

# Virtual Blade Configuration Mode Commands

To configure virtual blades on a WAE device, use the **virtual-blade** global configuration command. To disable a virtual blade, use the **no** form of this command.

```
virtual-blade [virtual-blade-number]
```

```
no virtual-blade [virtual-blade-number]
```

<b>Syntax Description</b>	<i>virtual-blade-number</i>	Number of the virtual blade that you want to configure. The range of valid values depends on the number of virtual blades that your WAE or WAVE appliance can support.
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<b>Defaults</b>	No default behavior or values.
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<b>Command Modes</b>	global configuration
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<b>Device Modes</b>	application-accelerator
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<b>Usage Guidelines</b>	<p>Use the <b>virtual-blade</b> command to configure virtual blades on a WAAS device that supports virtual blades. This command initiates the virtual blade configuration mode as indicated by the (config-vb) prompt.</p> <p>Within virtual blade configuration mode, you can use the various commands (<b>device</b>, <b>disk</b>, <b>interface</b>, and so on) to define the resource parameters for the virtual blade. To return to global configuration mode, enter the <b>exit</b> command.</p>
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<b>Examples</b>	The following example shows how to edit virtual blade 2 and put your WAE into virtual blade configuration mode:
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```
WAE(config)# virtual-blade 2
WAE(config-vb)#
```

The following example shows that the prompt changes to (config-vb) to indicate virtual blade mode.

```
WAE(config-vb)# description This-is-my-virtual-blade-description
WAE(config-vb)# exit
WAE(config)#
```

<b>Related Commands</b>	<p><a href="#">(config-vb) autostart</a></p> <p><a href="#">(config-vb) boot</a></p>
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(config-vb) **cpu-list**  
(config-vb) **description**  
(config-vb) **device**  
(config-vb) **disk**  
(config-vb) **interface**  
(config-vb) **memory**  
(config-vb) **vnc**

## (config-vb) autostart

To set a virtual blade to automatically start when the WAE is started, use the **autostart** virtual blade configuration command. To prevent a virtual blade from starting automatically, use the **no** form of this command.

**autostart**

**no autostart**

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**Syntax Description** This command has no arguments or keywords.

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**Defaults** No default behavior or values.

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**Command Modes** virtual blade configuration mode

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**Device Modes** application-accelerator

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**Examples** The following example shows how to configure virtual blade 2 to start automatically when the WAE restarts:

```
WAE(config)# virtual-blade 2  
WAE(config-vb)# autostart
```

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**Related Commands**

- [\(config-vb\) boot](#)
- [\(config-vb\) cpu-list](#)
- [\(config-vb\) description](#)
- [\(config-vb\) device](#)
- [\(config-vb\) disk](#)
- [\(config-vb\) interface](#)
- [\(config-vb\) memory](#)

## (config-vb) boot

To configure the boot image location and source for a virtual blade, use the **boot** virtual blade configuration command.

```
boot {cd-image {cd-rom | disk location} | fd-image disk location |
      from {cd-rom | disk | network}}
```

Syntax Description		
<b>cd-image</b>		Specifies the location of the boot CD image for the virtual blade. This image can be located on a CD in the WAE CD-ROM drive or it can be an ISO file located on the WAE hard drive.
<b>cd-rom</b>		Specifies that the CD image location is a physical CD in the WAE CD-ROM drive.
<b>disk location</b>		Specifies that the CD image location is an ISO file on the WAE hard drive (for example, /local1/vbs/windows_2003.iso).
<b>fd-image disk location</b>		Specifies the location of the floppy disk image for the virtual blade. This image file must be located on the WAE hard drive (for example, /local1/vbs/fdimage).
<b>from</b>		Specifies the source from which the virtual blade will boot. The boot source (defined by the <b>boot cd-image</b> command) can be a physical CD or a CD image.
<b>cd-rom</b>		Specifies that the virtual blade boots from a physical CD or a CD image (.iso image file stored in the /local1/vbs directory). If you specify this option, the <b>cd-image</b> option is required and configures the location of the boot image.
<b>disk</b>		Specifies that the virtual blade boots from a guest OS installed on the WAE hard drive. If you specify this option, the <b>cd-image</b> option is optional and configures the location of a CD-ROM image that is made available to the guest OS (but is not used for booting).
<b>network</b>		Specifies that the virtual blade boots from a network location. You must have PXE enabled on your network.

**Defaults** No default behavior or values.

**Command Modes** virtual blade configuration mode

**Device Modes** application-accelerator

**Usage Guidelines** The floppy disk image and bootable CD-ROM image must be located in the /local1/vbs directory. The path used with the **boot cd-image disk** and **boot fd-image disk** commands must be /local1/vbs/*filename*. The CD-ROM image can be used to boot the operating system running on the virtual blade. The floppy disk image reserves resources for an emulated floppy disk drive on the virtual blade.

Use the **boot from cd-rom** option before you have installed a guest OS, to boot from a guest OS installer CD (a physical CD or an .iso file located in /local1/vbs).

Use the **boot from disk** option after you have installed a guest OS, to boot from the installed guest OS.

If you specified **boot from disk**, the **cd-image** keyword is optional and configures the location of a CD-ROM image that is made available to the guest OS (but is not used for booting). The CD image can be changed during operation, by using the **virtual-blade n cd eject EXEC** command followed by the **virtual-blade n cd disk /local1/vbs/newimage.iso** or the **virtual-blade n cd cd-rom EXEC** command.

The **boot from network** option requires PXE to be enabled on your network. A DHCP broadcast message with PXE boot options is sent, and the DHCP server provides the location of files to download for boot.

Use the **boot from network** option to install the same version of software to many virtual blades, or to boot each virtual blade with a complete OS stored and managed in a centralized network location. If you are network booting to install the guest OS, then you may want to configure the virtual blade to boot from the disk on subsequent boots. You can do this by modifying the **boot from** parameter while the virtual blade is running.

### Examples

The following example shows how to configure virtual blade 2 to boot from a CD image file (such as a guest OS installer CD) located on the WAE hard disk:

