

Filter by title

Driver Development Tools

Index of Windows Driver Kit Tools

> Tools for Verifying Drivers

> Additional Driver Verification Tools

< Tools for Testing Drivers

Tools for Testing Drivers

> Device Fundamentals Tests

> PairTool

< PnPUtil

PnPUtil

**PnPUtil Command Syntax**

PnPUtil Examples

PnPUtil Return Values

> DevGen

> Windows Device Console (Devcon.exe)

> Additional Test Tools

> Tools for Software Tracing

> Additional Driver Tools

# PnPUtil Command Syntax

Article • 01/08/2024 • 5 contributors

Feedback

## In this article

- Commands
- Legacy Command Mapping
- Examples

PnPUtil (PnPUtil.exe) is included in every version of Windows starting with Windows Vista, in the %windir%\system32 directory.

To run PnPUtil, open a command prompt window (Run as Administrator) and type a command using the following syntax and parameters.

syntax Copy

```
PNPUTIL [/add-driver <...> | /delete-driver <...> |
        /export-driver <...> | /enum-drivers |
        /enum-devices [<...>] | /enum-devicetree [<...>] |
        /disable-device <...> | /enable-device <...> |
        /restart-device <...> | /remove-device <...> |
        /scan-devices [<...>] | /enum-classes [<...>] |
        /enum-interfaces [<...>] | /enum-containers [<...>] |
        /?]
```

## Commands

### /add-driver

Adds driver package(s) into the driver store. Command available starting in Windows 10, version 1607.

syntax Copy

```
PNPUTIL /add-driver <filename.inf | *.inf> [/subdirs] [/install] [/reboot]
```

Flags available starting in Windows 10, version 1607:

- /subdirs - traverse sub directories for driver packages
- /install - install/update drivers on any matching devices
- /reboot - reboot system if needed to complete the operation

#### Note

If the driver is not the highest ranked driver on the system, PnPUtil will not force it onto the device. To check matching drivers and their rank, run the following from an elevated command prompt: `pnputil /enum-devices /instanceid <devgen device instance ID ROOT\DEVGEN{...}> /drivers`.

### /delete-driver

Deletes a driver package from the driver store. Command available starting in Windows 10, version 1607.

syntax Copy

```
PNPUTIL /delete-driver <oem#.inf> [/uninstall] [/force] [/reboot]
```

Flags available starting in Windows 10, version 1607:

- `/uninstall` - uninstall driver package from any devices using it
- `/force` - delete driver package even when it is in use by devices
- `/reboot` - reboot system if needed to complete the operation

## /export-driver

Exports driver package(s) from the driver store into a target directory. Command available starting in Windows 10, version 1607.

syntaxCopy

```
PNPUTIL /export-driver <oem#.inf | *> <target directory>
```

## /enum-drivers

Enumerates all third-party driver packages in the driver store. Command available starting in Windows 10, version 1607.

syntaxCopy

```
PNPUTIL /enum-drivers [/class <name | GUID>] [/files]
```

Flags available starting in Windows 11, version 21H2:

- `/class <name | GUID>` - filter by driver class name or GUID

Flags available starting in Windows 11, version 22H2:

- `/files` - enumerate all driver package files

## /disable-device

Disables devices on the system. Command available starting in Windows 10, version 2004.

syntaxCopy

```
PNPUTIL /disable-device [<instance ID> | /deviceid <device ID>]
                        [/class <name | GUID>]
                        [/bus <name | GUID>]
                        [/reboot] [/force]
```

Flags available starting in Windows 10, version 2004:

- `/reboot` - reboot system if needed to complete the operation

Flags available starting in Windows 11, version 21H2:

- `/deviceid <device ID>` - disable all devices with matching device ID

Flags available starting in Windows 11, version 22H2:

- `/class <name | GUID>` - filter by device class name or GUID
- `/bus <name | GUID>` - filter by bus enumerator name or bus type GUID
- `/force` - disable even if device provides critical system functionality

## /enable-device

Enables devices on the system. Command available starting in Windows 10, version 2004.

syntaxCopy

```
PNPUTIL /enable-device [<instance ID> | /deviceid <device ID>]
                      [/class <name | GUID>] [/bus <name | GUID>]
                      [/reboot]
```

Flags available starting in Windows 10, version 2004:

- `/reboot` - reboot system if needed to complete the operation

Flags available starting in Windows 11, version 21H2:

- `/deviceid <device ID>` - enable all devices with matching device ID

Flags available starting in Windows 11, version 22H2:

- `/class <name | GUID>` - filter by device class name or GUID
- `/bus <name | GUID>` - filter by bus enumerator name or bus type GUID

## /restart-device

Restarts devices on the system. Command available starting in Windows 10, version 2004.

syntaxCopy

```
PNPUTIL /restart-device [<instance ID> | /deviceid <device ID>]
                        [/class <name | GUID>] [/bus <name | GUID>]
                        [/reboot]
```

Flags available starting in Windows 10, version 2004:

- `/reboot` - reboot system if needed to complete the operation

Flags available starting in Windows 11, version 21H2:

- `/deviceid <device ID>` - restart all devices with matching device ID

Flags available starting in Windows 11, version 22H2:

- `/class <name | GUID>` - filter by device class name or GUID
- `/bus <name | GUID>` - filter by bus enumerator name or bus type GUID.

