Heap Size In Salesforce

November 13, 2018

What is heap size?

Many times developers have faced this problem. It is very important to understand what is heap size in salesforce.

Heap size is the memory allocated to the objects created in apex to store data in it during run time.

In apex code whenever an object is created, certain memory is allocated to it dynamically during the runtime of the program.

This memory is used to store data in it.

Watch for heap size:-

1. use limit methods to get heapsize in at any instance of time during runtime.

Limits.getHeapSize() –> Returns the amount of memory already used.

Limits.getLimitHeapSize() –> Returns the total memory size allocated in the current context.

2. You can watch out for heap size in the debug log as shown below :-

```
03:25:33.24 (16247897491)|SYSTEM_MODE_ENTER|true
03:25:33.24 (16248504388)|VF_SERIALIZE_VIEWSTATE_BEGIN|066c000000036si
03:25:33.24 (16282439878)|VF_SERIALIZE_VIEWSTATE_END
03:25:33.286 (16286322653)|CUMULATIVE_LIMIT_USAGE
03:25:33.286 (16286322653)|LIMIT_USAGE_FOR_NS|(default)|
  Number of SOQL queries: 0 out of 100
  Number of query rows: 0 out of 50000
  Number of SOSL queries: 0 out of 20
  Number of DML statements: 0 out of 150
  Number of DML rows: 0 out of 10000
  Maximum CPU time: 9279 out of 10000 ******* CLOSE TO LIMIT
  Maximum heap size: 1924708 out of 6000000
  Number of callouts: 1 out of 100
  Number of Email Invocations: 0 out of 10
  Number of future calls: 0 out of 50
  Number of queueable jobs added to the queue: 0 out of 50
  Number of Mobile Apex push calls: 0 out of 10
```

How to avoid heap size errors :-

1. **Use soql for loop**. This avoid heap size as we are not storing the data in any variable but directly processing it in the loop.

   example :- for(Account ac:[select id, name from account]){ // insert logic here}

2. Store required amount of data only. While doing a query usually we retrieve all fields which increases the heap size. One should only query those fields which they will work on.

3. Use local variables instead of class level variable to store large amount of data. storing data in local variable will go out of scope as soon as the method gets over. This helps in cleaning heap size after use.