The parallel garbage collector (GC) is a generational collector that uses multiple threads to speed up garbage collection. It is the default GC of the JVM from Java 5 until Java 8 and is sometimes called the throughput collector.

The parallel GC works by dividing the heap into two generations: the young generation and the old generation. The young generation is where most objects are allocated, and it is garbage collected more frequently than the old generation. The parallel GC uses multiple threads to collect garbage in the young generation, which can significantly reduce the time it takes to collect garbage.

The parallel GC also uses a technique called concurrent marking to collect garbage in the old generation. Concurrent marking allows the parallel GC to collect garbage without stopping application threads, which can improve throughput.

The parallel GC is a good choice for applications that require high throughput. However, it can have longer pause times than other GCs, such as the serial GC.

To enable the parallel GC in Java, you can use the -XX:+UseParallelGC JVM argument. You can also specify the number of garbage collector threads to use with the -XX:ParallelGCThreads=<N> JVM argument.

Here are some of the advantages of using the parallel GC:

* High throughput
* Can be used on multi-core machines
* Can be tuned to achieve the desired balance between throughput and pause time

Here are some of the disadvantages of using the parallel GC:

* Longer pause times than other GCs
* Can be more complex to tune

Overall, the parallel GC is a good choice for applications that require high throughput. However, you should carefully consider the application's requirements before enabling the parallel GC.

Here are some additional resources that you may find helpful:

* The Parallel Garbage Collector: https://docs.oracle.com/javase/8/docs/technotes/guides/vm/gctuning/parallel.html
* How to Tune Java Garbage Collection: https://sematext.com/blog/java-garbage-collection-tuning/
* Types of Garbage Collector in Java: https://www.javatpoint.com/types-of-garbage-collector-in-java