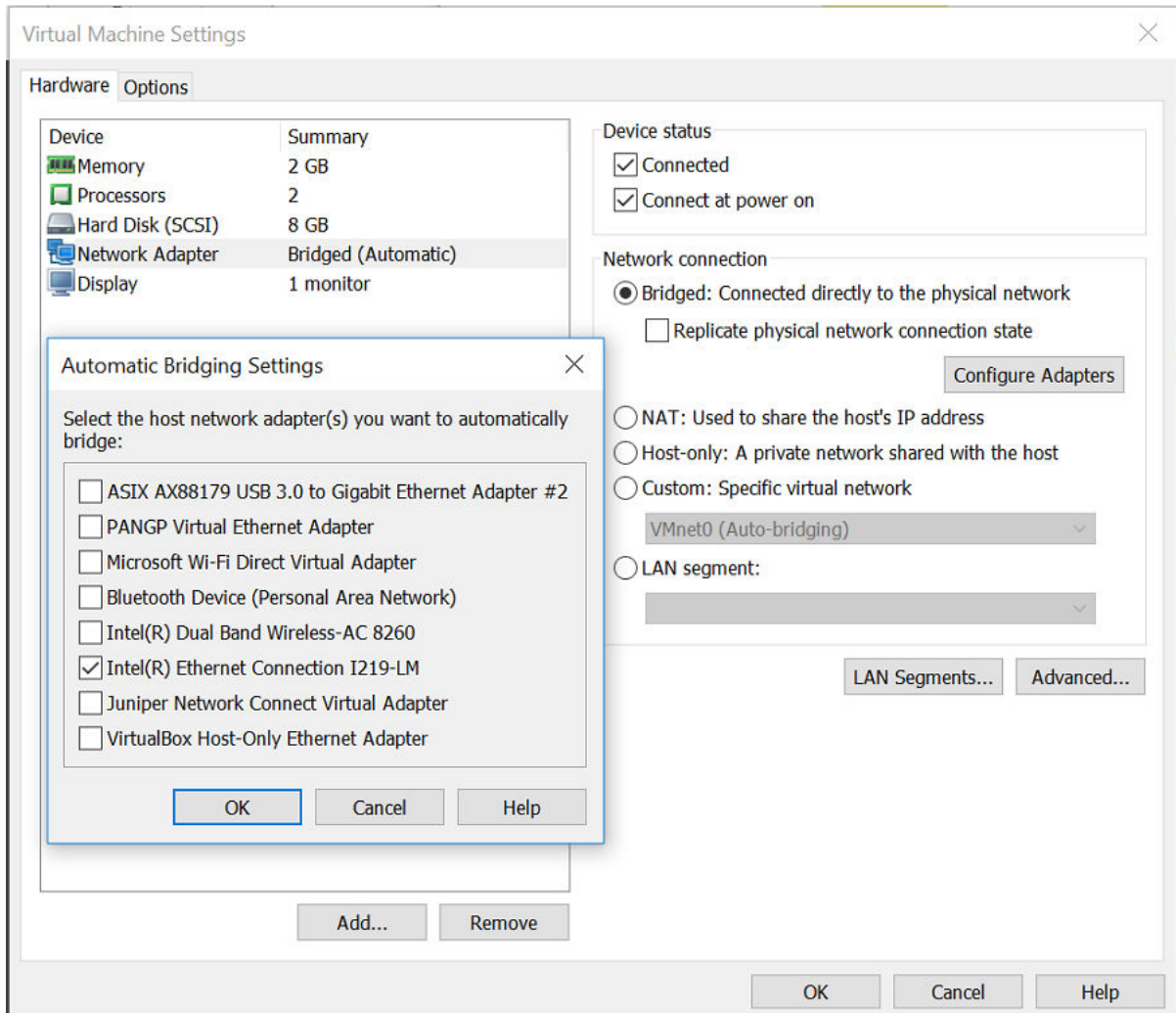
7. Open the settings for the virtual machine by clicking Manage and Virtual Machine Settings under the Player drop-down menu.

