Sed Command in Linux/Unix with examples

SED command in UNIX stands for stream editor and it can perform lots of functions on file like searching, find and replace, insertion or deletion. Though most common use of SED command in UNIX is for substitution or for find and replace. By using SED you can edit files even without opening them, which is much quicker way to find and replace something in file, than first opening that file in VI Editor and then changing it.

- SED is a powerful text stream editor. Can do insertion, deletion, search and replace(substitution).
- SED command in unix supports regular expression which allows it perform complex pattern matching.

Syntax:

```
sed OPTIONS... [SCRIPT] [INPUTFILE...]
```

Example:

Consider the below text file as an input.

```
$cat > geekfile.txt


unix is great os. unix is opensource. unix is free os.
learn operating system.
unix linux which one you choose.
unix is easy to learn.unix is a multiuser os.Learn unix .unix
is a powerful.
```

Sample Commands

1. **Replacing or substituting string :** Sed command is mostly used to replace the text in a file. The below simple sed command replaces the

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```
$sed 's/unix/linux/' geekfile.txt
```

Output :

```
linux is great os. unix is opensource. unix is free os.
learn operating system.
linux linux which one you choose.
linux is easy to learn.unix is a multiuser os.Learn unix
.unix is a powerful.
```

Here the “s” specifies the substitution operation. The “/” are delimiters. The “unix” is the search pattern and the “linux” is the replacement string.

By default, the sed command replaces the first occurrence of the pattern in each line and it won’t replace the second, third...occurrence in the line.

2. **Replacing the nth occurrence of a pattern in a line :** Use the /1, /2 etc flags to replace the first, second occurrence of a pattern in a line. The below command replaces the second occurrence of the word “unix” with “linux” in a line.

```
$sed 's/unix/linux/2' geekfile.txt
```

Output:

```
unix is great os. linux is opensource. unix is free os.
learn operating system.
unix linux which one you choose.
unix is easy to learn.linux is a multiuser os.Learn unix
.unix is a powerful.
```

3. **Replacing all the occurrence of the pattern in a line :** The substitute flag /g (global replacement) specifies the sed command to replace all the occurrences of the string in the line.

```
$sed 's/unix/linux/g' geekfile.txt
```

Output :

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```
linux linux which one you choose.
linux is easy to learn.linux is a multiuser os.Learn linux
.linux is a powerful.
```

4. **Replacing from nth occurrence to all occurrences in a line :** Use the combination of /1, /2 etc and /g to replace all the patterns from the nth occurrence of a pattern in a line. The following sed command replaces the third, fourth, fifth... “unix” word with “linux” word in a line.

   ```
   $sed 's/unix/linux/3g' geekfile.txt
   ```

   Output:

   ```
   unix is great os. unix is opensource. linux is free os.
   learn operating system.
   unix linux which one you choose.
   unix is easy to learn.unix is a multiuser os.Learn linux
   .linux is a powerful.
   ```

5. **Parenthesize first character of each word :** This sed example prints the first character of every word in parenthesis.

   ```
   $ echo "Welcome To The Geek Stuff" | sed 's/\(\b[A-Z]\)/\
   (\1\)/g'
   ```

   Output:

   ```
   (W)elcome (T)o (T)he (G)eek (S)tuff
   ```

6. **Replacing string on a specific line number :** You can restrict the sed command to replace the string on a specific line number. An example is

   ```
   $sed '3 s/unix/linux/' geekfile.txt
   ```

   Output:

   ```
   unix is great os. unix is opensource. unix is free os.
   learn operating system.
   linux linux which one you choose.
   unix is easy to learn.unix is a multiuser os.Learn unix
   .unix is a powerful.
   ```

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Got It !

replaced line twice on the terminal. If a line does not have the search pattern and is not replaced, then the /p prints that line only once.

```
$sed 's/unix/linux/p' geekfile.txt
```

Output:

```
linux is great os. unix is opensource. unix is free os.
linux is great os. unix is opensource. unix is free os.
learn operating system.
linux linux which one you choose.
linux linux which one you choose.
linux is easy to learn.unix is a multiuser os.Learn unix
.unix is a powerful.
linux is easy to learn.unix is a multiuser os.Learn unix
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```

8. **Printing only the replaced lines :** Use the -n option along with the /p print flag to display only the replaced lines. Here the -n option suppresses the duplicate rows generated by the /p flag and prints the replaced lines only one time.

```
$sed -n 's/unix/linux/p' geekfile.txt
```

Output:

```
linux is great os. unix is opensource. unix is free os.
linux linux which one you choose.
linux is easy to learn.unix is a multiuser os.Learn unix
.unix is a powerful.
```

If you use -n alone without /p, then the sed does not print anything.

9. **Replacing string on a range of lines :** You can specify a range of line numbers to the sed command for replacing a string.

```
$sed '1,3 s/unix/linux/' geekfile.txt
```

Output:

```
linux is great os. unix is opensource. unix is free os.
learn operating system.
linux linux which one you choose
```

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```
.unix is a powerful.
```

Here the sed command replaces the lines with range from 1 to 3. Another example is

```
$sed '2,$ s/unix/linux/' geekfile.txt
```

Output:

```
unix is great os. unix is opensource. unix is free os.
learn operating system.
linux linux which one you choose.
linux is easy to learn.unix is a multiuser os.Learn unix
.unix is a powerful
```

Here $ indicates the last line in the file. So the sed command replaces the text from second line to last line in the file.

10. **Deleting lines from a particular file :** SED command can also be used for deleting lines from a particular file. SED command is used for performing deletion operation without even opening the file
Examples:
1. To Delete a particular line say n in this example

```
Syntax:
$ sed 'nd' filename.txt
Example:
$ sed '5d' filename.txt
```

2. To Delete a last line

```
Syntax:
$ sed '$d' filename.txt
```

3. To Delete line from range x to y

```
Syntax:
$ sed 'x,yd' filename.txt
Example:
$ sed '3,6d' filename.txt
```

4. To Delete from nth to last line

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```
$ sed 'nth,$d' filename.txt
Example:
$ sed '12,$d' filename.txt
```

5. To Delete pattern matching line

```
Syntax:
$ sed '/pattern/d' filename.txt
Example:
$ sed '/abc/d' filename.txt
```

SED command in Linux | Set 2

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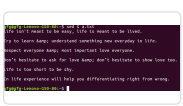
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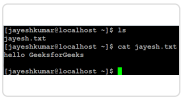

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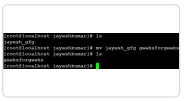


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