Troubleshooting Your Jobs

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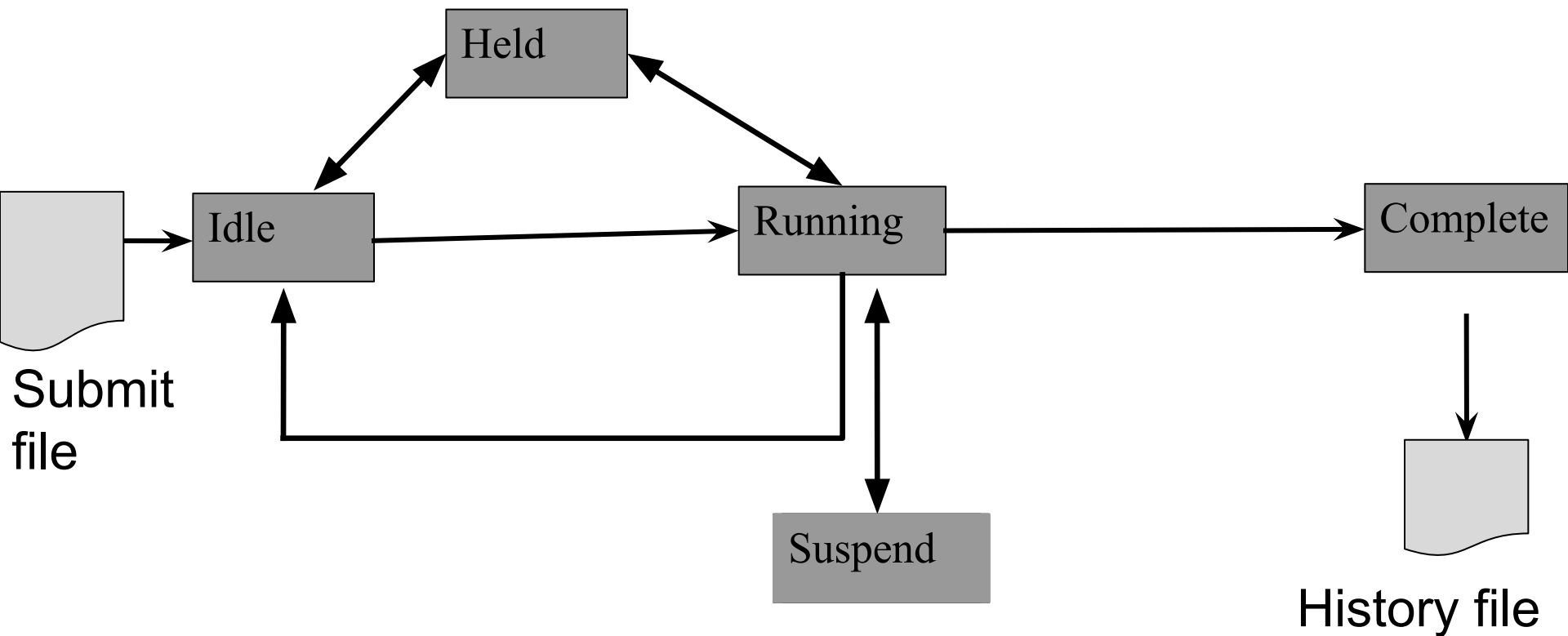
The grid is your oyster!

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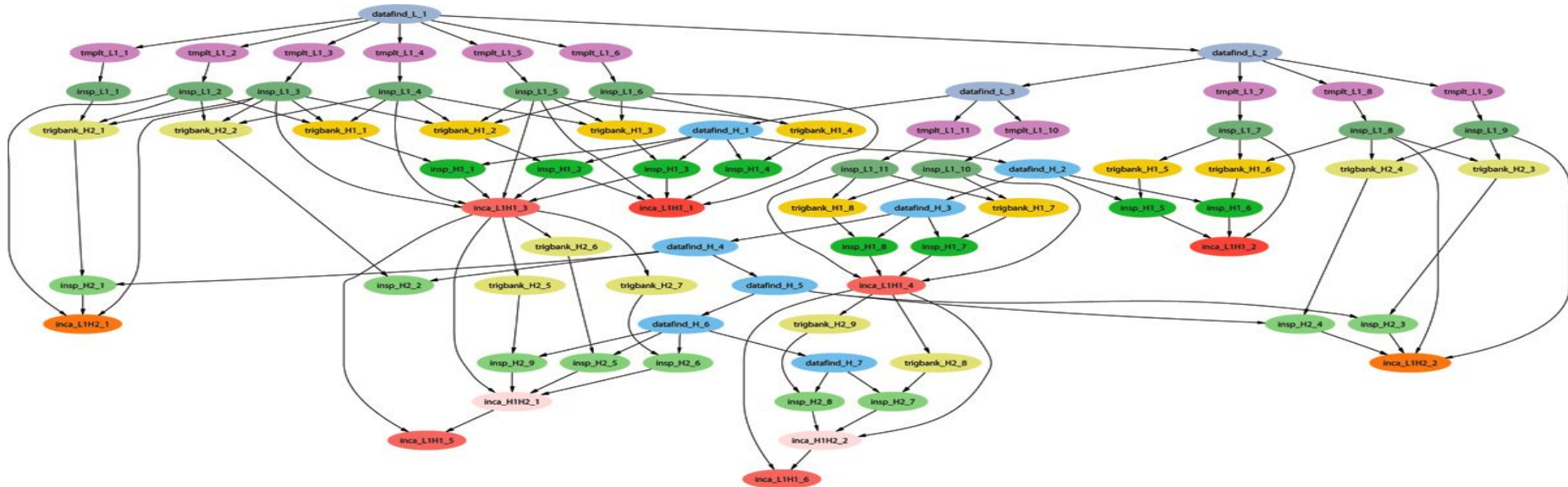**...if you can get it to work.**