## /remove-device

Attempts to remove a device from the system. Command available starting in Windows 10, version 2004.

syntaxCopy

```
PNPUTIL /remove-device [<instance ID> | /deviceid <device ID>]
                       [/class <name | GUID>] [/bus <name | GUID>]
                       [/subtree] [/reboot] [/force]
```

Flags available starting in Windows 10, version 2004:

- `/subtree` - remove entire device subtree, including any child devices
- `/reboot` - reboot system if needed to complete the operation

Flags available starting in Windows 11, version 21H2:

- `/deviceid <device ID>` - remove all devices with matching device ID

Flags available starting in Windows 11, version 22H2:

- `/class <name | GUID>` - filter by device class name or GUID
- `/bus <name | GUID>` - filter by bus enumerator name or bus type GUID
- `/force` - remove even if device provides critical system functionality

## /scan-devices

Scans the system for any device hardware changes. Command available starting in Windows 10, version 2004.

syntaxCopy

```
/scan-devices [/instanceid <instance ID>] [/async]
```

Flags available starting in Windows 10, version 2004:

- `/instanceid <instance ID>` - scan device subtree for changes
- `/async` - scan for changes asynchronously

## /enum-devices

Enumerate all devices on the system. Command available starting in Windows 10, version 1903.

syntaxCopy

```
PNPUTIL /enum-devices [/connected | /disconnected]
                        [/instanceid <instance ID> | /deviceid <device ID>]
                        [/class <name | GUID>] [/problem [<code>]]
                        [/bus [<name | GUID>]] [/deviceids] [/relations]
                        [/services] [/stack] [/drivers] [/interfaces]
                        [/properties] [/resources]
```

Flags available starting in Windows 10, version 1903:

- `/connected` - filter by connected devices
- `/disconnected` - filter by disconnected devices
- `/instanceid <instance ID>` - filter by device instance ID
- `/class <name | GUID>` - filter by device class name or GUID
- `/problem [<code>]` - filter by devices with problems or filter by specific problem code
- `/relations` - display parent and child device relations

Flags available starting in Windows 10, version 2004:

- `/drivers` - display matching and installed drivers

Flags available starting in Windows 11, version 21H2:

- `/bus [<name | GUID>]` - display bus enumerator name and bus type GUID or filter by bus enumerator name or bus type GUID
- `/deviceids` - display hardware and compatible IDs
- `/services` - display device services
- `/stack` - display effective device stack information
- `/interfaces` - display device interfaces
- `/properties` - display all device properties

Flags available starting in Windows 11, version 22H2:

- `/deviceid <device ID>` - filter by device hardware and compatible ID
- `/resources` - display device resources

## /enum-devicetree

Enumerates the device tree.

Command available starting in Windows 11, version 23H2.

syntaxCopy

```
/enum-devicetree [root device instance ID] [/connected] [/services]
                  [/stack] [/drivers] [/interfaces]
```

`root device instance ID` - display device tree starting at the specified root device instance ID.

Flags

- `/connected` - filter by connected devices
- `/services` - display device services
- `/stack` - display effective device stack information
- `/drivers` - display matching and installed drivers
- `/interfaces` - display device interfaces

## /enum-interfaces

Enumerates all device interfaces on the system.

Command available starting in Windows 10, version 1903.

syntaxCopy

```
PNPUTIL /enum-interfaces [/enabled | /disabled] [/class <GUID>] [/properties]
```

Flags available starting in Windows 10, version 1903:

- `/enabled` - filter by enabled interfaces
- `/disabled` - filter by disabled interfaces
- `/class <GUID>` - filter by interface class GUID

Flags available starting in Windows 11, version 22H2:

- `/properties` - display all interface properties

## /enum-classes

Enumerates all device classes on the system.

Command available starting in Windows 11, version 22H2.

syntaxCopy

```
PNPUTIL /enum-classes [/class <name | GUID>] [/services]
```

Flags available starting in Windows 11, version 22H2:

- `/class <name | GUID>` - filter by device class name or GUID
- `/services` - display device class services

## /enum-containers

Enumerates all device containers on the system.

Command available starting in Windows 11, version 23H2.

syntaxCopy

```
PNPUTIL /enum-containers [/containerid <container id>] [/connected | /disconnected]
                               [/problem] [/devices] [/format <txt | xml | csv>]
                               [/output-file [<filename>]]
```

Flags

`/containerid <container id>` - filter by container ID.

`/connected | /disconnected` - filter by connected device containers or filter by disconnected device containers

`/problem` - filter by device containers with problems

`/devices` - display container devices

`/format` - format output as text, XML, or CSV

`/output-file [<filename>]` - write output to optional filename

## /?

Displays the command-line syntax.

syntaxCopy

```
PNPUTIL /?
```

## Legacy Command Mapping

The following commands are still supported, but are legacy. We recommend that you use the up-to-date syntax instead.

syntaxCopy

```
-a [-i] <filename.inf> ==> /add-driver <filename.inf> [/install]

-d [-f] <oem#.inf> ==> /delete-driver <oem#.inf> [/force]

-e ==> /enum-drivers
```

## Examples

For examples of how to use the PnPUtil tool, see [PnPUtil Examples](#).

## See also

[PnPUtil](#)

## Feedback

Was this page helpful? 

Yes

No

[Provide product feedback](#) | [Get help at Microsoft Q&A](#)