

# Build better apex scripts to manage heap limits

**Knowledge Article Number** 000328918

**Description** Some strategies on how to write Apex scripts that run within heap limits.

**Resolution**

1. Look for **heap size in debug logs**. If heap size is approaching the limit, investigate it and refactor the code.
2. Use the **'Transient'** keyword with variables. It is used to declare instance variables that cannot be saved, and shouldn't be transmitted as part of the view state for a Visualforce page.
3. Use **Limit methods**. Use heap limits methods in your Apex code to monitor/manage the heap during execution.
  - **Limits.getHeapSize()** – Returns the approximate amount of memory (in bytes) that has been used for the heap in the current context.
  - **Limits.getLimitHeapSize()** – Returns the total amount of memory (in bytes) that can be used for the heap in the current context.

```
// check the heap size at runtime
if (Limits.getHeapSize > 275000) {
    // implement logic to reduce
}
```

4. Reduce heap size during runtime by removing items from the collection as you iterate over it.
5. Use SOQL for loops. To avoid heap size limits, developers should always use a SOQL "for" loop to process query results that return many records.