Download Resources from the Command Line with wget

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`wget` is a powerful utility that retrieves files accessible as HTTP or FTP resources and saves them to the local file system. `wget` provides a
number of options to allow users to configure how resources are downloaded and saved. It also features a recursive download function which
allows you to download a set of linked resources for offline use.

Using wget

The `wget` command takes one of the following forms:

```
1   wget [OPTIONS] [URL]
2   wget [URL] [OPTIONS]
```

When issued at the command line without options, `wget` will download the file specified by the `[URL]` to the current directory. Consider the
following example:

```
1    $ wget http://www.linode.com/docs/assets/695-wget-example.txt
2    --2010-10-01 12:01:22--   http://www.linode.com/docs/assets/695-wget-example.txt
3    Resolving linode.com/docs... 74.207.233.254
4    Connecting to linode.com/docs|74.207.233.254|:80... connected.
5    HTTP request sent, awaiting response... 200 OK
6    Length: 477 [text/plain]
7    Saving to: `wget-example.txt'
8
9    100%[=================================================>] 477         --.-K/s   in 0.002s
10
11   2010-10-01 12:01:48 (261 KB/s) - `wget-example.txt' saved [477/477]
12
13   $ cat wget-example.txt
14   This is an example resource for the `wget` document
15   <http://www.linode.com/docs/tools-reference/tools/download-resources-from-the-command-line-with-wget>, located
16   in the Linode Docs.
17
18   There are four lines of random characters at the end of this file.
19
20   y7tWn6zZRFAX1cXyQzzSBhTDC+/SpN/RezhI2acW3qr3HGFDCM7PX9frUhna75wG
21   6lOvibL5/sHTKP8N7tRfszZq1MaGlmpeEQN1n5afK6Awh0rykc5FMn2xb3jf0klF
22   wVPjuxsptT/L05K6avRI81Edg2+8CkS8uA16u+bXqRn1BBQutRvxwrWwrKuP10pR
23   uCf3HehndIeRghOAmXPc61cfUrHZ+MEqXYmSoKw4E0hI7GWXkwAyByCFPBVB9Fbe
```

This document specifies all options for `wget` *before* the URL. However, `wget` accepts these options before *and* after the URL argument. Both
forms are functionally equivalent.

Examples

Download Content to Standard Output

The `-O` option controls the location and name of the file where `wget` writes the downloaded content. If you specify the file name as `-` as in `wget -O -`, `wget` will output the downloaded resource to the terminal. Add the `-q` option to suppress the " `wget` status output as follows:

```
1  $ wget -q -O - http://www.linode.com/docs/assets/695-wget-example.txt
2  This is an example resource for the `wget` document
3  <http://www.linode.com/docs/tools-reference/tools/download-resources-from-the-command-line-with-wget>, located
4  in the Linode Docs.
5
6  There are four lines of random characters at the end of this file.
7
8  y7tWn6zZRFAX1cXyQzzSBhTDC+/SpN/RezhI2acW3qr3HGFDCM7PX9frUhna75wG
9  6lOvibL5/sHTKP8N7tRfszZq1MaGlmpeEQN1n5afK6Awh0rykc5FMn2xb3jf0klF
10 wVPjuxsptT/L05K6avRI81Edg2+8CkS8uA16u+bXqRn1BBQutRvxwrWwrKuP10pR
11 uCf3HehndIeRghOAmXPc61cfUrHZ+MEqXYmSoKw4E0hI7GWXkwAyByCFPBVB9Fbe
```

View the HTTP Headers for a Resource

To view the HTTP header information attached to the resource, use the `-S` flag. Header information is often helpful for diagnosing issues with web sever configuration.

```
1  $ wget -S http://www.linode.com/docs/assets/695-wget-example.txt
2  --2010-10-01 12:03:50--   http://www.linode.com/docs/assets/695-wget-example.txt
3  Resolving linode.com/docs... 74.207.233.254
4  Connecting to linode.com/docs|74.207.233.254|:80... connected.
5  HTTP request sent, awaiting response...
6    HTTP/1.1 200 OK
7    Server: nginx
8    Date: Fri, 01 Oct 2010 16:03:51 GMT
9    Content-Type: text/plain
10   Content-Length: 477
11   Last-Modified: Fri, 01 Oct 2010 16:00:34 GMT
12   Connection: keep-alive
13   Accept-Ranges: bytes
14 Length: 477 [text/plain]
15 Saving to: `wget-example.txt'
16
17 100%[=================================================>] 477         --.-K/s   in 0s
18
19 2010-10-01 12:03:40 (1.73 MB/s) - `wget-example.txt' saved [477/477]
```

