# Windows Server Installation Guide

## PICO PC®

MNHO-043 MNHO-048 MNHO-073

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### Installing Windows Server 2012 R2

### 1. Pre-requisites

Before proceeding to the installation, the intended user should know that in order to install Windows Server 2012 R2 on mini PC the following steps should be followed:

- Windows 2012 R2 licensed or evaluation version.
- Windows 2012 R2 evaluation version can be downloaded from Microsoft website

https://www.microsoft.com/en-us/evalcenter/evaluate-windows-server-2012r2

```
    Windows Server 2012 R2
Evaluations | 180 days
    Start your evaluation
    Please select your evaluation file type:
    Azure
    IsO
    Virtual Lab
    VHD
    Continue
```

- USB flash drive 2.0 or 3.0
- Size 8 GB (minimum)
- Utility that helps create boot-able USBs for example, PowerISO or Rufus etc.
- Once you have downloaded the Windows Server 2012 R2 image make sure to verify the integrity of the downloaded file.

### 2. Preparing for installation

- The installation image file downloaded previously must be transferred to the USB flash drive. The usual copying of image directly to the drive is not the answer.
- Appropriate utility is required to make the flash drive bootable.
- We'll be using Rufus which is a free utility to make bootable USB flash drives. You can also use other utilities as well.

### 3. Writing the Image

- If you haven't downloaded Rufus utility to make the USB flash drive bootable then you can download from <u>https://rufus.ie</u>
- Make sure the USB flash drive is blank and formatted as once the image is written all previous contents will be deleted.
- Run the program as administrator.
- Once you plug in the USB flash drive you will find that it has been detected by Rufus straightaway as shown:



• Now click on the "select" button and specify the Windows Server 2012 image file on the client PC.

 Once done you will find the Windows Server 2012 R2 image file name in the "boot selection" section.

Rufus 3.4.1430	- 0	×		
Drive Properties				
2012 R2VL ESD ENU June2016 (G:) [	32 GB1 ~			
Boot selection	32.001			
2012.R2VL.ESD.ENU.June2016.iso	V SEI	FCT		
Dentitien enhanne	Trunch and an			
GDT V	LIEEL (non CSM)	~ 7		
	OET (NOT CON)			
Hide advanced drive properties				
List USB Hard Drives				
Add fixes for old BIOSes (extra par	tition, align, etc.)			
Use Rufus MBR with BIOS ID	0x80 (Default)			
Format Options				
Volume label				
2012 R2VLESD ENU June2016				
The sustains	Churthen sizes			
NITES	(1006 butes (Default)			
NIF3 *	4090 bytes (Delault)			
<ul> <li>Hide advanced format options</li> </ul>				
✓ Quick format				
Create extended label and icon file	es			
Check device for bad blocks	1 pass	$\sim$		
Status ———				
REA	ADY			
© ① ≇ ■///	START	OSE	SK.	
lsing image: 2012.R2VL.ESD.ENU.June	2016.iso			

- Now select the "File System" as "NTFS".
- Once underway it will show the status of the process in the form of progress bar with percentage. It will only take a minute or two to complete the process.
- Once the process is completed you are now ready to go.

### 4. Installation

- Once you have plugged in the USB flash drive in one of the two ports in the back of the mini PC then simply power it up.
- Once you see the "Winston Marriot logo" then simply press **Delete** key on keyboard to access **BIOS**.
- In BIOS select the boot type as "UEFI and Legacy" then boot with USB flash drive.

• You will be presented with the installation wizard. Select "Language" and click "Next".

- w	/indows Server 20	012
		SET (ALCON)
Language to initia	English Dinted States	•
June and currency forma	English (United States)	2
Ecyboard or input metho	1 US	2
Enter your languag B 3113 Microsoft Carporation All rights wa	e and other preferences and click "Next" must	to continue. <u>Not</u>

Now select "Next".

ar Windows Settap	
Install now	
Bepar your computer	
B 2019 Marcard Corporation: N Ingent married.	

 Now select the version you wish to install. We'll be installing the "Windows Server 2012 R2 Standard Edition with GUI" as this is the most popular version and select "Next".

Operating system	Architecture	Date modified
Vindows Server 2012 Standard Evaluation (Server Core Install	x64	7/26/2012
Vindows Server 2012 Standard Evaluation (Server with a GUI)	x64	7/26/2012
Vindows Server 2012 Datacenter Evaluation (Server Core Inst	x64	7/26/2012
escription: is option is useful when a GUI is required—for example, to pr plication that cannot be run on a Server Core installation. All	ovide backward server roles and f	compatibility for an eatures are
ptions,"		

• Agree to the "terms and conditions" select "Next".



 Now On the next screen there will be two options for the installation. Select "Custom: Install Windows only (advanced)".

