

WorkXpress Private Cloud Server Installation Guide



At WorkXpress, we understand that our customers need infrastructure choice, including the ability to host WorkXpress applications using their own computing infrastructure; that is, some customers prefer to install and manage a private cloud environment. To meet that need, we offer WorkXpress packaged as an Open Virtualization

Format (OVF) compliant virtual appliance to empower those customers to host testing and production applications behind their own firewalls while continuing to manage them via the WorkXpress Cloud Management Portal.

Installing WorkXpress in your private cloud is not difficult, but it will require some preparation and basic knowledge about hardware and network configuration:

- You must install an OVF compliant hypervisor to manage your private cloud infrastructure. We suggest VMware's free ESXi product. Installing ESXi is beyond the scope of this document. For details and to download ESXi, please visit the [product page](#). For support, please visit the [ESXi community](#).
- You will require an elementary knowledge of TCP/IP networking in order to properly configure your virtual appliance's network interface.
- You will require a basic understanding of the Domain Name System (DNS).

Step One: Use the WorkXpress Cloud Management Portal to create a new Private Cloud Server

First, log in to the WorkXpress [Cloud Management Portal](#) to create a new Private Cloud Server and obtain a synchronization code that will allow your virtual appliance to host WorkXpress applications. From the Add menu, choose “Create a Cloud Server”.



The Create Cloud Server page will launch. Select “Private Cloud” from the Cloud Server Host dropdown. Choose a name for your server, and enter email addresses to which you'd like to send warning- and critical-level server notifications. Click the Add button.

WorkXpress cloud management portal

Create Cloud Server

Cloud Server Information

Cloud Server Host	Private Cloud
Cloud Server Name <i>Enter the Name by Which You'll Identify This Server</i>	wx_demo_1
Send Warning Notifications To	no-reply@workxpress.com
Send Critical Notifications To	no-reply@workxpress.com

Add and Proceed Close

The Cloud Management Portal will generate a Private Cloud Server synchronization code and display it.

WorkXpress cloud management portal

Cloud Server 'wx_demo_1' Created

? Synchronize Private Cloud Server

This page shows the synchronization code you'll need to enter to validate your private cloud server with WorkXpress. Your private cloud server will not function without this code.

Setup Private Cloud Server

Synchronization Code	WXVASC-5a4d9f5b7ac29a82
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Close Page Close

Please record this code because you will require it to complete the installation procedure. Close the Create Cloud Server page and continue to step two.

Step Two: Obtain and install the WorkXpress OVF-compliant virtual appliance in your private cloud

The OVF compliant WorkXpress virtual appliance installation process will vary based on the OVF compliant hypervisor you've chosen to deploy. The instructions that follow were written specifically for installation into a VMware ESXi 3.5 Update 2 virtualization environment.

First, open the VMware Infrastructure Client (VIC) and connect to your ESX Server. Choose File : Virtual Appliance : Import.

The screenshot shows the VMware Infrastructure Client interface. The title bar reads "vmserver1.workxpress.com - VMware Infrastructure Client". The menu bar includes "File", "Edit", "View", "Inventory", "Administration", and "Plugins", "Help". The "File" menu is open, showing options: "New", "Export", "Report", "Virtual Appliance", "Print Maps", and "Exit". The "Virtual Appliance" sub-menu is open, showing "Import..." and "Export...". The main content area displays information for "vmserver1.workxpress.com VMware ESX Server, 3.5.0, 123630". The "Getting Started" tab is active, showing a "close tab" button. The page content includes a section titled "What is a Host?" with explanatory text and a diagram. The diagram shows a "Host" (server rack) with "Virtual Machines" on top, and a "VI Client" (laptop) connected to it. Below the text is a "Basic Tasks" section with two items: "Import a virtual appliance" and "Create a new virtual machine". To the right is an "Explore Further" box with two links: "Learn about VMware Infrastructure" and "Evaluate VMware Infrastructure".

File Edit View Inventory Administration Plugins Help

New
Export
Report
Virtual Appliance
Print Maps
Exit

Import...
Export...

vmserver1.workxpress.com VMware ESX Server, 3.5.0, 123630

Getting Started Summary Virtual Machines Resource Allocation Performance Configuration Users & Groups Events Permissions

close tab X

What is a Host?

A host is a computer that uses virtualization software, such as ESX Server, to run virtual machines. Hosts provide the CPU and memory resources that virtual machines use and give virtual machines access to storage and network connectivity.

You can add a virtual machine to a host by creating a new one or by importing a virtual appliance.

The easiest way to add a virtual machine is to import a virtual appliance. A virtual appliance is a pre-built virtual machine with an operating system and software already installed. A new virtual machine will need an operating system installed on it, such as Windows or Linux.