FIGURE 26 Open the Virtual Machine Settings



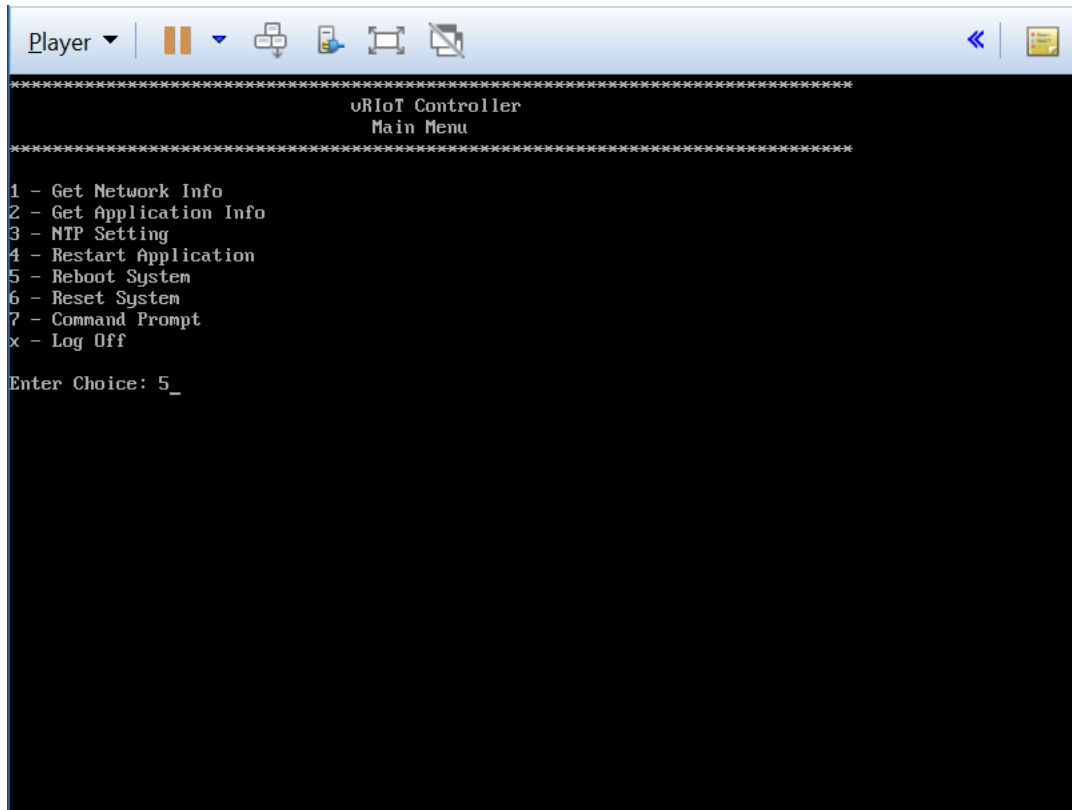
8. Set the Bridged network connection and the appropriate host network adapter for automatic bridging.