Upgrade: Install Windows and keep files, settings, and applications The files, settings, and applications are moved to Windows with this option. This option is only available when a supported version of Windows is already running on the computer.
<u>Custom: Install Windows only (advanced)</u> The files, settings, and applications aren't moved to Windows with this option. If you want to make changes to partitions and drives, start the computer using the installation disc. We recommend backing up your files before you continue.

• You will be presented with choosing a partition for the installation. Microsoft recommends to have at least 60 GB space available.

	Name	Total size	Free space	Туре
30	Drive 0 Unallocated Space	60.0 GB	60.0 GB	

• Select the appropriate partition and continue with the installation.



- You will be prompted to specify the administrator password and should be a well secured one as per Microsoft's guidelines.
- Once the settings have been finalized you will be asked to enter the newly setup password.
- Once you are logged you will be presented with the Server Manager.
- Now we need to install the drivers for the ethernet ports. Since there are four ethernet ports we'll have to install the drivers for all four separately.

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#### 5. Installing Ethernet Drivers

The Pico PC has 4 Gigabit Intel I211-AT Ethernet Ports. We'll be installing them one by one. The drivers can be downloaded from PONDESK website's download section of the product page. The drivers set is different for Windows Server 2012 R2 as compared to others.

- The drivers for the ethernet ports are located in the Pro1000\NDIS64 folder.
- These drivers will work for both Windows Server 2012 R2 and Windows Server 2008 R2.
- Before installing the drivers there are a few commands which you need to run in DOS with Admin rights.
  - **A.** bcdedit -set loadoptions DISABLE\_INTEGRITY\_CHECKS
  - B. bcdedit -set TESTSIGNING ON
- Now you need to reboot the PICO PC.
- If you get a message saying "boot options could not be changed because of secure boot" then no need to worry simply go into the BIOS and disable Secure Boot". This will do the trick.
- In order to start simply go to "Device Manager" and look for Network Adapters.
   Right click on the Ethernet Adapter and select "Update Driver".



 Now you need to specify where the drivers are located and, in this case, they are located in the Windows Server 2012 R2\Pro1000\Winx64\NDIS64 folder.



It will take a couple of moments to install the drivers. During the driver installation simply click "Install this driver software anyway" to the following message and you are done. You will need to do the same for other three ethernet ports. There is nothing to worry about as the drivers are legitimate and have been modified to work for both Windows Server 2008 R2 and 2012 R2.



- Once you are done installing the drivers for all four adapters then you need to again access DOS with Admin rights and run the following commands to turn off the test mode. You are all set.
  - A. bcdedit -set loadoptions ENABLE\_INTEGRITY\_CHECKS
  - **B.** bcdedit -set TESTSIGNING OFF

## WWW.PONDESK.COM

### **Installing Windows Server 2019**

### 1. Pre-requisites

Before proceeding to the installation, the intended user should know that in order to install Windows Server 2019 on mini PC the following steps should be followed:

- Windows 2019 licensed or evaluation version.
- Windows 2019 evaluation version can be downloaded from Microsoft website <u>https://www.microsoft.com/en-us/evalcenter/evaluate-windows-server-2019</u>



- USB flash drive 2.0 or 3.0
- Size 8 GB (minimum)
- Utility that helps create boot-able USBs for example, PowerISO or Rufus etc.
- Once you have downloaded the Windows Server 2012 R2 image make sure to verify the integrity of the downloaded file.

### 2. Preparing for installation

- The installation image file downloaded previously must be transferred to the USB flash drive. The usual copying of image directly to the drive is not the answer.
- Appropriate utility is required to make the flash drive bootable.
- We'll be using Rufus which is a free utility to make bootable USB flash drives. You can also use other utilities as well.

### 3. Writing the Image

- If you haven't downloaded Rufus utility to make the USB flash drive bootable then you can download from <a href="https://rufus.ie">https://rufus.ie</a>
- Make sure the USB flash drive is blank and formatted as once the image is written all previous contents will be deleted.
- Run the program as administrator.
- Once you plug in the USB flash drive you will find that it has been detected by Rufus straightaway as shown:



 Now click on the "select" button and specify the Windows Server 2019 image file on the client PC.  Once done you will find the Windows Server 2019 image file name in the "boot selection" section.

Rufus 3.4.1430	- 🗆 X
Drive Properties	
Davice	
SSS X64EREE EN-US DV9 (G:) [32 GE	31 🗸 🖳
Boot selection	
17763.379.190312-0539.rs5 release s	vc refres V
Image option	
Standard Windows installation	~
Partition scheme	Target system
GPT v	UEFI (non CSM) V?
<ul> <li>Hide advanced drive properties</li> </ul>	
List USB Hard Drives	
Add fixes for old BIOSes (evtra par	tition align etc.)
Use Rufus MBR with BIOS ID	0x20 (Default)
	uxou (Derauri)
Format Options —	
Volume label	
SSS_X64FREE_EN-US_DV9	
File system	Cluster size
NTFS ~	4096 bytes (Default) $\checkmark$
<ul> <li>Hide advanced format options</li> </ul>	
Quick format	
Create extended label and icon file	es
Check device for bad blocks	1 pass
Ctatur	
status	
REA	ADY .
S ① ≇ 🖬	START CLOSE
: 17763.379.190312-0539.rs5_release_s	vc_refresh_SERVER_EVAL_x

- Now select the "File System" as "NTFS".
- Once underway it will show the status of the process in the form of progress bar with percentage. It will only take a minute or two to complete the process.
- Once the process is completed you are now ready to go.