Virtual Machines
Host
VI Client

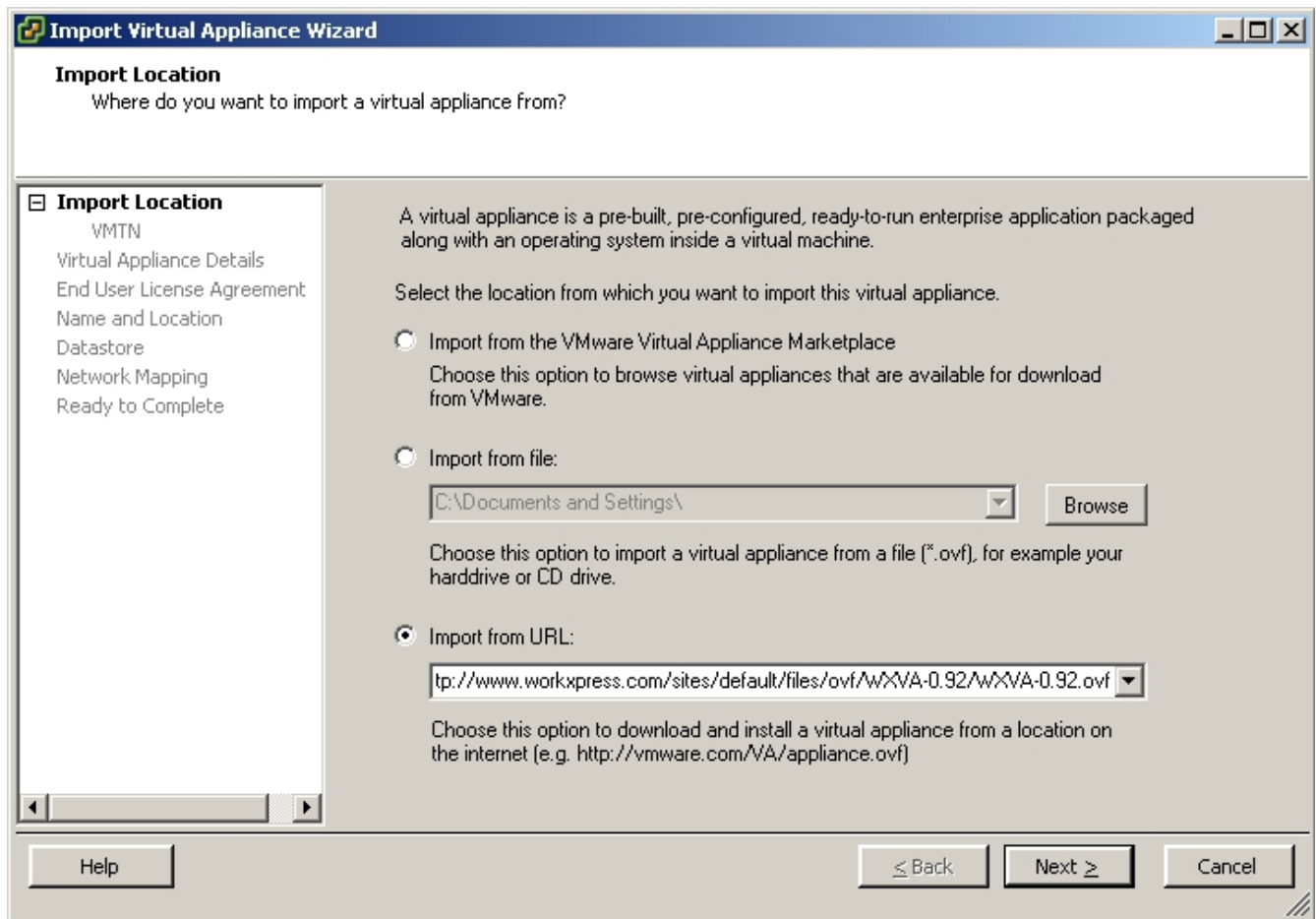
Basic Tasks

- Import a virtual appliance
- Create a new virtual machine

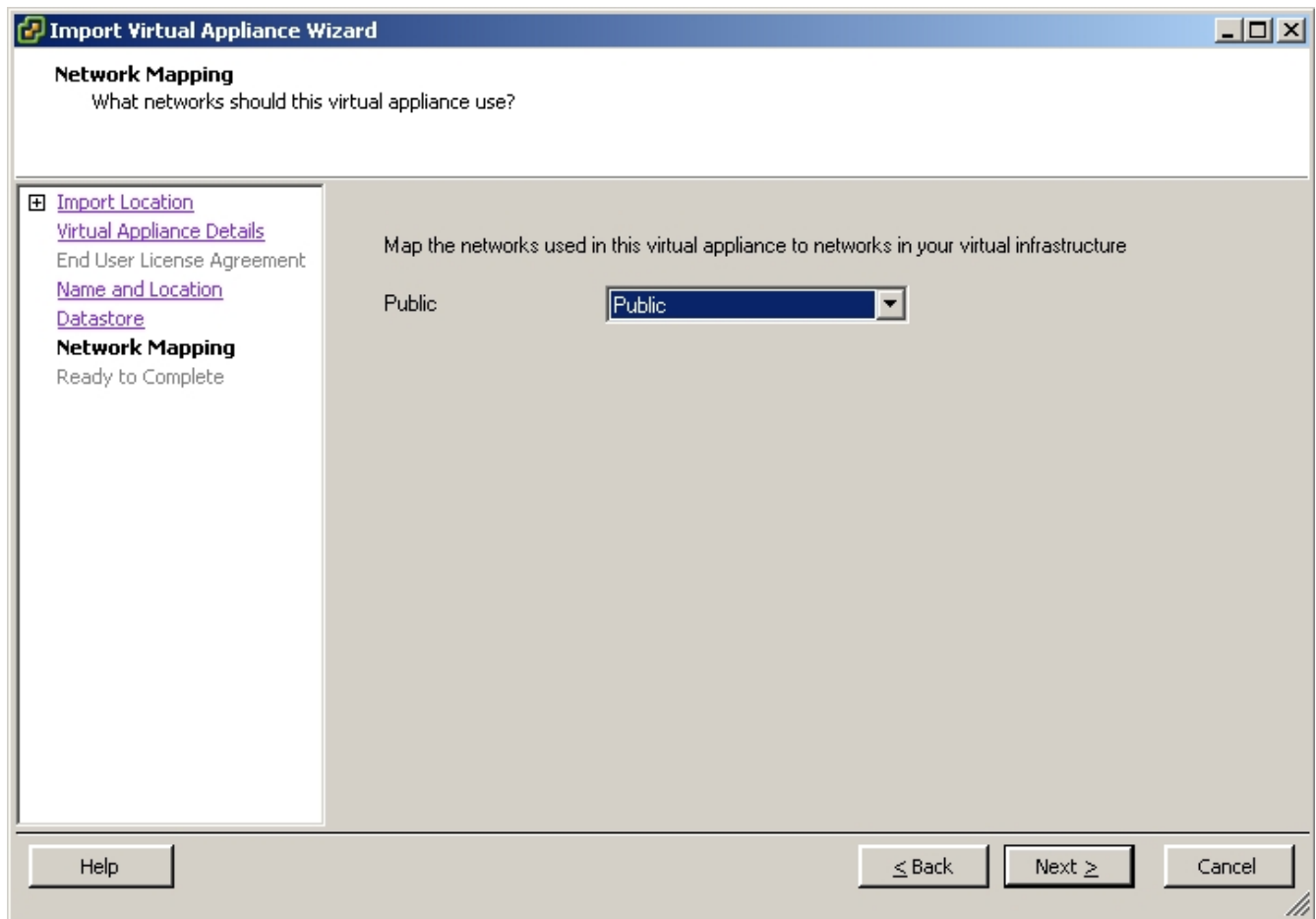
Explore Further

- Learn about VMware Infrastructure
Manage multiple hosts, eliminate downtime, load balance your datacenter with VMotion, and more
- Evaluate VMware Infrastructure

Choose "Import from URL:" and enter the path to the WorkXpress virtual appliance image file.



The currently released virtual appliance image is located at <http://www.workxpress.com/sites/default/files/ovf/WorkXpress/WorkXpress.ovf>. Click Next and answer any questions asked by the VMware installation wizard. Please consult the VMware documentation for answers to specific questions