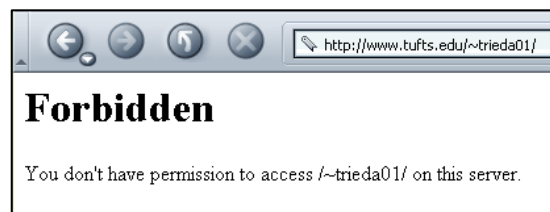


Chmod and Permissions

One disadvantage to creating folders locally and using Dreamweaver's synchronize tools to add them on Emerald is that you don't have the opportunity to see or change the file and directory permissions. As discussed earlier, the **ls-l** command displays file and directory details that include access permissions for the Owner, Group and Other classes. So, it's back to Unix and SecureCRT that we go.

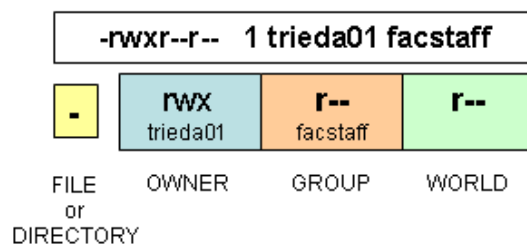


The command you use to change the mode of a file or directory is the *change mode* command, or **chmod**.

PERMISSIONS REVIEW

The following example tells us the owner class has full permission and the group and world class have read access. Using the **ls-l** command at the Emerald/SecureCRT prompt, you'll see file permissions listed:

```
-rwxr--r-- 1 trieda01 facstaff 36891 Feb 1 2002 old mail test
```



The term that Unix uses for read, write, or execute permissions is **mode**. As an automatic member of the owner class, you have read write and execute mode of your home directory. You also have the right to set the access level for your files and directories for the 3 classes of users:

Group or world class with **read** permissions can:

- See a listing of a directories contents
- View a files contents

Group or world class with **write** permissions can:

- Create or remove a directory and it's contents
- Change the content of the file (edit it, delete it, etc.)

Group or world class with **execute** permissions can:

- Move into the directory using the **cd** command
- Run the file(s) as a program

Considering that the whole point of having a web site is to share, no one will be able to view your web pages and images until you give the Other class group read and execute permissions.

The syntax for the chmod command is:

chmod *nnn filename* (or *directoryname/*)

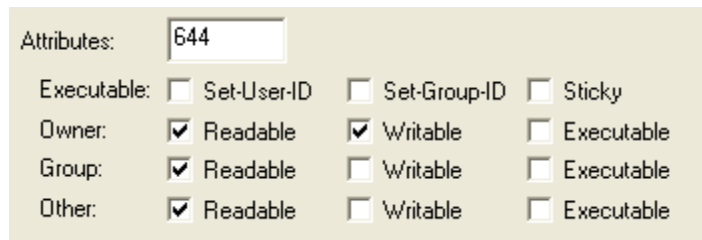
The numbers derive from the sum total of the 3 levels of selected permissions for each class of user:

	Owner	Group	Other (World)
Read (4)	x	x	x
Write (2)	x		
Execute (1)	x		
	7	4	4

A general rule of thumb is that the **755** command is applied to directories to make them accessible to users on the web. Files underneath those directories are made accessible and viewable with the **644** command. You can use wildcards with files to affect all the files within a directory, but changes to directories can only be applied to one directory at a time.

(Note: Screenshots of permissions are from the SecureFX utility)

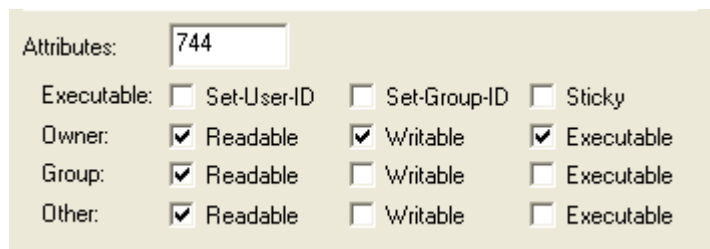
TIP: You can also view file permissions AND change them in FileZilla



Attributes: 644

Executable:	<input type="checkbox"/> Set-User-ID	<input type="checkbox"/> Set-Group-ID	<input type="checkbox"/> Sticky
Owner:	<input checked="" type="checkbox"/> Readable	<input checked="" type="checkbox"/> Writable	<input type="checkbox"/> Executable
Group:	<input checked="" type="checkbox"/> Readable	<input type="checkbox"/> Writable	<input type="checkbox"/> Executable
Other:	<input checked="" type="checkbox"/> Readable	<input type="checkbox"/> Writable	<input type="checkbox"/> Executable

If you prefer to retain executable rights for yourself, use **744**:



Attributes: 744

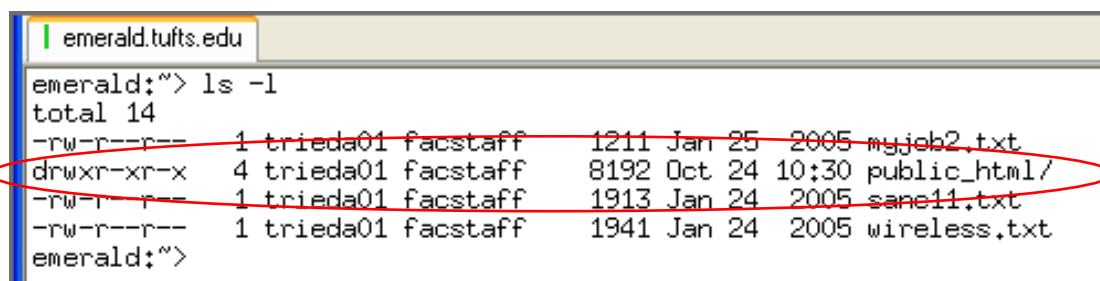
Executable:	<input type="checkbox"/> Set-User-ID	<input type="checkbox"/> Set-Group-ID	<input type="checkbox"/> Sticky
Owner:	<input checked="" type="checkbox"/> Readable	<input checked="" type="checkbox"/> Writable	<input checked="" type="checkbox"/> Executable
Group:	<input checked="" type="checkbox"/> Readable	<input type="checkbox"/> Writable	<input type="checkbox"/> Executable
Other:	<input checked="" type="checkbox"/> Readable	<input type="checkbox"/> Writable	<input type="checkbox"/> Executable

QUICK AND EASY - Change permissions for the web pages and images located in your home directory:

1. Open SecureCRT and login to Emerald.

2. Type **ls -l** <enter>

You will see a list of the files and directories with their current permission status.



```
emerald.tufts.edu
emerald:~> ls -l
total 14
-rw-r--r-- 1 trieda01 facstaff 1211 Jan 25 2005 myjob2.txt
drwxr-xr-x 4 trieda01 facstaff 8192 Oct 24 10:30 public_html/
-rw-r--r-- 1 trieda01 facstaff 1913 Jan 24 2005 sanc11.txt
-rw-r--r-- 1 trieda01 facstaff 1941 Jan 24 2005 wireless.txt
emerald:~>
```

At the emerald prompt, type the following sequence of commands, hitting <enter> after each command:

chmod 711 ~

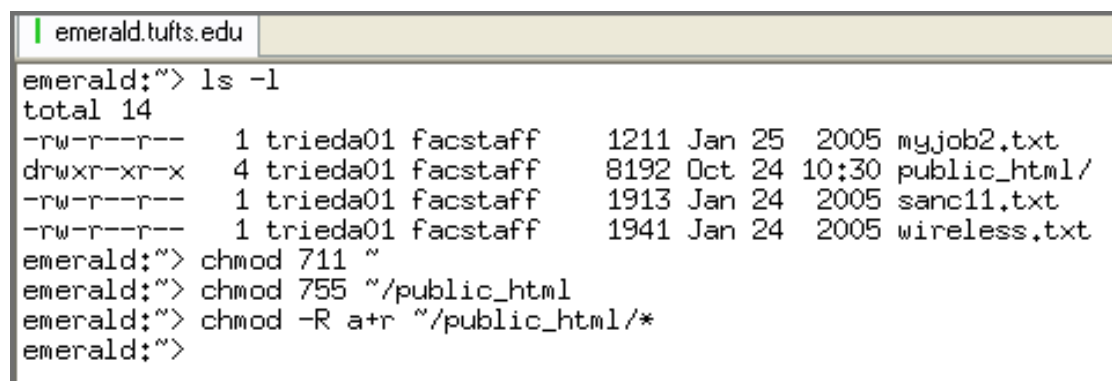
<enter>

chmod 755 ~/public_html

<enter>

chmod -R a+r ~/public_html/*

<enter>



```
emerald.tufts.edu
emerald:~> ls -l
total 14
-rw-r--r--  1 trieda01 facstaff   1211 Jan 25  2005 myjob2.txt
drwxr-xr-x  4 trieda01 facstaff  8192 Oct 24 10:30 public_html/
-rw-r--r--  1 trieda01 facstaff   1913 Jan 24  2005 sanc11.txt
-rw-r--r--  1 trieda01 facstaff   1941 Jan 24  2005 wireless.txt
emerald:~> chmod 711 ~
emerald:~> chmod 755 ~/public_html
emerald:~> chmod -R a+r ~/public_html/*
emerald:~>
```

All files the web pages located in your public_html directory will now be accessible from the web.