```
WAE(config)# virtual-blade 2
WAE(config-vb)# boot from cd-rom
WAE(config-vb)# boot cd-image disk /local1/vbs/windows_2003.iso
```

The following example shows how to configure virtual blade 1 to boot from a CD-ROM located in the WAE optical drive:

```
WAE(config)# virtual-blade 1
WAE(config-vb)# boot from cd-rom
WAE(config-vb)# boot cd-image cd-rom
```

The following example shows how to configure virtual blade 1 to boot from a previously installed guest OS installed on the WAE hard disk:

```
WAE(config)# virtual-blade 1
WAE(config-vb)# boot from disk
```

The following example shows how to configure virtual blade 1 to boot from a network location:

```
WAE(config)# virtual-blade 1
WAE(config-vb)# boot from network
```

### Related Commands

- [\(config-vb\) autostart](#)
- [\(config-vb\) cpu-list](#)
- [\(config-vb\) description](#)
- [\(config-vb\) device](#)
- [\(config-vb\) disk](#)
- [\(config-vb\) interface](#)
- [\(config-vb\) memory](#)

## (config-vb) cpu-list

To configure the CPU assignments that the virtual blade runs on, use the **cpu-list** virtual blade configuration command. To remove the virtual blade CPU list configuration, use the **no** form of this command.

```
cpu-list cpu1 [cpu2]
```

```
no cpu-list cpu1 [cpu2]
```

### Syntax Description

**cpu-list** *cpu1* [*cpu2*] Specifies the CPUs that are available for this virtual blade. The virtual blade may run on a single CPU or both, if available.

### Defaults

A single CPU is assigned per virtual blade by default. If more than one CPU is available, odd numbered virtual blades will use CPU 1, and even numbered virtual blades will use CPU 2.

### Command Modes

virtual blade configuration mode

### Device Modes

application-accelerator

### Usage Guidelines

If the CPU list contains a single entry, then only that CPU will be used. If the CPU list contains two entries, then both CPUs will be used in SMP mode.

You may configure any combination of CPUs, however enabling a virtual blade to use more than one core in SMP mode may interfere with another virtual blade using the same core. In this case, a warning is displayed.



**Note** A running virtual blade can be moved between CPUs, but the virtual blade must be stopped to add or remove CPUs.

The number of CPUs available for virtual blades depends on the device. On a device with two CPUs, one CPU is always reserved for the WAAS software. On a device with four CPUs, two are reserved for the WAAS software. If no virtual blades are started, all CPUs are used for the WAAS software.

### Examples

The following example shows how to configure CPU 1 and CPU 2 for virtual blade 2:

```
WAE(config)# virtual-blade 2
WAE(config-vb)# cpu-list 1 2
```

### Related Commands

[\(config-vb\) autostart](#)

[\(config-vb\) boot](#)

(config-vb) device  
(config-vb) disk  
(config-vb) interface  
(config-vb) memory

## (config-vb) description

To enter a description for a virtual blade on your WAE, use the **description** virtual blade configuration command.

**description** *description-text*

Syntax Description	<i>description-text</i>	Text to briefly describe the virtual blade.
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Defaults	No default behavior or values.
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Command Modes	virtual blade configuration mode
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Device Modes	application-accelerator
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Examples	The following example shows how to define the descriptive text for virtual blade 2 as “Windows Server 2003”:
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```
WAE(config)# virtual-blade 2
WAE(config-vb)# description Windows Server 2003
```