you may have related to VMware ESXi. When you reach the Network Mapping section of the Import Virtual Appliance Wizard, select the network from which your firewall expects to receive client traffic or a network that is directly connected to the internet.



If you choose to connect to an internal, non-routable IP network behind your firewall, you or your network administrator should allow traffic on the following ports to reach your server:

Incoming and Outgoing Traffic:

- TCP 22: ssh
- TCP 80: http
- UDP 161: snmp (to enable performance monitoring and graphing functionality in WorkXpress)
- TCP 443: https
- TCP 3306: mysql (OPTIONAL: for database performance graphing functionality)

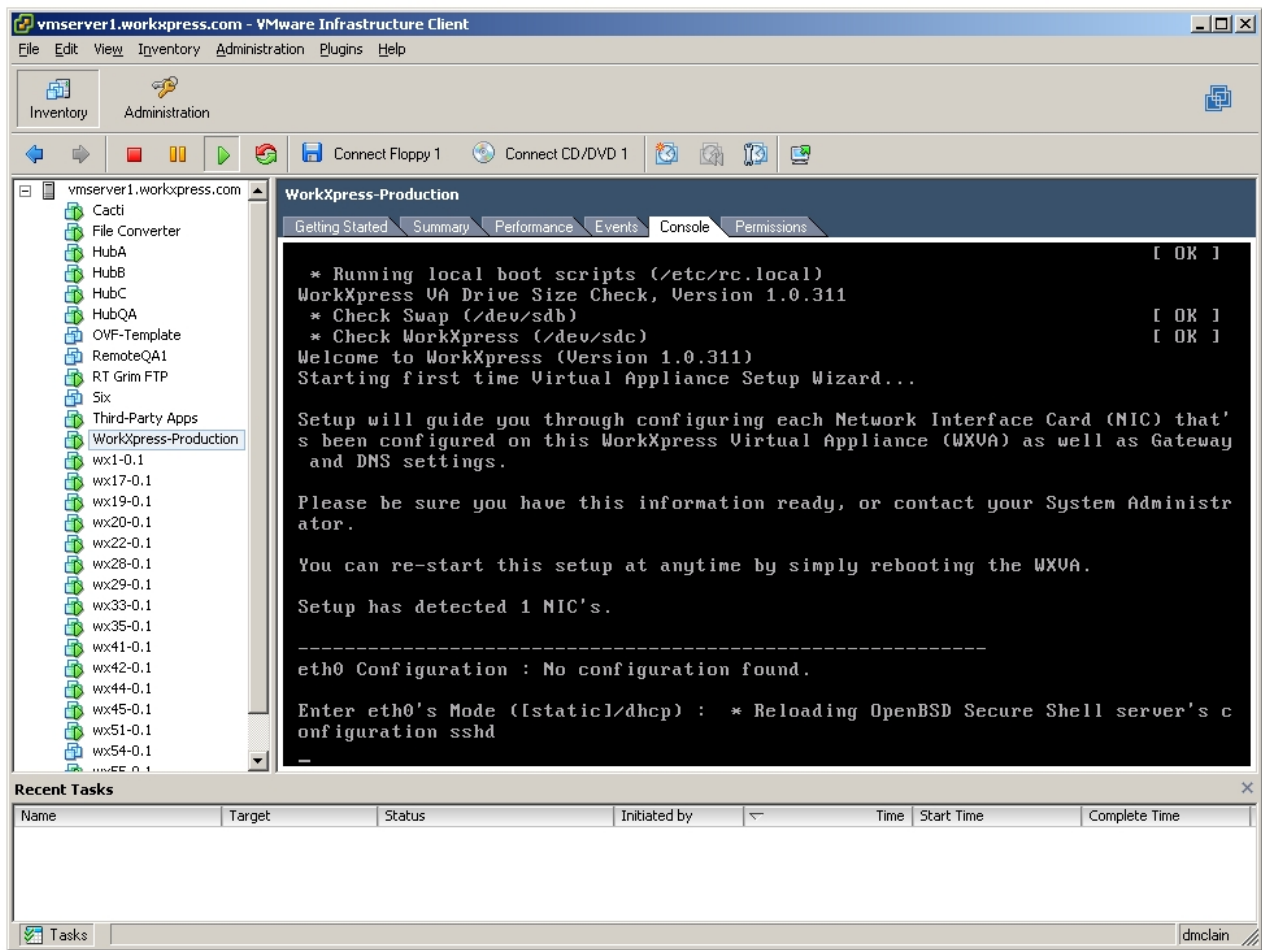
Outgoing Traffic only:

