Cloning

Getting an initial clone of a remote repository is as simple as doing:

```
$ git clone git://git.kernel.org/pub/scm/git/git.git
```

which brings down the entire git repository for git itself. It puts it in a directory called **git**, which contains the usual **.git** subdirectory with all the objects, indexes, etc. that are part of the repository.

This can be a large download, but it is a one time operation.

Note the use of the **git://** protocol in the remote specification. It is the preferred method, but not the only one that can be used. Other possibilities are:

```
file:///path/to/repo.git

ssh://user@remotesite.org[:port]/path/to/repo.git

user@remotesite.org:/path/to/repo.git

http://remotesite.org/path/to/repo.git

https://remotesite.org/path/to/repo.git

rsync://remotesite.org/path/to/repo.git
```

The **git://** method is the fastest and cleanest and should be used whenever it is supported.

If you do a clone of a local repository, git will use hard links where possible to save disk space. If you want or need to prevent this, use the **--no-hardlinks** option to git clone.

You can see the references within either a local or remote repository. (In this context, references are just a list of all branches and tags.) For example, in the local **git** project directory do:

```
$ git show-ref
bd757c18597789d4f01cbd2ffc7c1f55e90cfcd0 refs/heads/master
bd757c18597789d4f01cbd2ffc7c1f55e90cfcd0 refs/remotes/origin/HEAD
6d325dff7434895753dcad82809783644dec75f6 refs/remotes/origin/html
dc89689e86c991c3ebb4d0b6c0cce223ea8e6e47 refs/remotes/origin/maint
....
1250aafa65e7ec62cf776d863ca8c7e4f822928c refs/tags/v1.6.6-rc2
d205d24b8ae17232babad615572bb0265bc029f1 refs/tags/v1.6.6-rc3
09e5ddd756bca67552aad623bab374614ae5e60d refs/tags/v1.6.6-rc4
```

To see what is in the remote repository, do:

```
$ git ls-remote git://git.kernel.org/pub/scm/git/git.git
bd757c18597789d4f01cbd2ffc7c1f55e90cfcd0        HEAD
6d325dff7434895753dcad82809783644dec75f6        refs/heads/html
dc89689e86c991c3ebb4d0b6c0cce223ea8e6e47        refs/heads/maint
8407cc83c60b5e45869c5f64cdcaafee5e9f2f92        refs/heads/man
bd757c18597789d4f01cbd2ffc7c1f55e90cfcd0        refs/heads/master
....
d205d24b8ae17232babad615572bb0265bc029f1        refs/tags/v1.6.6-rc3
94058a90cf3e10122037cd80ea48d3d52be5efd9        refs/tags/v1.6.6-rc3^{}
09e5ddd756bca67552aad623bab374614ae5e60d        refs/tags/v1.6.6-rc4
ab0964d951e4ea88f9ea2cbb88388c1bcd4ae911        refs/tags/v1.6.6-rc4^{}
```

You will notice there are additional references in the remote repository which are not reflected in the clone. If you want to update your repository with changes made at the remote site, you can simply do:

```
$ git pull
```

to synchronize.