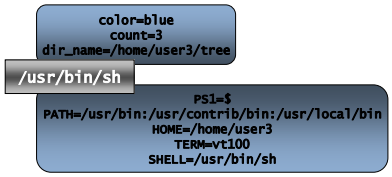
Chapter 4

Variables

Overview

- Shell Variables
- The shell environment
- Substitution

Lesson: Shell variables



Setting Shell Variables

- **Syntax**

```
name=value
```

- **Examples**

```
$ color=lavendel
$ count=3
$ dir_name=tree/car.models/ford
$ PS1=hi_there$
Hi_there$ set
```

Displaying Variable Values

```
$ echo $HOME
/home/stu05

$ env
HOME=/home/stu05
PATH=/usr/bin:/usr/controb/bin:/usr/local/bin
SHELL=/usr/bin/sh

$ set
HOME=/home/stu05
PATH=/usr/bin:/usr/controb/bin:/usr/local/bin
SHELL=/usr/bin/sh
color=lavender
count=3
dir_name=/home/stu05/tree

$ unset dir_name
```

`read` – read a line from standard input

- **Syntax**

```
read [-r] variable ...
```

- **Example**

```
$ cat color6
echo This program prompts for user input
echo "Please enter your favorite two colors -> \c"
read color_a color_b
echo The colors you entered are: $color_b $color_a
$ ./color6
This program prompts for user input
Please enter your favorite two colors -> red blue
The colors you entered are: blue red
$ ./color6
This program prompts for user input
Please enter your favorite two colors -> red blue tan
The colors you entered are: blue tan red
```

Removing Variables

- Syntax:

```
unset [-fv] name ...
```

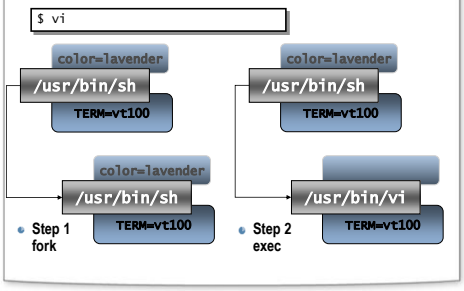
```
$ unset user_input
```

Variable	Value String
~~user_input~~	~~String from stdin~~
3	argc
2	argb
1	arga
0	prog.sh

Lesson: The shell environment

- Passing variables to an application
- Transferring Local Variables to the Environment

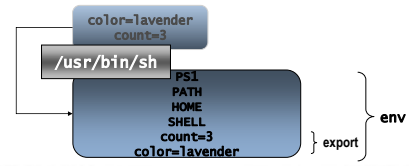
Passing variables to an application



Transferring Local Variables to the Environment

- Syntax

```
export variable[=value]
```



Using variables in shell scripts

```
$ color=lavender

$ cat color1
echo You are now running program: color1
echo the value of the variable color is: $color

$ ./color1
You are now running program: color1
the value of the variable color is:

$ export color
$ ./color1
You are now running program: color1
the value of the variable color is: lavender
```

Lesson: Substitution

- Using Variable Contents
- Variable Expansion
- Command Substitution

Using Variable Contents

- **Syntax**

```
$name
${name}
```

- **Examples**

```
$ echo $PATH
/usr/bin:/usr/contrib/bin:/usr/local/bin
$ PATH=$PATH:$HOME:.
$ echo $PATH
/usr/bin:/usr/contrib/bin:/usr/local/bin:/home/user3:.
$ echo $HOME
/home/user3
$ more $file_name
...
```

Variable Expansion

- **Syntax**

${parameter:-word}	${parameter%word}
${parameter:=word}	${parameter%%word}
${parameter:?[word]}	${parameter#word}
${parameter:+word}	${parameter##word}
${#parameter}	

- **Example**

```
$ filename=utility.ksh
$ echo ${filename#*.}
ksh
$ echo ${filename%.ksh}
utility
```

Command Substitution

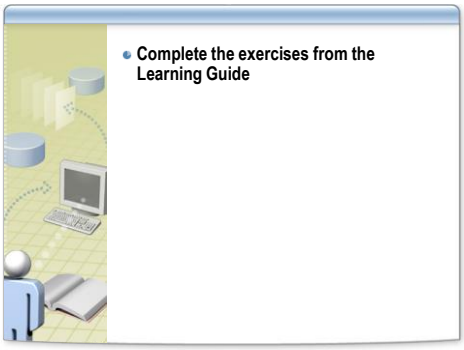
- **Syntax**

```
$(command)
`command`
```

- **Examples**

```
$ pwd
/home/stu02
$ curdir=$(pwd); echo $curdir
/home/stu02
$ cd /tmp; pwd
/tmp
$ cd $curdir; pwd
/home/stu02
```

Review Exercises



Topics for Review