- TCP 465: smtp-ssl

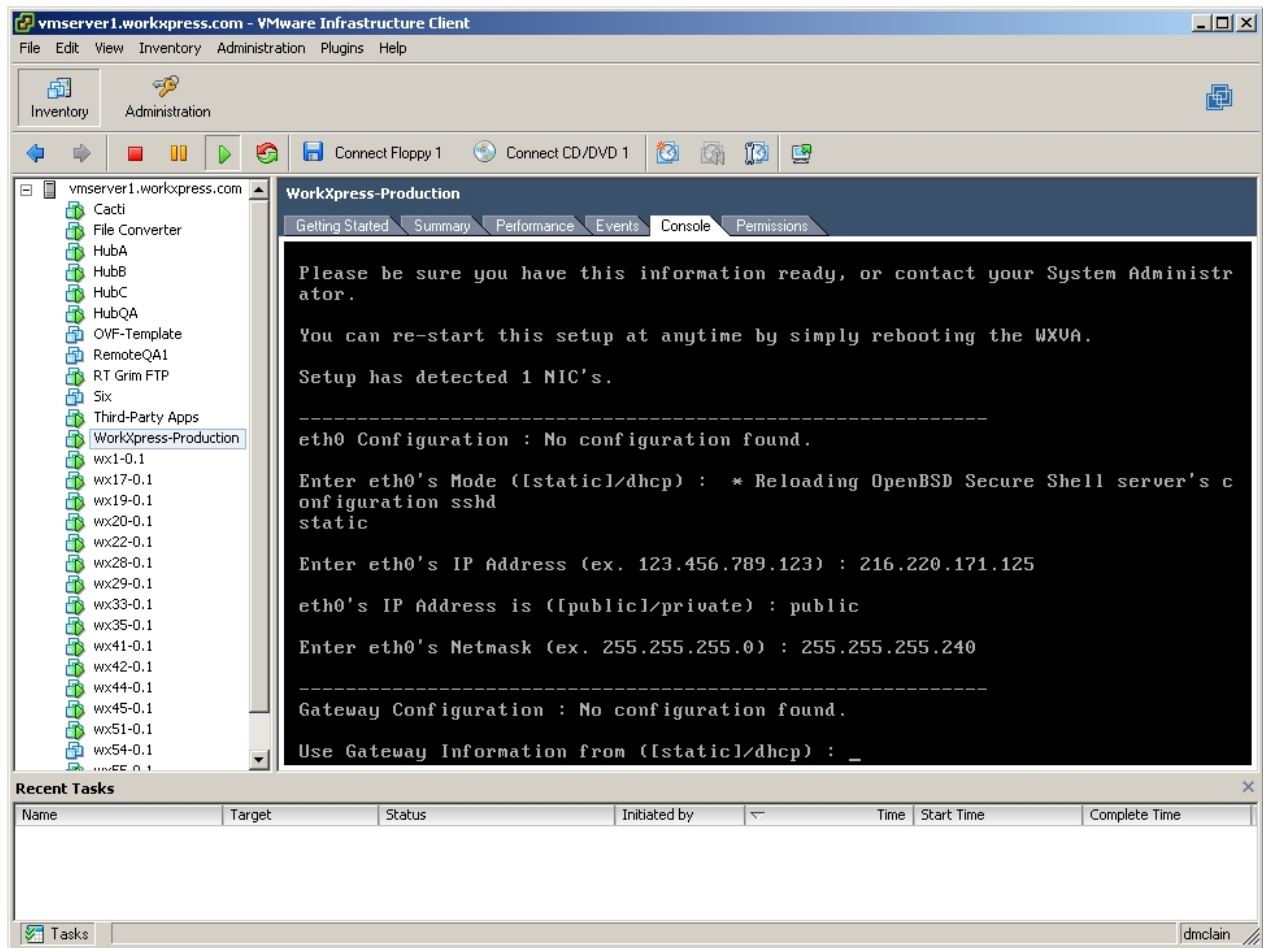
Click Next, review your settings, and click Finish to start the import. This process may take quite some time to finish, depending on your internet connection speed, because the image file is just over 1 GB in size. Please be patient. After the import process finishes, you're ready to move on to step three.