Related Commands	<p><a href="#">(config-vb) autostart</a></p> <p><a href="#">(config-vb) boot</a></p> <p><a href="#">(config-vb) cpu-list</a></p> <p><a href="#">(config-vb) device</a></p> <p><a href="#">(config-vb) disk</a></p> <p><a href="#">(config-vb) interface</a></p> <p><a href="#">(config-vb) memory</a></p>
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## (config-vb) device

To set the device emulation parameters used by the virtual blade on your WAE, use the **device** virtual blade configuration command.

```
device {cpu {qemu64 | qemu32} | nic {rtl8139 | E1000 | virtio} | disk {IDE | virtio} |
      keyboard {emulation}}
```

### Syntax Description

<b>cpu</b>	Specifies the CPU emulation to be used on the virtual blade.
<b>qemu64</b>	Specifies a 64-bit processor emulator.
<b>qemu32</b>	Specifies a 32-bit processor emulator.
<b>nic</b>	Specifies the network interface card emulation to be used on the virtual blade.
<b>rtl8139</b>	Specifies a Realtek network card emulator.
<b>E1000</b>	Specifies an Intel PRO/1000 network card emulator.
<b>virtio</b>	Specifies a generic NIC emulator optimized for virtual machines.
<b>disk</b>	Specifies the type of hard drive emulation to be used on the virtual blade.
<b>IDE</b>	Specifies an IDE (ATA) type disk emulator.
<b>virtio</b>	Specifies a generic disk controller emulator optimized for virtual machines.
<b>keyboard</b> <i>emulation</i>	Specifies the keyboard device emulation. See Usage Guidelines for values.

### Defaults

The default values are as follows:

- **device cpu qemu64**
- **device nic rtl8139**
- **device disk IDE**
- **device keyboard en-us**

### Command Modes

virtual blade configuration mode

### Device Modes

application-accelerator

### Usage Guidelines

Table 3-1 shows valid values for keyboard device emulation.

**Table 3-1 Keyboard Device Emulation Values**

Emulation	Value
Arabic	ar
Danish	da
German	de

**Table 3-1** Keyboard Device Emulation Values (continued)

Emulation	Value
German (Swiss)	de-ch
English (UK)	en-gb
English (US) (default)	en-us
Spanish	es
Estonian	et
Finnish	fi
Faroese	fo
French	fr
French (Belgium)	fr-be
French (Canada)	fr-ca
French (Switzerland)	fr-ch
Croatian	hr
Hungarian	hu
Icelandic	is
Italian	it
Japanese	ja
Lithuanian	lt
Latvian	lv
Macedonian	mk
Dutch	nl
Dutch (Belgium)	nl-be
Norwegian	nor
Polish	pl
Portugese	pt
Portugese (Brazil)	pt-br
Russian	ru
Slovenian	sl
Swedish	sv
Thai	th
Turkish	tr

**Examples**

The following example shows how to set the device emulation parameters for virtual blade 2. The CPU emulator is set to qemu64, the NIC emulator is set to rtl8139, and the disk type emulator is set to IDE.

```
WAE(config)# virtual-blade 2
WAE(config-vb)# device cpu qemu64
WAE(config-vb)# device nic rtl8139
WAE(config-vb)# device disk IDE
```

**Related Commands**

(config-vb) autostart  
(config-vb) boot  
(config-vb) cpu-list  
(config-vb) description  
(config-vb) disk  
(config-vb) interface  
(config-vb) memory

## (config-vb) disk

To allocate disk space for a virtual blade on the WAE hard drive, use the **disk** virtual blade configuration command.

```
disk disk1-size disk2-size disk3-size disk4-size
```

Syntax Description		
	<i>disk1-size</i>	Amount of disk space allocated for the virtual disk 1 of the virtual blade in gigabytes. The range of valid values is from 1 to 1000.
	<i>disk2-size</i>	Amount of disk space allocated for the virtual disk 2 of the virtual blade in gigabytes. The range of valid values is from 0 to 1000.
	<i>disk3-size</i>	Amount of disk space allocated for the virtual disk 3 of the virtual blade in gigabytes. The range of valid values is from 0 to 1000. If you are using IDE disk emulation, you must specify 0 for the size of disk 3, because this IDE bus position is used for a CD-ROM.
	<i>disk4-size</i>	Amount of disk space allocated for the virtual disk 4 of the virtual blade in gigabytes. The range of valid values is from 0 to 1000.

