

Assignment 3 CPSC 441
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When the shutdown method is called while threads are still executing the shutdown method first signals to the run method to exit the while loop. Final iterations of the main while loop will occur grabbing any new requests that may have popped up. Then it signals to the pool of threads that no more can be created as we are waiting for the current ones to finish. Shutdown then gives all currently active threads 5 seconds of time before terminating their executions. Finally if for some reason threads are still active after the 5 second wait time the pool cancels all current tasks. Thus the shutdown method would have smoothly handled all ongoing tasks giving them time to finish while also allowing the termination of idle tasks.

```
/**
 * Signals the web server to shutdown.
 *
 */
public void shutdown() {
    this.interrupted();
    // shutdown accepting new threads
    this.pool.shutdown();
    try {
        this.pool.awaitTermination(5, TimeUnit.SECONDS);
    } catch (InterruptedException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
    // cancel all current tasks
    this.pool.shutdownNow();
}
```