Step Three: Boot and configure the WorkXpress virtual appliance for the first time

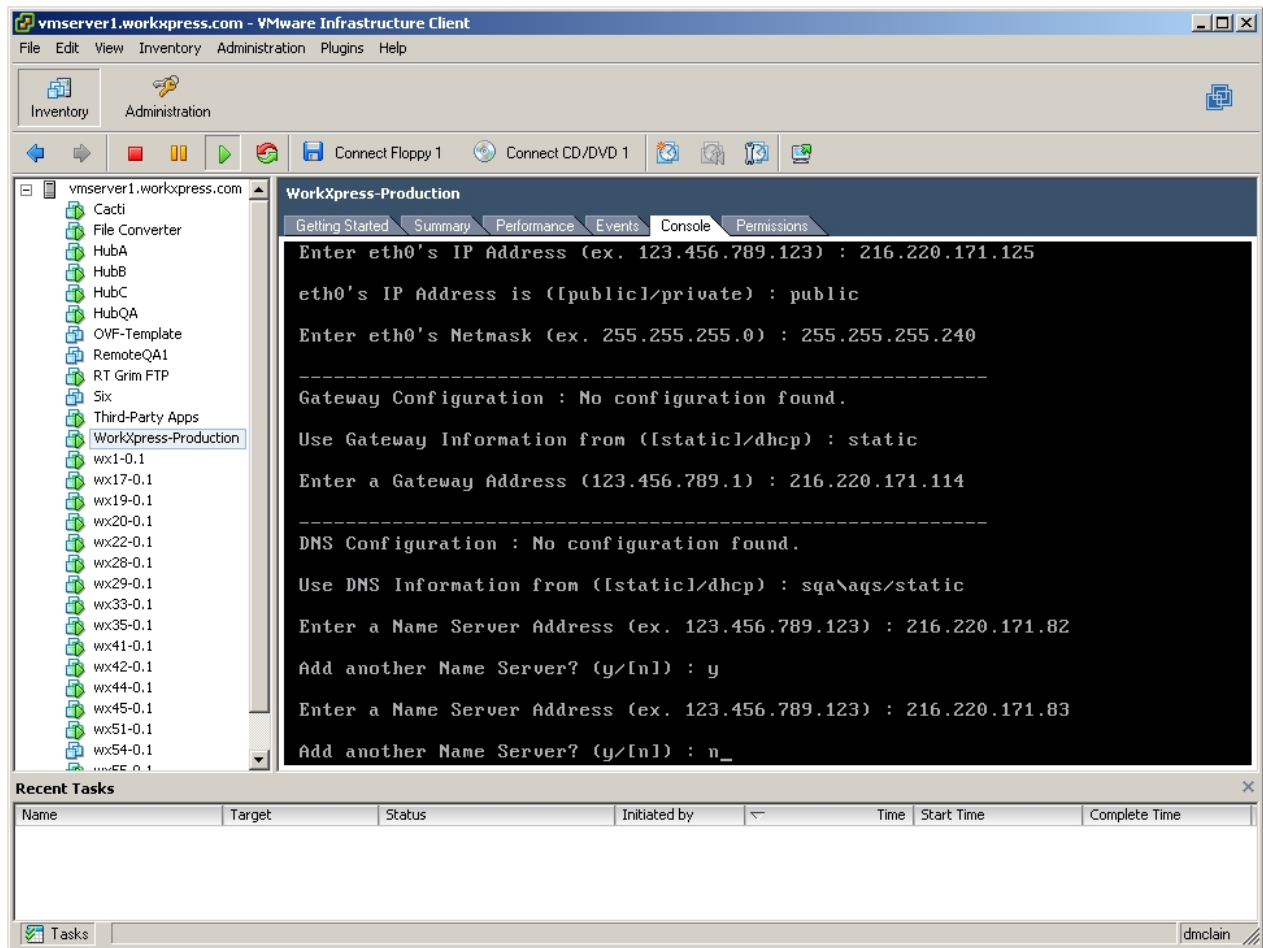
Start the virtual appliance by pressing the “Play” button for your new server in the VIC's Inventory list. Your virtual appliance will boot, then launch the WorkXpress Virtual Appliance Setup Wizard.



