Copying Files

The `dd` command is a utility for copying files or entire partitions at the bit level.

```
dd [OPTIONS] OPERAND
```

This command has several useful features, including:

- It can be used to clone or delete (wipe) entire disks or partitions.
- It can be used to copy raw data to removable devices, such as USB drives and CDROMs.
- It can backup and restore the MBR (Master Boot Record).
- It can be used to create a file of a specific size that is filled with binary zeros, which can then be used as a swap file (virtual memory).

Let's examine the following example. The `dd` command creates a file named `/tmp/swapex` with 50 blocks of zeros that are one megabyte in size:

Follow Along

Use the following `cd` command to return to the home directory:

```
sysadmin@localhost:~/Documents$ cd ~
```

```
sysadmin@localhost:~$ dd if=/dev/zero of=/tmp/swapex bs=1M count=50
50+0 records in
50+0 records out
52428800 bytes (52 MB) copied, 0.825745 s, 635 MB/s
```

The `dd` command uses special arguments to specify how it will work. The following illustrates some of the more commonly used arguments:

Argument	Description
`if`	Input File: The input file to be read from. `dd if=/dev/zero of=/tmp/swapex bs=1M count=50` The example reads from the `/dev/zero` file, a special file containing an unlimited number of zeros.
`of`	Output File: The output file to be written. `dd if=/dev/zero of=/tmp/swapex bs=1M count=50`
`bs`	Block Size: The block size to be used. By default, the value is considered to be in bytes. Use the following suffixes to specify other units: `K`, `M`, `G`, and `T` for kilobytes, megabytes, gigabytes and terabytes respectively. `dd if=/dev/zero of=/tmp/swapex bs=1M count=50` The example uses a block size of one megabyte.
`count`	Count: The number of blocks to be read from the input file. `dd if=/dev/zero of=/tmp/swapex bs=1M count=50` The example command reads 50 blocks.

Consider This

No block size or count needs to be specified when copying over entire devices. For example, to clone from one hard drive (`/dev/sda`) to another (`/dev/sdb`) execute the following command:

```
dd if=/dev/sda of=/dev/sdb
```

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