**Defaults** No default behavior or values.

**Command Modes** virtual blade configuration mode

**Device Modes** application-accelerator

**Usage Guidelines** You can configure up to four virtual hard disks on the virtual blade.

**Examples** The following example shows how to allocate 40 GB of disk space for a single virtual hard disk in virtual blade 1:

```
WAE(config)# virtual-blade 1
WAE(config-vb)# disk 40
```

The following example shows how to allocate four virtual hard disks in virtual blade 2:

```
WAE(config)# virtual-blade 2
WAE(config-vb)# disk 10 30 0 15
```

**Related Commands**

- [\(config-vb\) autostart](#)
- [\(config-vb\) boot](#)
- [\(config-vb\) cpu-list](#)
- [\(config-vb\) description](#)

(config-vb) device  
(config-vb) interface  
(config-vb) memory

## (config-vb) interface

To bridge a virtual blade interface to an interface on your WAE, use the **interface** virtual blade configuration command.

```
interface vb-interface bridge-group bridge-id [mac-address mac]
```

Syntax	Description
<b>vb-interface</b>	Virtual blade interface to be bridged; valid values are 1 or 2.
<b>bridge-group</b> <i>bridge-id</i>	Specifies that a virtual blade interface is bridged to a bridge virtual interface associated with the specified bridge group.
<b>mac-address</b> <i>mac</i>	(Optional) Specifies the MAC address to be assigned to the virtual interface. If you do not specify a MAC address, WAAS generates one for the interface.

**Defaults** No default behavior or values.

**Command Modes** virtual blade configuration mode

**Device Modes** application-accelerator

**Usage Guidelines** The virtual blade requires bridging of its virtual interface to a bridge group on the WAE so that it can connect to the network defined in the bridge group. You must have previously defined the bridge group and bridge virtual interface by using the **bridge** and **interface bvi** global configuration commands.

**Examples** The following example shows how to bridge interface 1 on virtual blade 2 to bridge group 3:

```
WAE# configure
WAE(config)# bridge 3 protocol ieee
WAE(config)# interface GigabitEthernet 1/0 bridge-group 3
WAE(config)# interface bvi 3 ip address 10.10.10.10 255.0.0.0
WAE(config)# virtual-blade 2
WAE(config-vb)# interface 1 bridge-group 3
```

**Related Commands**

- [\(config-vb\) autostart](#)
- [\(config-vb\) boot](#)
- [\(config-vb\) cpu-list](#)
- [\(config-vb\) description](#)
- [\(config-vb\) device](#)
- [\(config-vb\) disk](#)
- [\(config-vb\) memory](#)

## (config-vb) memory

To allocate memory for a virtual blade from the WAE system, use the **memory** virtual blade configuration command.

**memory** *memory-allocation*

<b>Syntax Description</b>	<i>memory-allocation</i>	Amount of memory allocated for the virtual memory of a virtual blade, in megabytes.
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**Defaults** No default behavior or values.

**Command Modes** virtual blade configuration mode

**Device Modes** application-accelerator

**Usage Guidelines** The amount of memory that can be allocated for a virtual blade depends on the amount of memory in your WAE or WAVE appliance, and on the amount of memory that is assigned to other virtual blades. The minimum amount of memory that you can allocate for a single virtual blade is 512 MB.

**Examples** The following example shows how to allocate 4 MB of memory for virtual blade 2:

```
WAE(config)# virtual-blade 2
WAE(config-vb)# memory 4
```

**Related Commands**

- [\(config-vb\) autostart](#)
- [\(config-vb\) boot](#)
- [\(config-vb\) cpu-list](#)
- [\(config-vb\) description](#)
- [\(config-vb\) device](#)
- [\(config-vb\) disk](#)
- [\(config-vb\) interface](#)

## (config-vb) vnc

To enable the VNC server for a virtual blade, use the **vnc** virtual blade configuration command. To disable the VNC server for a virtual blade, use the **no** form of this command.

**vnc**

**no vnc**

---

**Syntax Description** This command has no arguments or keywords.

---

**Defaults** The VNC server is enabled by default.

---

**Command Modes** virtual blade configuration mode

---

**Device Modes** application-accelerator

---

**Usage Guidelines** The VNC server is enabled by default.  
When you disable the VNC server, any active VNC connections are closed.

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**Examples** The following example shows how to disable the VNC server for virtual blade 2:

```
WAE(config)# virtual-blade 2  
WAE(config-vb)# no vnc
```

---

**Related Commands**

- [\(config-vb\) autostart](#)
- [\(config-vb\) boot](#)
- [\(config-vb\) cpu-list](#)
- [\(config-vb\) description](#)
- [\(config-vb\) device](#)
- [\(config-vb\) disk](#)
- [\(config-vb\) interface](#)