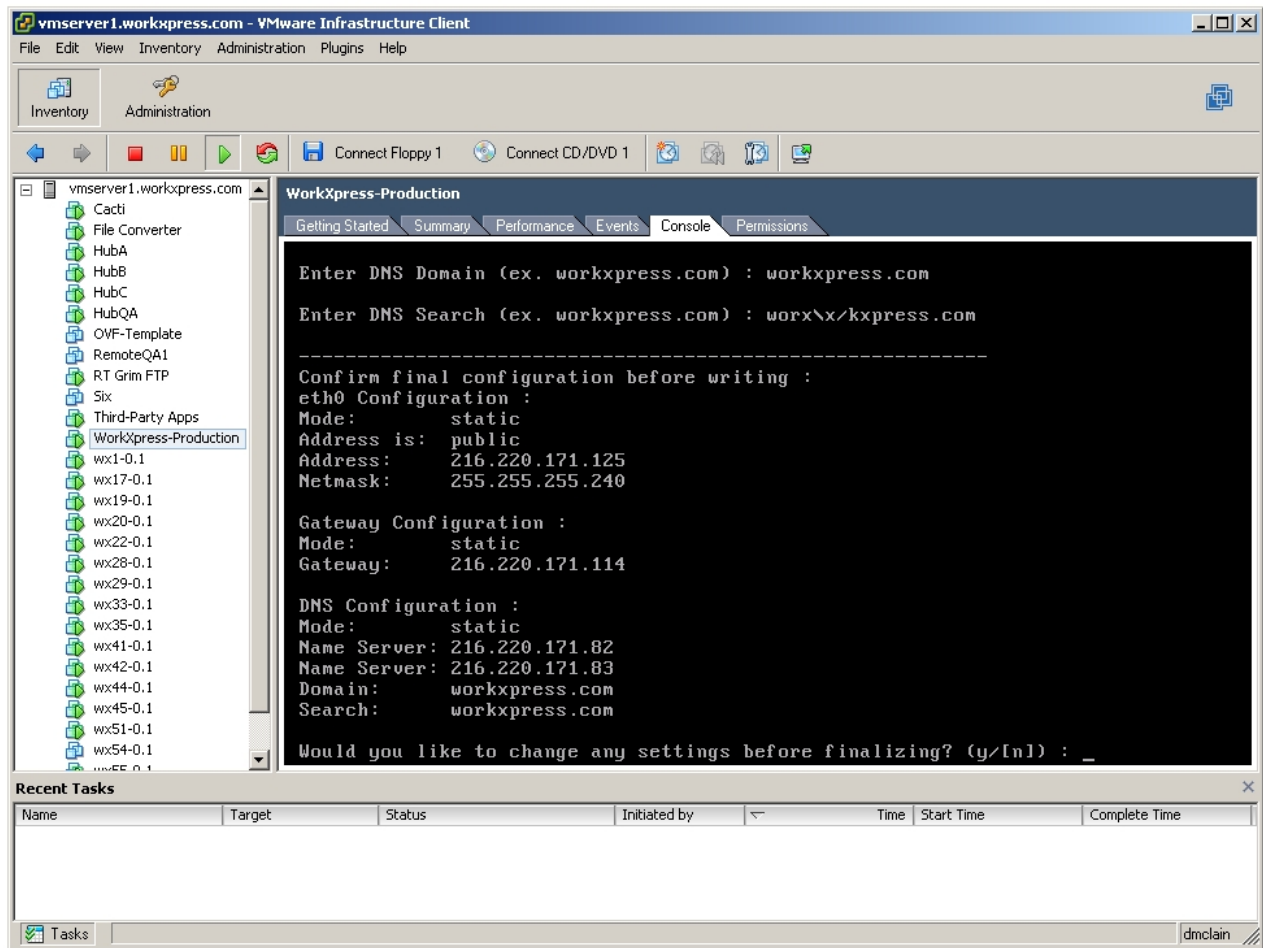
First, configure your network interface by assigning it an IP address, subnet mask, and a default gateway. You may use DHCP to assign an IP address to the NIC, but we recommend using a static IP address. If you have any questions about your network interface's configuration, please consult your system administrator or contact us directly for assistance using any of the methods listed at workxpress.com.



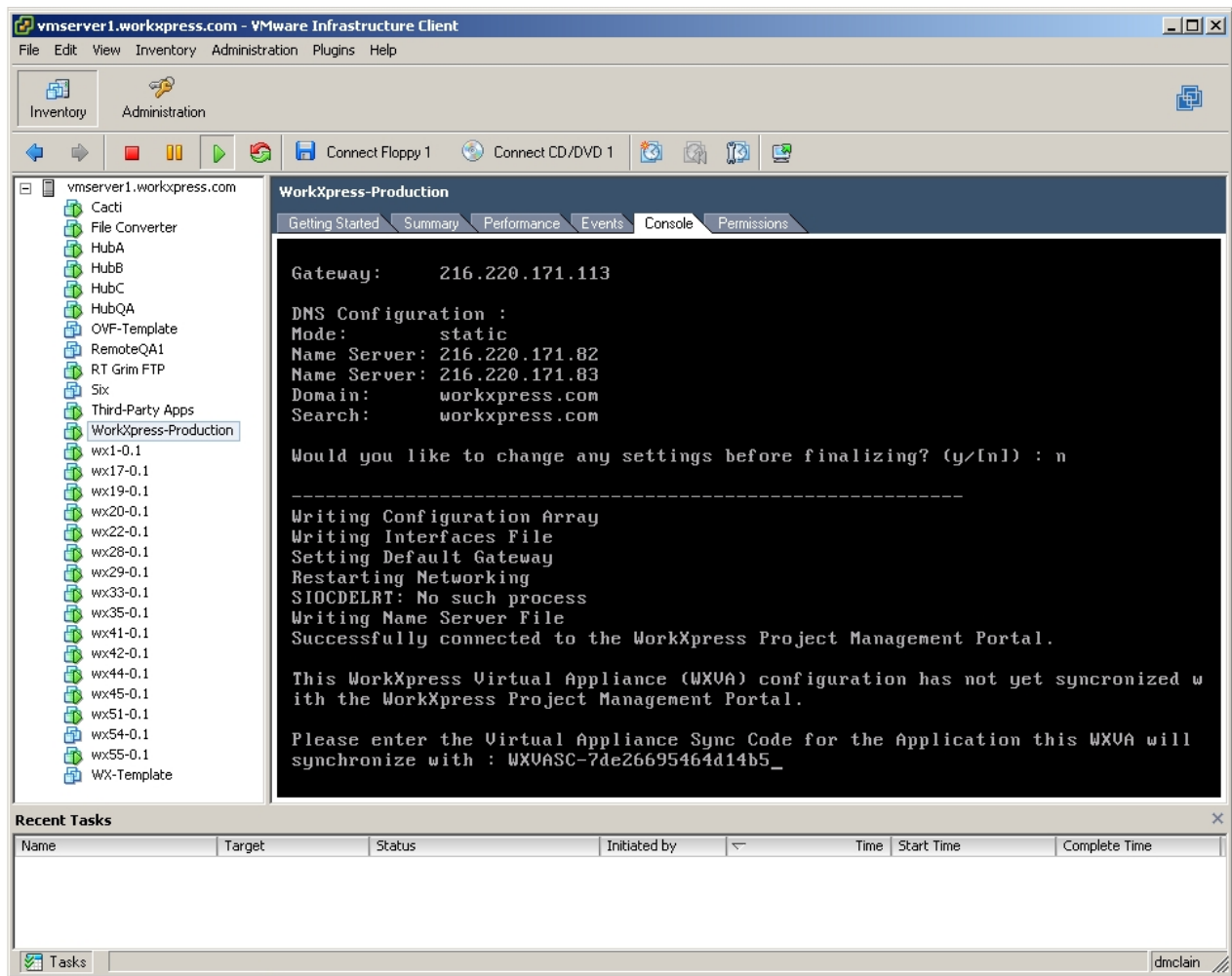
Next, enter one or more DNS server addresses.



