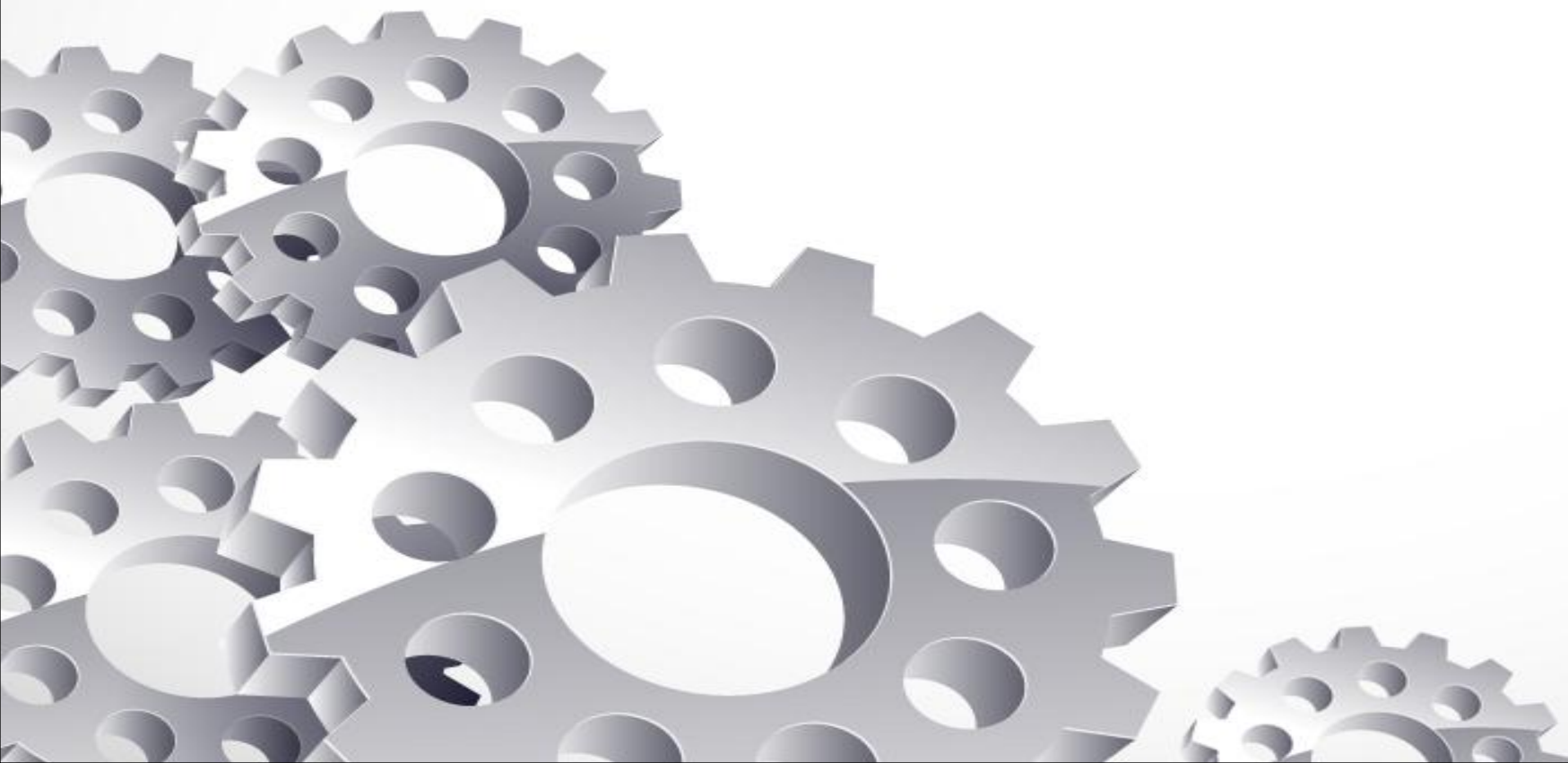



Array



- 
- An array is a structured arrangement of similar data elements. Within shell scripting, an array is a variable that holds multiple values, whether they are of the same type or different types. It's important to note that in shell scripting, everything is treated as a string. Arrays adhere to a zero-based index, which signifies that indexing initiates from 0.

# Declare Array in Shell Scripting



- Indirect Declaration
- In this method, you assign a value to a specific index of the array variable. There's no need to declare the array beforehand.
- `ARRAYNAME[INDEXNR]=value`



- Explicit Declaration
- With explicit declaration, you first declare the array and then assign values to it.
- `declare -a ARRAYNAME`



- Compound Assignment
- This method involves declaring the array along with its initial set of values. You can later add additional values to the array.
- `ARRAYNAME=(value1 value2 .... valueN)`
- Alternatively, you can use index numbers to assign values explicitly:
- `ARRAYNAME=([1]=10 [2]=20 [3]=30)`

# Printing Array Values in Shell Script:



- # To declare a static Array
- arr=("Jayesh" "Shivang" "1" "Vipul" "Nishant" "2")
- # To print all elements of the array
- echo "All elements of the array:"
- echo "\${arr[@]}"
- echo "\${arr[\*]}"



- # To print the first element
- echo "The first element:"
- echo "\${arr[0]}"

This syntax retrieves and displays the first element of the array. In Bash, array indexing starts at 0.

- # To print a selected index element
- selected\_index=3
- echo "Selected index element at index \$selected\_index:"
- echo "\${arr[\$selected\_index]}"



- # To print elements from a particular index
  - echo "Elements from a particular index:"
  - echo "\${arr[@]:2}" # Prints elements starting from index 2
  - echo "\${arr[\*]:2}" # Prints elements starting from index 2
- 
- # To print elements in a range
  - echo "Elements in a range:"
  - echo "\${arr[@]:1:3}" # Prints elements from index 1 to 3
  - echo "\${arr[\*]:1:3}" # Prints elements from index 1 to 3





- # Declare a static Array
- arr=("Jayesh" "Shivang" "1" "rishabh" "Vipul" "Nishtan")
- # Count the length of a particular element in the array
- element\_length=\${#arr[2]}
- echo "Length of element at index 2: \$element\_length"



- # Count the length of the entire array
- `array_length=${#arr[@]}`
- `echo "Length of the array: $array_length"`
  
- # Search in the array
- `search_result=$(echo "${arr[@]}" | grep -c "Jayesh")`
- `echo "Search result for 'Jayesh': $search_result"`









