# **Shell Programming**

A Necessity for all Programmers

## **Permissions**

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#### You will learn to ...

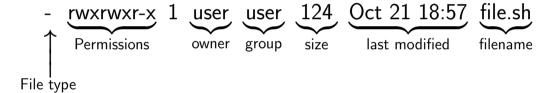


• Read and Assign permissions (Files and Directories)

### Recapitulate Is -I



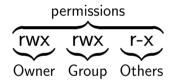
- long list format
- displays information



#### File Permissions



- Ownership: Owner (u), Group (g), Others (o), All (a)
- Permission: Read (r), Write (w), Execute (x)



- chmod method file(s)/directories
- Recursively: Option R
- Symbolic Method
- Octal Method

## Symbolic Method



chmod 
$$\underbrace{< Ownership >}_{u \mid g \mid o \mid a} \underbrace{< Action >}_{+ \cdot -} \underbrace{< Permission >}_{r \mid w \mid x} file(s)$$

- Assign read permission to all: chmod a=r file1
- Assign read permission to all: chmod ugo=r file1
- Grant execute permission to owner: chmod u+x file1
- Deny write access to group and others: chmod go-w file1

#### Octal Method



Uses number (No.) to set permissions (r, w, x)
 for each Ownership (u, g, o)

		permissions		
${\sf chmod}$	<pre><owner></owner></pre>	<group></group>	<other></other>	file(s)
	No.	No.	No.	

- r (all): chmod 444 file1
- rw (only owner): chmod 600 file1
- rw (owner); r (group & other): chmod 644 file1
- rwx (owner); rx (group & other): chmod 755 file1
- rwx (all): chmod 777 file1 Dangerous

No.	r	w	x
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

### Now, you can ...



- Ownership (user, group, and others)
- Grant and deny permissions
- Symbolic method
- Octal method

# Thank you

