

## **Installing the OVA**

## Prerequisites

- Log in to the IP address of a VMware ESXi server running 6.5 and above via a web browser with your user credentials (username and password).
- Ensure that you meet the VMware server machine (VM CPU and memory) requirements as listed below.
  - 24 GB memory
  - 4 vCPUs
  - Hard disk: 450 GB

To install the OVA:



Attention

From IoT FND 4.12 onwards, use the following credentials for SSH access after installing OVA. The existing credentials username/password (root/cisco123) is disabled for 4.12 and later releases:

- Username: fnduser
- Password: C!sco123

See Step 10 for guidelines to reset the default password.

## Procedure

**Step 1** Log in to the IP address of a VMware ESXi server running 6.5 and above via a web browser with your user credentials (username and password).

- a) Enter the ESXi IP address in the URL.
- b) Provide the ESXi root login credentials and click Log In.



**Step 2** In the Host page, select **Create/ Register VM**.

wn Di Ratsont   C Parlanan   O Action any «Carter Server) no odf angles at 40 Args. 1) Parlamum 1210 CPU (§ 2 400 tc. cogody	ns - Conta - Hang - 4 data - Valar - Valar	lgeration großte El or 144 state Na on théoreation D	01 vasto it 3 die vasto it 3 die vasto it 4 die vas	(ant, inc.)	CAR CAR CAR	PREE 223 Get 39 MCITY 2016 Get 39 MCITY 5116 Get 80 PREE 27 35 TB 80 ACCTY 25 88 TB		
en Branet   C Reneat   Q Adar any Caster Server; ne est explex in 45 firgs.	• Conti Inc. • Conti • Conti Inc. • Conti Conti Inc.• Conti Inc.• Conti Inc.• • Conti Inc.• • Conti Conti Con	Igeration großte El er Sids table Pa en Morraulion	CIU Vacio e di o di ovi Vacio vi di o di ovi Vacio vi di ovi Vacio vi di ovi Vacio vi di ovi di configurad geofina	vare, Inc.)	CAR CAR CAR	REE 223 3 Ge 29 20 20 20 20 20 20 20 20 20 20		
no est cupto II 48 days. R) Prateum 5260 CPU @ 2.400-s; cupto/fr	+ Cost Image + datas - Syste	Igunation e profile El ere HA statu Na on Du um Information	0%-7.0U3.p.20328353-standard (VMw k configured pppofed	vare.inc)		*		
1) Mathum 8210 CPU @ 2 40GHs. capacity	Configuration     Strange     Volume     Volume     Volume     Volume     Volume     System	igenative e profile ES one HA state Pro on Da ben information	30-7.0U3p.20128353-standard (VMw X configured ppofied	vare.inc.)				
1) Platnum 8210 CPU @ 2.40GHz capacity	+ Coelli Image Vision + Velatio - System	e profile ES ora HA state Per on S S on S	55-7 3U3p-20328353-standard (/Mw of configured pppofied	rare, inc.)				
R) Pratinum II210 CPU & 2.40CHz. capadły	vSpro + vMoto - Syste	era H4 state Per on Su on Information	k configured pported	ane. mc/				
R) Platnum 8260 CPU & 2.40GHz capadly	+ shots	on bi	opported					
capacity	+ Syste	on information						
catady	* Syste	em information						
	- Cale	time on host Tu	esday, May 30, 2023, 04 0126 OTC					
	eresta	r sate	PONEDDEL MEE 17, 2023, 03:00 07 01-	an man 17, aven, valar 1714 -				
10.a7af	Seral	Inumber PC	H2701Y000					
	800	version Cr	ROM5 4 2.35 0.1016222320	320				
	BIOS	release date Su	Sunday, October 16, 2022, 05:30:00 +0530					
	* Perfo	onnance summary last bour						
				<ul> <li>Consumed host CPU</li> <li>Consumed host memory</li> </ul>				
	9Ma							
	21	1				500		
~ Initiator	~ Queued	~ Started	< Result a		~ Completer	(*).		
	të ažet ∽i totubr	te altar te alt	te alta"	Na Alaf Na	Na Alari Na Ala	Na Jar Na Jar		

**Step 3** In the New virtual machine window, select **Deploy a virtual machine from an OVF or OVA file** in Select creation type tab and click **Next**.

