Table Of Contents

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How To Use UUID To Mount Partitions / Volumes Under Ubuntu Linux

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[1]

Q. Can you explain UUID concept related to Linux ext3 partitions and storage devices? How do I update /etc/fstab using UUID under Ubuntu Linux or any other Linux distro?


[2]

A. A Universally Unique Identifier [3] (UUID) is an identifier standard used in software construction, standardized by the Open Software Foundation (OSF) as part of the Distributed Computing Environment (DCE). The intent of UUIDs is to enable distributed systems to uniquely identify information without significant central coordination. Thus, anyone can create a UUID and use it to identify something with reasonable confidence that the identifier will never be unintentionally used by anyone for anything else. Information labeled with UUIDs can therefore be later combined into a single database without needing to resolve name conflicts.

UUID and Partitions

Linux's ext2/ext3 filesystem uses UUID to identify partitions.

UUID benefits

As a sesonded UNIX admin I have to deal with various data storage technologies such as SAN, iSCSI, DAS, scsi disks volumes. Sometime you may need to move storage from one device to another and updating /etc/fstab can be pain in a$$. With UUID Linux kernel should automatically find and map (read as mount to exact location) volumes to storage device. This saves lots of time and avoid /etc/fstab breaks.

However, UUID may be not very useful for single desktop computer at home as you do not have enterprise grade storage and requirements.

How do I find out UUID for /dev/sdb2?

To probe filesystem type and read label and uuid for /dev/sdb2 (or any other device) use vol_id command:

```
# vol_id --uuid {/dev/device}
# vol_id --uuid /dev/sdb2
$ sudo vol_id --uuid /dev/sdb2
```

Sample output:

```
41c22818-fbad-4da6-8196-c816df0b7aa8
```

List all UUIDs

Use blkid command-line utility to locate/print block device attributes:

```
$ sudo blkid
```

Sample output:

```
/dev/sda1: TYPE="ntfs" UUID="A0F0582EF0580CC2"
/dev/sda2: UUID="8c2da865-13f4-47a2-9c92-2f31738469e8" SEC_TYPE="ext2" TYPE="ex
/dev/sda3: TYPE="swap" UUID="5641913f-9bcc-4d8a-8bcb-ddfc3159e70f"
/dev/sda5: UUID="FAB008D6B0089AF1" TYPE="ntfs"
```

```
/dev/sdb1: UUID="32c61b65-f2f8-4041-a5d5-3d5ef4182723" SEC_TYPE="ext2" TYPE="ex
/dev/sdb2: UUID="41c22818-fbad-4da6-8196-c816df0b7aa8" SEC_TYPE="ext2" TYPE="ex
```

How do I use UUID to update /etc/fstab file?

Simply use following syntax:

```
UUID={YOUR-UID}     {/path/to/mount/point}              {file-system-type}     defaults,erro
```

Open /etc/fstab:

```
$ sudo vi /etc/fstab
```

Append line as follows:

```
UUID=41c22818-fbad-4da6-8196-c816df0b7aa8  /disk2p2       ext3     defaults,errors=remount-ro
```

Save and close the file. To mount new partition immediately using /etc/fstab type:

```
$ sudo mount -a
```

Further readings:

- man pages mount, fstab, vol_id