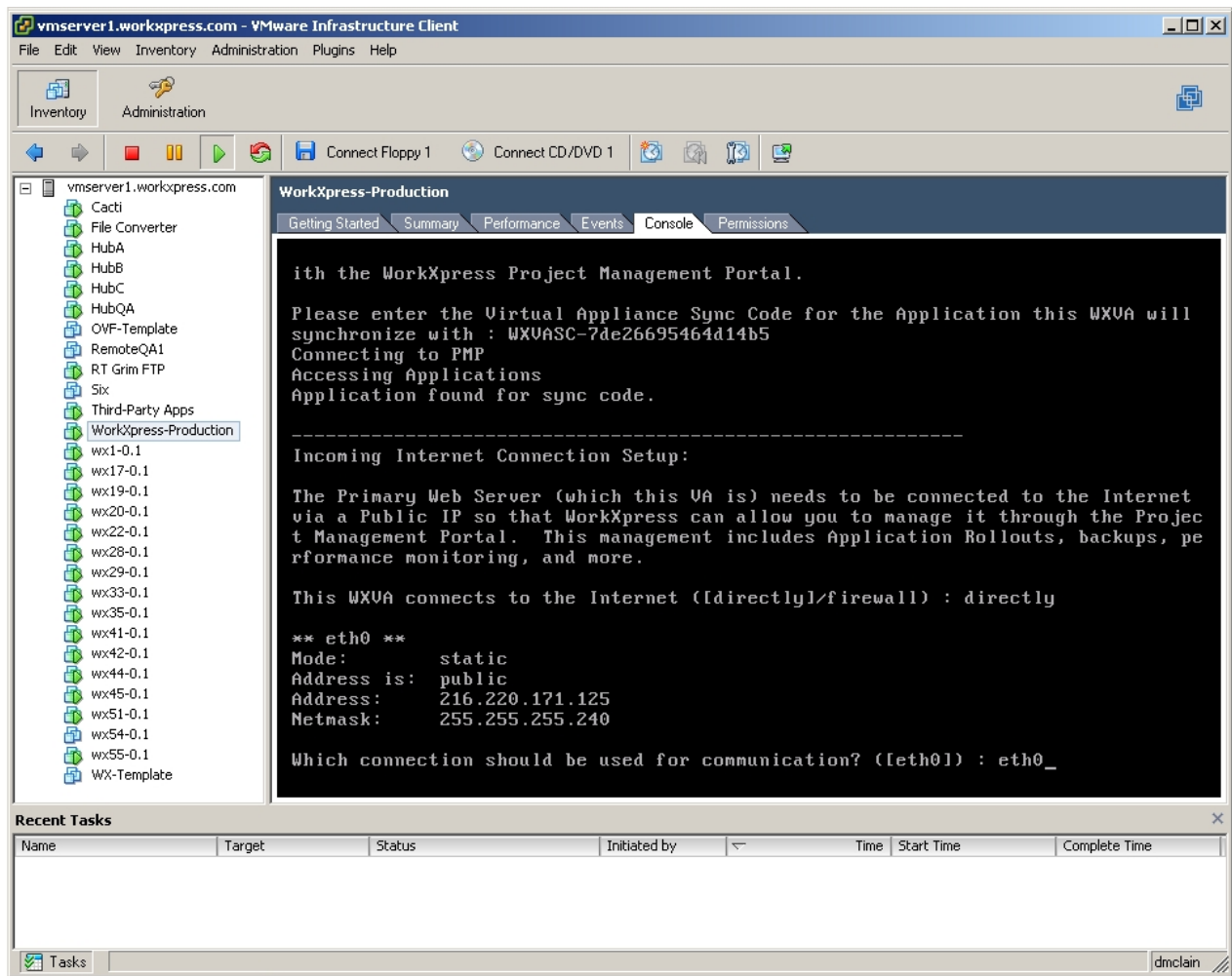
Then, enter a DNS Domain and a DNS Domain Search order when asked.



