



AWK COMMAND

0

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Built-in Variables – Part 10

by [Aaron Kili](#) | Published: July 25, 2016 | Last Updated: July 25, 2016

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As we uncover the section of **Awk** features, in this part of the series, we shall walk through the concept of built-in variables in Awk. There are two types of variables you can use in Awk, these are; **user-defined**

variables

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covered in [Part 8](#) and built-in variables.

*Awk Built in Variables**Examples***Built-in**

variables have values already defined in **Awk**, but we can also carefully alter those values, the built-in variables include:

■ **FILENAME**

: current input file name(do not change variable name)

■ **FR** :

number of

the current



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(that is
input line
1, 2, 3...
so on, do
not
change
variable
name)

- **NF** :
number of
fields in
current
input line
(do not
change
variable
name)
- **OFS** :
output
field
separator
- **FS** : input
field
separator
- **ORS** :
output
record
separator
- **RS** : input
record
separator

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to illustrate the
use of some of
the Awk
built-in
variables
above:

To read the
filename of the
current input
file, you can
use the

FILENAME

built-in
variable as
follows:

```
$ awk ' { p
```

Awk FILENAME

Variable

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filename is
printed out for
each input line,
that is the
default
behavior of
Awk when you
use **FILENAME**
built-in
variable.

Using **NR** to
count the
number of
lines (records)
in an input file,
remember
that, it also
counts the
empty lines, as
we shall see in
the example
below.

When we view
the file
domains.txt
using **cat**
command, it
contains **14**
lines with text
and empty **2**

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```
$ cat ~/dom
```

Print Contents of File

```
$ awk ' END
```

*Awk Count Number
of Lines*

To count the number of fields in a record or line, we use the NR built-in variable as follows:

```
$ cat ~/nam
```

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List File Contents

```
$ awk '{ pr
```

*Awk Count Number
of Fields in File*

Next, you can also specify an input field separator using the **FS** built-in variable, it defines how **Awk** divides input lines into fields.

The default value for **FS** is **space** and **tab**, but we can

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any character
that will
instruct Awk to
divide input
lines
accordingly.

There are two
methods to do
this:

- one
method is
to use the
FS built-in
variable
- and the
second is
to invoke
the **-F** Awk
option

Consider the
file

/etc/passwd

on a Linux
system, the
fields in this
file are divided
using the 
character, so
we can specify

it as the **60 Commands of Linux : A Guide from Newbies to System Admini**

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separator
when we want
to filter out
certain fields
as in the
following
examples:

We can use
the **-F** option
as follows:

```
$ awk -F ':' '
```


*Awk Filter Fields in
Password File*

Optionally, we
can also take
advantage of
the **FS** built-in
variable as
below:

```
$ awk ' BEGIN
```

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RedHat RHCSA and RHCE Certification Exam Study Ebook (\$35)**Get This Book** *Filter Fields in File**Using Awk*

To specify an output field separator, use the  built-in variable, it defines how the output fields will be separated using the character we use as in the example below:

```
$ awk -F' :' '
```

*Add Separator to**Field in File***60 Commands of Linux : A Guide from Newbies to System Admini:**

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we have explored the idea of using Awk built-in variables which come with predefined values. But we can also change these values, though, it is not recommended to do so unless you know what you are doing, with adequate understanding.

After this, we shall progress to cover how we can use shell variables in Awk command operations, therefore, stay connected to

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