

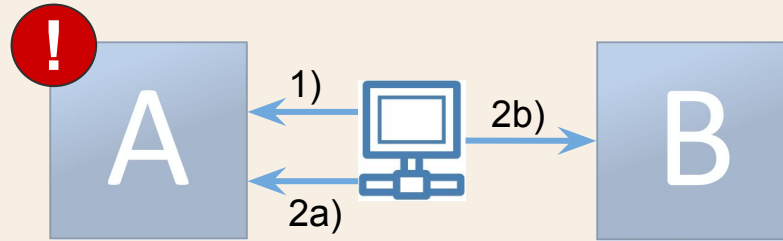
Extended Task Resubmission

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Baseline

1. Task Resubmission

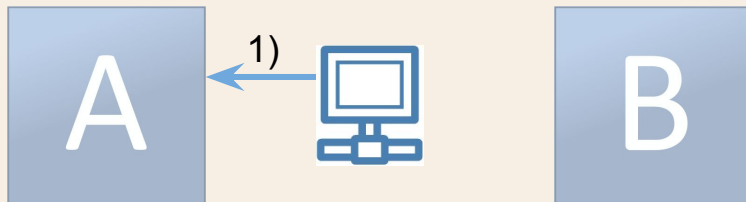
A job may fail now whenever a failed task is detected, in this case at runtime the task is resubmitted either to the same or to a different resource for execution.



Extension for Task Resubmission

After a task failed on the main resource, it is resubmitted to another node. In the meantime, the source node is restarted to exclude possible failures due to software and caching.

1. Task is send to A



Extension for Task Resubmission

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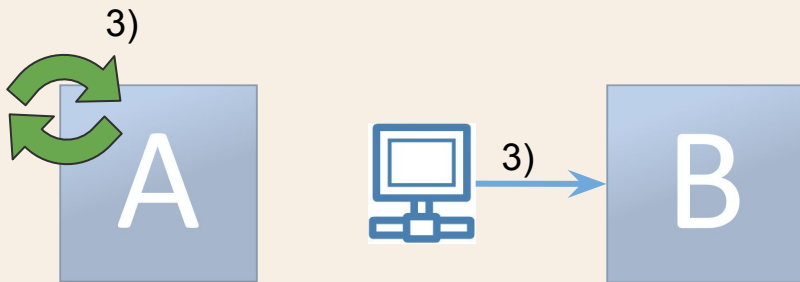
1. Task is send to A
2. **Error on A**



Extension for Task Resubmission

After a task failed on the main resource, it is resubmitted to another node. In the meantime, the source node is restarted to exclude possible failures due to software and caching.

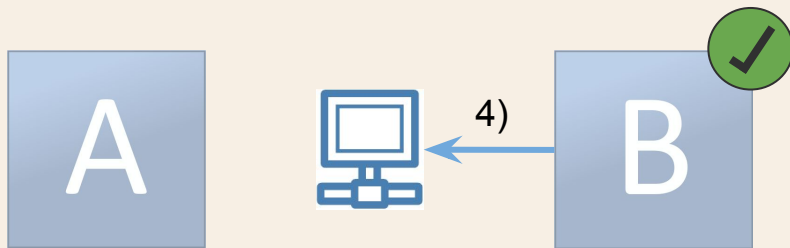
1. Task is send to A
2. Failure on A
3. **Resubmit to B**
Restart A



Extension for Task Resubmission

After a task failed on the main resource, it is resubmitted to another node. In the meantime, the source node is restarted to exclude possible failures due to software and caching.

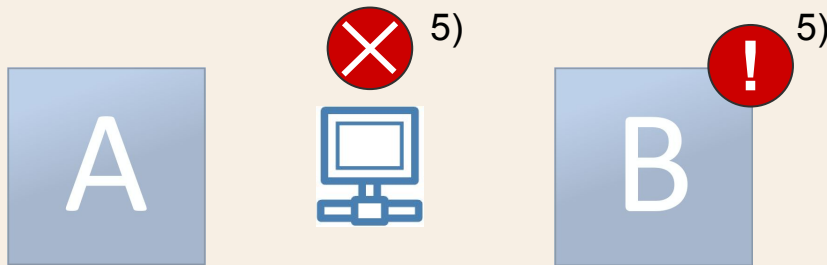
1. Task is send to A
2. Failure on A
3. Resubmit to B
Restart A
4. **B completes task**
→ **Notify controller**



Extension for Task Resubmission

After a task failed on the main resource, it is resubmitted to another node. In the meantime, the source node is restarted to exclude possible failures due to software and caching.