FIGURE 27 Virtual Machine Settings Screen



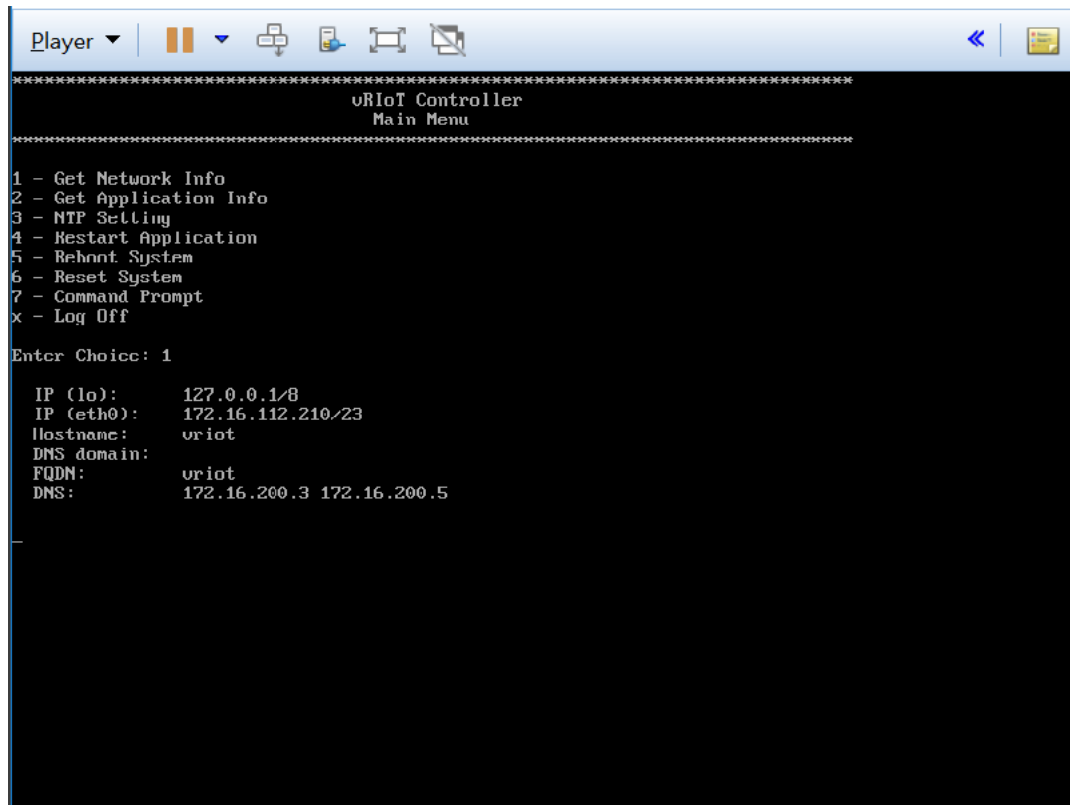
9. Enter **5** in the **Enter Choice:** field of the IoT Controller main menu to reboot the IoT Controller.

FIGURE 28 Rebooting IoT Controller



10. Enter **1** in the **Enter Choice** field to get the IP address of the virtual machine.
This information is needed to access the Ruckus IoT Controller **Initialization** page.

FIGURE 29 Displaying the IP Address



11. Access the IoT Controller **Initialization** page using the IP address of VM by opening a browser on your host machine and entering the IP address of the VM in the address bar.

HTTP and HTTPS on ports 80 and 443 are supported; for example, <http://vRIOT-machine-IP-address> or <https://vRIOT-machine-IP-address>. Click **Next**.

FIGURE 30 Initialization Page

Initialization

Select the services you need and click on next button

Required Services

- Pubsub Server
- Enable SSL
- Pubsub Client
- Workers
- Identity and Access Manager
- Queue Service
- Database Initializer
- IoT Device Manager API

Optional Services

- IBM Bluemix Integration

FQDN

Next

12. Click **Next**.

RUCKUS IoT Controller IoT API

Initialization

Select the services you need and click on start button

VM Configurations

Hostname:

Time Zone:

Set Time Automatically using NTP Set Time Manually

IP Configurations

DHCP Static

IP Address:

Netmask:

Gateway:

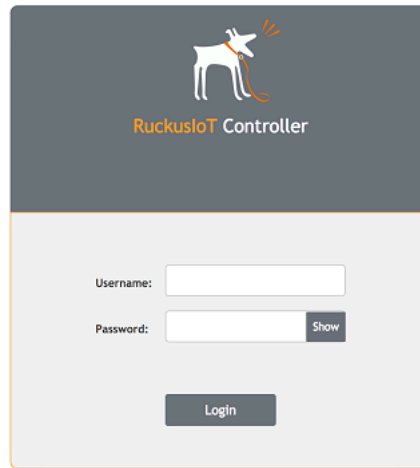
DNS Server 1:

DNS Server 2:

[Back](#)

13. Click **Start**.
The login page appears.

FIGURE 31 Login Page



Login page appears

14. Enter **Username** "admin" and **Password** "admin".

You are ready to configure and start the Ruckus IoT Controller services. Refer to the *Ruckus IoT Controller Configuration Guide* for more information.



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