

Bash Substring

In this topic, we have explained how to compute substring of a given string.

A substring is a sequence of characters within a string. Bash provides an option to extract the information from a string itself. You can extract the digits or a given string using several methods.

For example, "welcome you on Javatpoint." is a substring of "We welcome you on Javatpoint."

Syntax

The command for the extraction of substring is a build-in bash command, and so it is very good to use for performance perspective.

The syntax of the substring extraction can be defined as:

1. `${variable:offset:length}`

where,

Variable is the variable name that contains a string.

Offset is used to specify the position from where to start the extraction of a string.

Length is used to specify the range of the characters to be executed from the offset.

Note: Assigning length is optional. If length is not provided, then end of the string will be considered as the end of the substring.

Let's understand the concept of extracting a substring from the string with the help of some examples:

Example 1: To Extract till Specific Characters from Starting

```
#!/bin/bash

#Script to extract first 10 characters of a string

echo "String: We welcome you on Javatpoint."

str="We welcome you on Javatpoint."

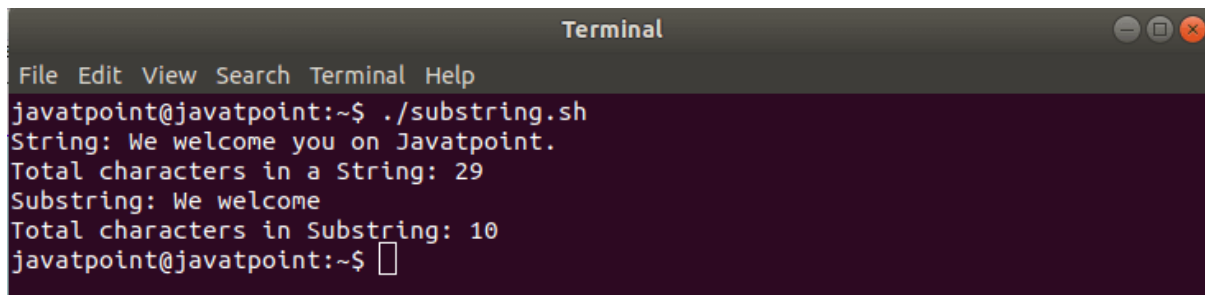
echo "Total characters in a String: ${#str} "

substr="${str:0:10}"

echo "Substring: $substr"

echo "Total characters in Substring: ${#substr} "
```

Output

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is "javatpoint@javatpoint:~\$". The user runs "./substring.sh". The script outputs: "String: We welcome you on Javatpoint.", "Total characters in a String: 29", "Substring: We welcome", and "Total characters in Substring: 10". The prompt returns to "javatpoint@javatpoint:~\$".

```
Terminal
File Edit View Search Terminal Help
javatpoint@javatpoint:~$ ./substring.sh
String: We welcome you on Javatpoint.
Total characters in a String: 29
Substring: We welcome
Total characters in Substring: 10
javatpoint@javatpoint:~$
```

Example 2: To Extract from Specific Character onwards

```
#!/bin/bash

#Script to print from 11th character onwards

str="We welcome you on Javatpoint."

substr="${str:11}"

echo "$substr"
```

Output

you on Javatpoint.

Here, end of the string is considered as the end of the substring.

Example 3: To Extract a Single Character

```
#!/bin/bash

#Script to print 11th character of a String

str="We welcome you on Javatpoint."

substr="${str:11:1}"

echo "$substr"
```

Output

Example 4: To Extract the specific characters from last

```
#!/bin/bash

#Script to extract 11 characters from last

str="We welcome you on Javatpoint."

substr="${str:(-11)}"

echo "$substr"
```

Output

Javatpoint.