

#	Source		Pattern	
	Original	Modified	Original	Modified
1	<pre> LeafQueue leafQueue = ...; -synchronized (leafQueue) { 57 LOC } </pre>	<pre> LeafQueue leafQueue = ...; +try { + leafQueue.getReadLock().lock(); 57 LOC +} finally { + leafQueue.getReadLock().unlock(); } </pre>	<pre> synchronized (obj) { ... } </pre>	<pre> try { lock.lock(); ... } finally { lock.unlock(); } </pre>
2	<pre> -Lock readlock = - classLoaderContainerMapLock.readLock(); -try { - readlock.lock(); - result = classLoaderContainerMap.get(tccl); -} finally { - readlock.unlock(); -} -if (result == null) { - Lock writelock = - classLoaderContainerMapLock.writeLock(); - try { - writeLock.lock(); - result = classLoaderContainerMap.get(tccl); - if (result == null) { - result = new ServerContainerImpl(); - classLoaderContainerMap.put(tccl,result); - } - } finally { - writeLock.unlock(); - } -} </pre>	<pre> +synchronized (classLoaderContainerMapLock) { result = classLoaderContainerMap.get(tccl); if (result == null) { - result = new ServerContainerImpl(); - classLoaderContainerMap.put(tccl,result); } } </pre>	<pre> try { readLock.lock(); read operations } finally { readLock.unlock(); } try { writeLock.lock(); write operations } finally { writeLock.unlock(); } </pre>	<pre> synchronized { all operations } </pre>
3	<pre> private static final Object lock = new Object(); private Map<...> count = new HashMap<>(); -synchronized (count) { - Pair<Job, String> key = - new ImmutablePair<>(jobID, name); - if (count.containsKey(key)) { - count.put(key, count.get(key) + 1); - } else { - count.put(key, 1); - } -} </pre>	<pre> private static final Object lock = new Object(); private Map<...> count = new HashMap<>(); +synchronized(lock) + if (!jobCounts.containsKey(jobID)) { + jobCounts.put(jobID, new HashMap<>()); + } + Map<String, Integer> count = + jobCounts.get(jobID); + if (count.containsKey(name)) { + count.put(name, count.get(name) + 1); + } else { + count.put(name, 1); + } +} </pre>	<pre> synchronized (obj1) { ... } </pre>	<pre> synchronized (obj2) { ... } </pre>
4	<pre> -public boolean isAccessed() { return this.accessed; } </pre>	<pre> +public synchronized boolean isAccessed() { return this.accessed; } </pre>	<pre> void foo() { ... } </pre>	<pre> synchronized void foo() { ... } </pre>
5	<pre> -synchronized (this.channelLookup) { - try{ - lookupResponse = AkkaUtils. <JobManagerMessages.ConnectionInformation>ask(ch annelLookup, new JobManagerMessages.LookupConnectionInformation(c onnectionInfo, jobID, sourceChannelID), timeout).response(); - }catch(IOException ioe) { - throw ioe; - } -} </pre>	<pre> lookupResponse = AkkaUtils. <JobManagerMessages.ConnectionInformation>ask(channelLookup, new JobManagerMessages.LookupConnectionInformation (connectionInfo, jobID, sourceChannelID), timeout).response(); </pre>	<pre> synchronized (obj) { ... } </pre>	<pre> ... </pre>
6	<pre> synchronized (buffers) { if (...) { - if (spillWriter != null) { - spillWriter.close(); - } - isFinished = true; } } </pre>	<pre> synchronized (buffers) { if (...) { isFinished = true; } } +if (spillWriter != null) { + spillWriter.close(); +} </pre>	<pre> synchronized (obj) { statements1 statements2 } </pre>	<pre> synchronized (obj) { statements2 } statements1 </pre>
7	<pre> -public synchronized void reset() { map.clear(); members = EMPTY_MEMBERS; } </pre>	<pre> +private final Object membersLock = new + Object(); +public void reset() { + synchronized (membersLock) { - map.clear(); - members = EMPTY_MEMBERS; + } +} </pre>	<pre> synchronized void foo() { ... } </pre>	<pre> void foo() { synchronized (obj) { ... } } </pre>