### 4. Installation

- Once you have plugged in the USB flash drive in one of the two ports in the back of the mini PC then simply power it up.
- Once you see the "Winston Marriot logo" then simply press **Delete** key on keyboard to access **BIOS**.
- In BIOS select the boot type as "UEFI and Legacy" from security section then boot with USB flash drive.

🖆 Windows Setup	- • ×
Windows Server 2019	
Languag <u>e</u> to install: <mark>English (United States) Time and currency format: English (United States) <u>K</u>eyboard or input method: US</mark>	•
Enter your language and other preferences and click "Next" to continue.	Next

Now select "Next". PONDESK.COM

🖆 Windows Setup	
Window	ws Server* 2019
	Install now
Repair your computer © 2018 Microsoft Corporation. All rights reserved.	

 Now select the version you wish to install. We'll be installing the "Windows Server 2019 Standard Evaluation with Desktop Experience".

Operating system	Architecture	Date modified
Windows Server 2019 Standard Evaluation	x04	1/8/2019
Windows Server 2019 Standard Evaluation (Desktop Experier	n xo4	1/8/2019
Alia deurs Server 2019 Datacenter Evaluation	X04	1/8/2019
scription:		
escription: his option installs the full Windows graphical environment, refuil if you want to use the Windows decision or have an an	consuming extra c	rive space. It can l
escription: his option installs the full Windows graphical environment, seful if you want to use the Windows desktop or have an ap	consuming extra o p that requires it.	rive space. It can l
cription: s option installs the full Windows graphical environment, ful if you want to use the Windows desktop or have an ap	consuming extra c p that requires it.	rive space. It can l

Agree to the "terms and conditions" select "Next".





• You will be presented with choosing a partition for the installation. Microsoft recommends to have at least 60 GB space available.

Name	Total size	Free space	Туре
Drive 0 Unallocated Space	60.0 GB	60.0 GB	

Select the appropriate partition and continue with the installation.



- You will be prompted to specify the administrator password and should be a well secured one as per Microsoft's guidelines.
- Once the settings have been finalized you will be asked to enter the newly setup password.
- Once you are logged you will be presented with the Server Manager.
- Now we need to install the drivers for the ethernet ports. Since there are four ethernet ports we'll have to install the drivers for all four separately.

#### 5. Installing Ethernet Drivers

The Pico PC has 4 Gigabit Intel I211-AT Ethernet Ports. We'll be installing them one by one. The drivers can be downloaded from PONDESK website's download section of the product page. The drivers set is different for Windows Server 2019 as compared to others.

- The drivers for the ethernet ports are located in the Pro1000\NDIS64 folder.
- These drivers will also work for both Windows Server 2019, Windows Server 2016 and Windows Server 2008 R2.
- Before installing the drivers there are a few commands which you need to run in Power Shell with Admin rights as DOS is no longer available in Windows Server 2019.
  - C. bcdedit -set loadoptions DISABLE\_INTEGRITY\_CHECKS
  - D. bcdedit -set TESTSIGNING ON
- Now you need to reboot the PICO PC.
- If you get a message saying "boot options could not be changed because of secure boot" then no need to worry simply go into the BIOS and disable Secure Boot". This will do the trick.
- In order to start simply go to "Device Manager" and look for Network Adapters.
   Right click on the Ethernet Adapter and select "Update Driver".

 Now you need to specify where the drivers are located and, in this case, they are located in the Windows Server 2012 R2\Pro1000\Winx64\NDIS64 folder.



It will take a couple of moments to install the drivers. During the driver installation simply click "Install this driver software anyway" to the following message and you are done. You will need to do the same for other three ethernet ports. There is nothing to worry about as the drivers are legitimate and have been modified to work for Windows Server 2008 R2, 2012 R2, 2016 and 2019.



- Once you are done installing the drivers for all four adapters then you need to again access DOS with Admin rights and run the following commands to turn off the test mode. You are all set.
  - C. bcdedit -set loadoptions ENABLE\_INTEGRITY\_CHECKS
  - D. bcdedit -set TESTSIGNING OFF

**NOTE:** The method of installation for Windows Server 2008 R2 and Windows Server 2016 is identical as explained above.



### THANK YOU

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