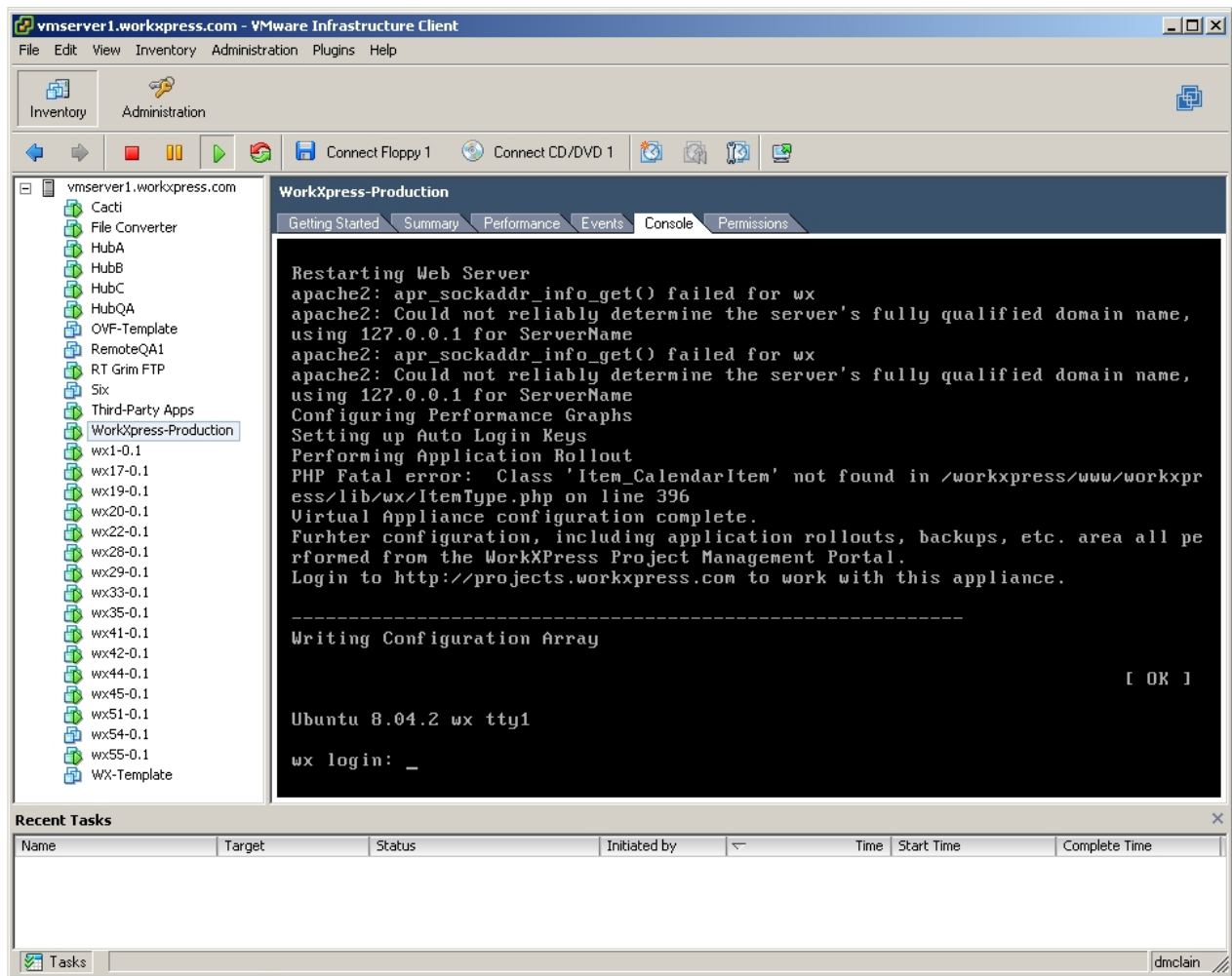
Review your settings and finalize them if they're correct. If not, correct them before finalizing. Next, enter the WorkXpress Virtual Appliance Synchronization Code you obtained earlier in the installation process.



The wizard will present a summary of your settings, then ask whether the appliance is behind a firewall or directly connected to the internet. Make the appropriate choice. Then, the wizard will ask you to choose a network interface to which to apply them. Select the default (eth0).



The wizard will test your connection, and if the connection is functional, will initiate a connection to the WorkXpress Cloud Management Portal. After verifying your connection to the Cloud Management Portal, proceed to step four.



Step Four: Manage your Private Cloud Server using the WorkXpress Cloud Management Portal

To deploy an application or applications to your new virtual appliance, log in to the WorkXpress Cloud Management Portal. First, you must release a version of an application in the Development role to your DNA repository. For detailed instructions, please see [WorkXpress 202: Application Lifecycle Management in the Cloud Portal](#). Next, choose “Create a Testing Application” or “Create a Production Application” from the Cloud Management Portal's Add menu. The “Create Application” page appropriate to the role you've selected (Testing or Production) will launch.

cloud
management portal

Create Production Application

? Create a Production Application

Use this page to create a new application in your production environment. Your account will be responsible for all software, platform, and infrastructure costs incurred by creating this application.

Production Application Information

Project: SpohnProjectII

Description: [Empty]

Hosting Location

Use Existing Cloud Server

Select

Select

Close

Choose the release you've created of your application from Development from the "Project" dropdown and, optionally, enter a description. Finally, select a hosting location from the dropdown in the "Hosting Location" interface. Please choose "Use Existing Cloud Server", then pick the the entry for your Private Cloud Server from the dropdown.

Click Add to complete the process and roll out that release to its desired role as a Testing or Production application in your private cloud. Please note: the rollout process may take 15-30 minutes depending on the size of the application DNA file of your release, so please be patient.

Please visit [WorkXpress](#) to voice any questions, concerns, or comments you may have.