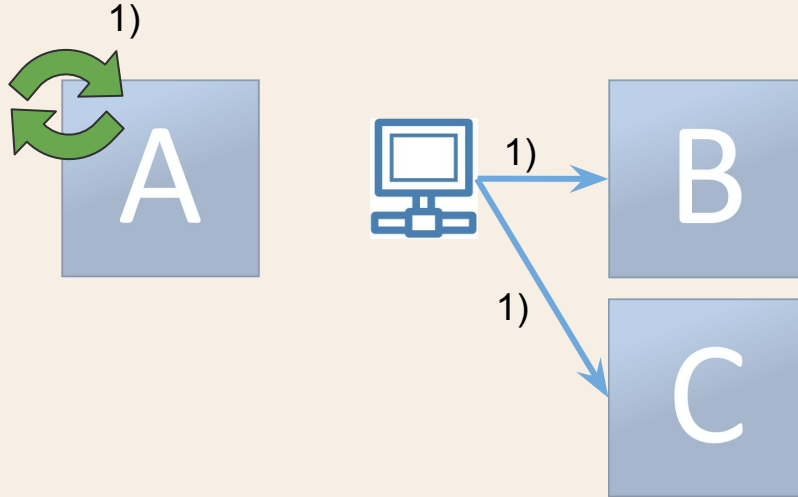
1. Task is send to A
2. Failure on A
3. Resubmit to B
Restart A
4. B completes task
→ Notify controller
5. **B fails**
→ **Task cannot be completed**



Additional Extension

The failed task is replicated and sent to two nodes. If one of them also fails, the concerning node is restarted as well. If both nodes Fail, the task cannot be finished.

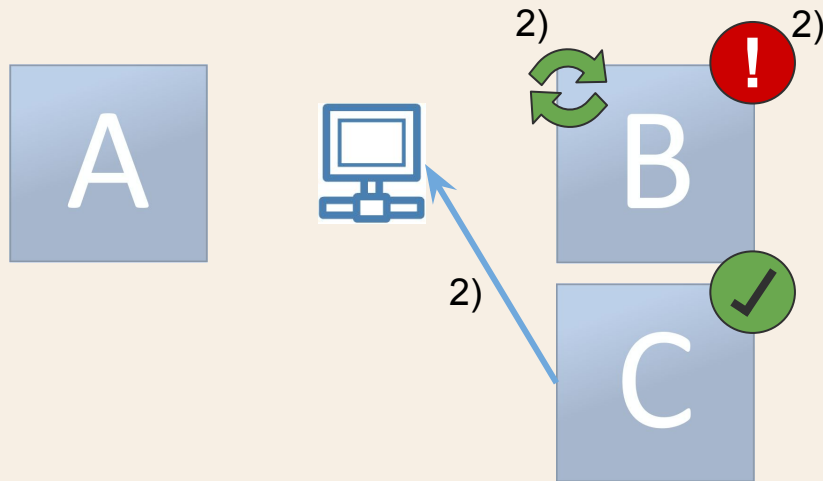
1. **Resubmit to B and C**
Restart A



Additional Extension

The failed task is replicated and sent to two nodes. If one of them also fails, the concerning node is restarted as well. If both nodes Fail, the task cannot be finished.

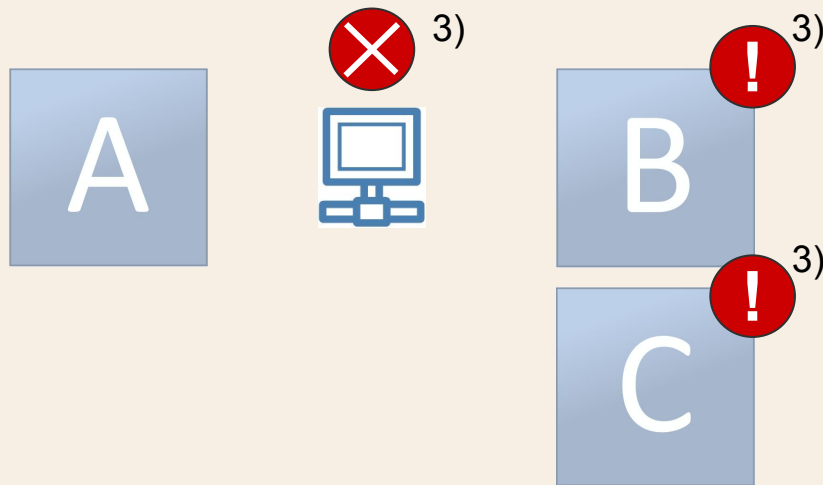
1. Resubmit to B and C
Restart A
2. **B fails, C completes**
 - **Task is finished**
 - **Restart B**



Additional Extension

The failed task is replicated and sent to two nodes. If one of them also fails, the concerning node is restarted as well. If both nodes Fail, the task cannot be finished.

1. Resubmit to B and C
Restart A
2. B fails, C completes
→ Task is finished
→ Restart B
3. **B and C fail**
→ **Task cannot be completed**



Thank You!

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