Add the `-q` option to suppress the status output of `wget` :

```
1  $ wget -Sq http://www.linode.com/docs/assets/695-wget-example.txt
2    HTTP/1.1 200 OK
3    Server: nginx/0.7.65
4    Date: Fri, 01 Oct 2010 16:05:34 GMT
5    Content-Type: text/plain
6    Content-Length: 477
7    Last-Modified: Fri, 01 Oct 2010 16:00:34 GMT
8    Connection: keep-alive
9    Accept-Ranges: bytes
```

Supply HTTP AUTH Credentials

If you need to access a resource that requires HTTP authentication, use the following form:

```
1  wget --http-user=[USERNAME] --http-password=[PASSWORD] [URL]
```

In practice this may resemble:

```
1  wget --http-user=username --http-password=iwLcis4TMOgn3PTy http://example.com/backups/database.1285770344
```

`wget` will not send the authentication information unless prompted by the web server. Use the `--auth-no-challenge` option to force `wget` to send the authentication credentials under every circumstance.

Accept Self Signed Certificates

To successfully download a resource that is protected with a self-signed SSL certificate, you must specify the `--no-check-certificate` option.

```
1   wget --no-check-certificate https://infra.example.com/backups/database-1285771361
```

Information is still encrypted, but the authenticity of the certificate is not confirmed.

Recursively Download Files

The `-r` option allows `wget` to download a resource, search that content for links to other resources, and then download those resources. This is useful for creating backups of static websites or snapshots of available resources. There are a wide range of additional options to control the behavior of recursive downloads. Consider the following example:

```
1   wget -r -l 3 -k -p -H https://example.com/
```

The options `-r -l 3 -k -p -H` have the following functionality:

- `-r` enables recursive downloading.
- `-l 3` allows `wget` to follow links three levels "deep". Specify `0` for an infinite level of recursion.
- `-k` converts links in downloaded resources to point to the locally downloaded files. The resulting "mirror" will not be linked to the original source.
- `-p` forces `wget` to download all linked sources, including scripts and CSS files, required to render the page properly.
- `-H` allows recursive operations to follow links to other hosts on the network. Unless specified, `wget` will only download resources on the host specified in the original domain.

`wget` will only download resources that are linked to. Resources that are available but not linked to will not be downloaded.

Download Resources in the Background

Use the `-b` option to background the download process if you do not want `wget` to occupy your terminal process.

```
1   $ wget -b http://www.linode.com/docs/assets/695-wget-example.txt
2   Continuing in background, pid 9810.
3   Output will be written to `wget-log'.
4
5   $ cat wget-log
6   --2010-10-01 12:06:55--  http://www.linode.com/docs/assets/695-wget-example.txt
7   Resolving linode.com/docs... 74.207.233.254
8   Connecting to linode.com/docs|74.207.233.254|:80... connected.
9   HTTP request sent, awaiting response... 200 OK
10  Length: 477 [text/plain]
11  Saving to: `wget-example.txt'
12
13      0K                                                    100%  686K=0.001s
14
15  2010-10-01 12:06:37 (686 KB/s) - `wget-example.txt' saved [477/477]
```

Avoid Redundant Downloads

`wget` includes a number of options designed to conserve bandwidth and redundant operations.

- `-nc` is the "no clobber" option, which prevents `wget` from downloading a file if it would overwrite an existing file.
- `-N` prevents `wget` from downloading a file if a newer file of the same name exists on the local machine.

- `-c` allows `wget` to continue downloading a file that was partially downloaded.

Rate Limit Download Operations with wget

If you need to control how much bandwidth `wget` uses, you can specify a "rate limit" with the `--limit-rate=[RATE]` option. `[RATE]` is specified in terms of bytes per second unless a `k` is appended to specify kilobytes.

```
1   wget --limit-rate=3k http://example.com/releases/1285786486.tar.gz
```

This command downloads the `1285786486.tar.gz` file with the operation limited to consume no more than 3 kilobytes a second. The method used to rate limit downloads is more effective for bigger files than for small downloads that complete rapidly.

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