1 Select creation type 2 Select OVF and VMDK files 3 Select storage	Select creation type How would you like to create a Virtual Machine?	
4 License agreements 5 Deployment options 6 Additional settings	Create a new virtual machine Deploy a virtual machine from an OVF or OVA file	This option guides you through the process of creating a virtual machine from an OVF and VMDK files.
ready to complete	Register an existing virtual machine	
<b>vm</b> ware <sup>*</sup>		

**Step 4** In the Select OVF and VMDK files tab, provide a name for the virtual machine and browse to an OVF package from the internet or a file accessible from your computer (for example, iot-fnd-4.10.0-40.ova). Click **Next**.

1 New virtual machine - FND-pgOVA-	s.10.0-40
<ul> <li>1 Select creation type</li> <li>2 Select OVF and VMDK files</li> <li>3 Select storage</li> </ul>	Select OVF and VMDK files Select the OVF and VMDK files or OVA for the VM you would like to deploy
4 License agreements	Enter a name for the virtual machine.
6 Additional settings	FND-pgOVA-4.10.0-40
7 Ready to complete	Virtual machine names can contain up to 80 characters and they must be unique within each ESX0 instance.
<b>vm</b> ware	× 📷 lot-fnd-4.10.0-40.ova
	Back Next Finish Cancel

**Step 5** Select a storage location for the virtual machines from the listed options (example - Datastore-2).

2 Select OVF and VMDK files     3 Select storage	Select storage Select the storage type and datastore										
4 License agreements 5 Deployment options 6 Additional settings 7 Ready to complete	Standard Persistent Illemory Select a datastore for the virtual mar	chine's o	configuratio	n file	es and all o	fits	virtual dis)	5.			
	Name	~	Capacity	~	Free	v	Type	~	Thin pro v	Access	~
	datastore1 (4)		1.69 TB		1.58 TB		VMFS6		Supported	Single	. ,
	Dattastore-2		28.2 TB		25.78 TB		VMFS6		Supported	Single	,
										21	ems

- **Step 6** After selecting the data store, select the provisioning type and enable the **Power on automatically** option. This ensures to power on the virtual machine once the deployment process is complete. Click **Next**.
  - Note
- Thick Provisioning Absolute reservation on the disk space. For the IoT FND OVA deployment, the disk space required is 600 GB on the ESXi server.
  - Thin Provisioning The disk space grows on demand. For the IoT FND OVA deployment, the disk space is approximately 50 GB initially and the disk space occupied by VM will grow as per the scale of deployment.
- **Note** If the selected storage location does not have sufficient storage for the largest file installation option, a message displays noting insufficient storage. If the warning message appears, select another storage resource with greater capacity and click **Next**.

ork mappings provisioning r on automatically	VM Network VM Network
provisioning r on automatically	Thin O Thick
r on automatically	

Step 7 Do a final review of the Ready to Complete window. If you do not want to change any settings, click Finish.

**Note** If you see the following warning message while deployment, then cancel the upload, disconnect the Esxi from vCenter Server (Actions > Disconnect from vCenter Server) and then re-upload OVA. The upload will be successful.

"Failed: Access to resource settings on the host is restricted to the server that is managing it 'vCenter Server IP''

severa creation type	A required disk imag	e was missing.	0
Select OVF and VMDK files	Review your settings selection	before finishing the wizard	
4 Deployment options 5 Ready to complete	Product	iol-Ind	
	VM Name	FND-pg0/iA-4.10.0-40	
	Files	iot-fnd-4.10.0-40-disk1.vmdk	
	Datastore	Dattastore-2	
	Provisioning type	Thin	
	Network mappings	VM Network: VM Network	
	Guest US Name	Unknown	
	Do not refresh y	our browser while this VM is being deployed.	

The virtual machine deployment is initiated. After completion of the install, the "Completed successfully" message appears in the Recent tasks pane at the bottom of the install window.

vmware esxi"											Q Search	
To Navigator (3)	👸 locathost.localdomain - Virtual Machines											
+ 🗋 Host Manage	😘 Create / Register VM   💣 Console	🖡 Power on 🍙 Power off 💼 Su	spend   C	Refresh   🔿 Acto	ы					(	R pgOVA	*)
Moreltor	Virtual machine		Status	· Used space	- G	uest OS	e Hostr	ame 😽	Host CPU	~	Host memory	~
- 🔄 Virtual Machines 🛛 24	C @ FND-pg0/A-4 10.0-40		Normal	35.06 GB	R	ed Hat Enterprise Lina	a 6 (64-bit) ist-Ind		100 MHz		133 68	
Vote Ultrane 24     vote statute     vote statute	Gulor Mes.								102.00%		1.00	1 Roms ,
	1 Recent Salas Tata Salar dia: John 4 12 - 6 dat seal (r of 1) Imput Nay	<ul> <li>✓ Tarprit</li> <li>Ğ): PhD sig004+12.8+0 Rescuese</li> </ul>	v Infl na	Batar s s	- Corued 95:00:203:00:45 f 95:00:203:00:45 f	~ 55ari 8 4545 7 8440	N) 2023 08 45 18 2033 08 43 37	Result      Cospense assessivity     Cospense assessivity		~ C	ompleted <b>v</b> 6322022 08 61 4 6322022 08 61 40 1	- 50

**Step 8** Click Virtual Machines in the left pane and select the newly deployed VM.

vmware esxi									Hata -   Q I	Harch
T Navigator 0	👸 locathost.localdomain - Virtual Machines									
- 🗋 Host	And the second sec									
Manage	1 Create / Register VM   P Console	Fower on Power off	Buspend   C	Refresh   🔅 Acti	015				Q pgOve	( ×)
Monitor	Virtual machine		Status	· Used space	✓ Guest 02	9	e Hostname	· Host CPU	~ Host m	emory ~
- Virtual Machines 24	C & FND-pg0/A-4 10.0-40		Normal	35.06 GB	Red Hat	Enterprise Linux 6 (64-bit)	ist-Ind	109 MHz	1.33 G8	8
+ 😓 meshsanft	Outro Marro									1 items
+ 🙆 ak_FD-4.10.0-35_81.158	Gootines.									
More Vits										
Storage 2										
2 Setworking										
	🚺 Recent tasks									
	Task	~ Tarpet	~ 10	fator	<ul> <li>Queued</li> </ul>	~ Started	~ Resu	ta .	~ Complete	10 <b>*</b>
	Upitad dist - iot-frid-4.12.0-42-disk1.vmdk (1 of 1)	FND-pgOVA-4 10:0-40	104		05/30/2023 09:40 18	05/30/2023 DR 40 18	00	espireted autoasafully	05/98 2023	09.01.48
	import Wep.	Resources	100	6	05/30/2323 09 43:37	85/30/2823 08 43:37	00	expressed accounting	06/30 2023	0249.13
	Create VM	D PHD #018-4 19 8-40			05/30/2023 09 43:57	85/30/2823 09 43 27	00	implicited acconsoluty	05/90 2025	09.49.37
	Power On VM	D FILD-900VA-4 10.0-40	100	4	05/00/2023 09 49 13	05/30/2023 09 49 13	00	equieted auconceluity	05/30/2023	09.49.15

**Step 9** The deployed VM gets listed in the left pane. Select the IoT FND machine name.

ware esxi										Q Dearch	
regator 2	D IND-pgOVM-4.10.0-40										
Nost	😴 Console 🗰 Monitor	📽 Console 🗱 Monitor   )- Power on 🐞 Shut down 🖬 Suspend 🥝 Rastat   🦯 Edt   😋 Rathesh   🔕 Actions									
World Y.         Image: Control of the state of th		FND-pgOVA-4, 18.8-40 Gent 08 Const 08 Criss Bienory Hist Isare	Red Hut Dreepse Lhur 6 (64.84) EIX 6.5 vitae inschere Ver 24.09 8.5hd						N	Storkage	
lietworking	The configured guest Of optimizations.	(Red Hat Enterprise Linux 6 (64-bit)) for this virt IS	ual machine does not match the gue	st that is carren	By running (Red Ha	at Enterprise Linux 8	54-bitts. You	should specify the correct gue	st OS to allow for gaest-sp	secific ×	
	* General Information				* Hantagers (	Configuration					
Veheral information     Veheral information					+ CPU	- companyour	4 vCPUs				
	Hostname	lating			Memory		24 68				
	Pathanas				+ I Hard dis	ik1	450 GB				
	P 32311111	2 fe90:42 21#fe93 856a			+ INI Network	adapter 1	VM Netw	ork (Connected)			
	> 📾 VMware Tools	Witware Tools is not managed by vSphr	era		+ 🖬 Floppy d	the 1	Remote	Floppy 0			
	> El Storage	1 disk			+ 💓 video ca	ard	8 MB				
	C Notes		+ 😥 CD/D/D anve 1 Remote ATAPI 0		pte ATAPI CD/D/D drive 0						
	- Deducer of the local design of the local des		+ Ital Others Additional Hardware								
	* Performance summary las	Thour		* Resource Consumption							
		Consur	med host CPU Ready		Kesource Consumption     Consumed host CPU     306 MHz     Econsumed host memory     865 GB						
	100	Carso	neo roscimentors.								
	≝ ≩ a0			e Con	Active gu	uest memory	18 68				
2 **				E.	-						
	C Recent tasks		- Initiative	- Owind		Stated		. Read .		Consisted -	
	Taux	v Target v Initiator v Doeued		- www.deg	v Started			Consider and the		00.30 2023 09.01.48	
	Task United die . Inches 10 D-40 die 1 ver	Target     Alt ret to     Alt r	mat	95/10/2023 0/	5 48-18	and the second se					
	Task Upload dak - lot-find-4, 15 0-40 dak1 vmd Import Wap	Tarpet     K(1 of 1)     B) PND-ppDNA-4 10.0-40     Pactures	root	05/30/2023 0f	2.4518	05/30/2023 05 43 37		Completed excessibility		00-00-2023-00-40-13	
	Task Ustood dak - kot-fmd-4, 12 5-45-dakt vmd Import Wage Onwark VM	Tarpet     (1 of 1)     (2) PND-pgDNA-4 10.0-40     Recurse     (2) PND-pgCNA-4 10.0-40     Recurse     (2) PND-pgCNA-4 10.0-40	real real	05/30/2023 01 05/30/2023 01 05/30/2023 01	9.4018 9.4337 9.4337	05/30/2023 09 43 37 05/30/2023 09 43 37		Completed excessivity Completed excessivity		06/30 2023 09 40:13 06/30 2023 99 43:37	

## **Step 10** Click **Console** and login with root/cisco123 once the OS is up. Once you enter the default password, you are prompted to reset your password.

**Important** From IoT FND release 4.12 onwards:

- The default root user password is C!sco123.
- The following conditions are applicable to reset the default password.
  - The password must be at least 8 characters in length
  - The password must have at least 1 uppercase character
  - The password must have at least 1 lowercase character
  - The password must have at least 1 special character
  - The password must have at least 1 digit
  - The password cannot be the same as any of the previous 5 passwords used
- **Step 11** Reset the default root password. After you complete the password reset, IoT FND is fully deployed. From FND 4.12 release, the conditions mentioned in Step 10 are applicable to reset the default password.
- **Step 12** Once logged in, navigate to **Applications > System Tools > Settings > Network**.
- **Step 13** Click the cog icon under Wired, navigate to IPv4 tab to assign a static IP address or set up a DHCP server in the network.
  - Under IPv4 tab, select the method as Manual and provide the IPv4 address as below and click Apply.
  - Set up a valid, reachable working DNS server on the Host VM. (mandatory) Use this IP address to access the FND GUI.

Applications Pla	ces Settings					May 30 00:41	<b>4</b> 0)	Φ
🔏 🔍 Setting	gs			Network		-	•	×
Notifications	Cance	el	Wired		Apply			
Q Search	Detai	ls Identity	IPv4 IPv6 Secu	rity	ö			
🛤 Region & Langua	iPv4	Method	Automatic (DHCP)	C Link-Local Only				
O Universal Access	Add	PECEC	Planuar	Oisable	+	•		
	10	Address	Netmask	Gateway	0			
i Privacy	10.	70.01.192	233.233.233.0	10.70.01.1	0 0			
< Sharing	DNS			Automatic ON				
<ul><li>◀♦ Sound</li></ul>	72.	163.128.140		Automatic Con				
Ce Power	Separ	ate IP addresses with c	ommas		_			
⊈⊋ Network	Rout	es		Automatic ON				
🔁 Devices	>	Address	Netmask	Gateway Metrie	0			
Details	>							
🗗 🔏 Settings						]		

- Important Follow the same steps for TPS OVA installation as well. In order to upgrade the TPS OVA, delete the existing TPS and reinstall the TPS OVA iot-tps-version\_number.ova with the updated version number.
- **Step 14** Open a terminal window, and set up Health Monitoring for the Fog Director Container from FND.

```
[root@iot-fnd ~]# cd /opt/monitor/
```

```
[[root@iot-fnd monitor]# ./setup.sh
Setup health metrics monitor for App Management Servers
[Enter FND Username: root
[Enter FND Password:
Successfully configured health metrics monitor for App Management Servers
```

After completing these steps, IoT FND starts monitoring the Fog Director container on the **ADMIN > SERVERS** page.