General Troubleshooting

Example of a LIGO Inspiral DAG

Keys to Troubleshooting

- Identify the problem and break it into sub-problems
- Know where to find more information:
  - `condor_q` and its options
  - Output, error, log, and rescue files
  - Google
  - Local support
  - htcondor-users@cs.wisc.edu

Common Issues

Why can't I submit my job?

$ condor_submit sleep.sh

Submitting job(s)

ERROR: on Line 2 of submit file:

ERROR: Failed to parse command file (line 2).

Why can't I submit my job?

$ condor_submit sleep.sh

Submitting job(s)

ERROR: on Line 2 of submit file:

ERROR: Failed to parse command file (line 2).

Huh? You've tried to submit something that wasn't your submit file.

Solution: Submit your .sub file!

Why can't I submit my job?

$ condor_submit sleep.sub

Submitting job(s)

- ERROR: Can't open "/cloud/login/blin/school/inptu_data" with flags 00 (No such file or directory)
- Submitting job(s)No 'executable' parameter was provided
- ERROR: I don't know about the 'vanila' universe.
- ERROR: Executable file /bin/slep does not exist

Why can't I submit my job?

$ condor_submit sleep.sub

Submitting job(s)

- ERROR: Can't open "/cloud/login/blin/school/inptu_data" with flags 00 (No such file or directory)
- Submitting job(s)No 'executable' parameter was provided
- ERROR: I don't know about the 'vanila' universe.
- ERROR: Executable file /bin/slep does not exist

Huh? There are typos in your submit file.

Solution: Fix your typos! Condor can only catch a select few of them.

Why can't I submit my DAG?

Errors appears in *dagman.out files instead of STDOUT or STDERR:

07/25/16 17:14:42 From submit: Submitting job(s)

07/25/16 17:14:42 From submit: ERROR: Invalid log file: "/home/blin/sleep/sleep.log" (No such file or directory)

07/25/16 17:14:42 failed while reading from pipe.

07/25/16 17:14:42 Read so far: Submitting job(s)ERROR: Invalid log file: "/home/blin/sleep/sleep.log" (No such file or directory)

07/25/16 17:14:42 ERROR: submit attempt failed

What are my jobs up to?

$ condor_q -help status

   JobStatus codes:

1 I IDLE

2 R RUNNING

3 X REMOVED

4 C COMPLETED

5 H HELD

6 > TRANSFERRING_OUTPUT

7 S SUSPENDED

Why are my jobs idle?

$ condor_q -better 29486

[...]

The Requirements expression for job 29486.000 reduces to these conditions:

```
        Slots
Step   Matched  Condition
-----  --------  ---------
[1]     8348  Target.OpSysMajorVer == 6
[7]    10841  TARGET.Disk >= RequestDisk
[9]        1  TARGET.Memory >= RequestMemory
[11]   10852  TARGET.HasFileTransfer
```

Why are my jobs still running?

$ condor_q -nobatch

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?...

ID	OWNER	SUBMITTED	RUN_TIME	ST	PRI	SIZE	CMD
14665.0	blin	7/25 18:19	0+23:00:03	R	0	0.3	sleep.sh

Solution: Use `condor_ssh_to_job <job ID>` to open an SSH session to the worker node running your job.

Why are my jobs held?

$ condor_q -held

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?... @ 07/18/17 15:13:42

```
 ID    OWNER           HELD_SINCE  HOLD_REASON
19.0   blin           7/14 15:07  Error from fermicloud113.fnal.gov: Failed to execute
'/cloud/login/blin/school/sleep.sh': (errno=13: 'Permission denied')

14662.0   blin         7/25 18:05  Error from slot1_12@e163.chtc.wisc.edu: Failed to execute
'/var/lib/condor/execute/slot1/dir_3090825/condor_exec.exe': (errno=8: 'Exec format error')
```

Why are my jobs held?

$ condor_q -held

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?... @ 07/18/17 15:13:42

```
 ID   OWNER          HELD_SINCE  HOLD_REASON
19.0  blin           7/14 15:07  Error from fermicloud113.fnal.gov: Failed to execute
```
'/cloud/login/blin/school/sleep.sh': (errno=13: 'Permission denied')

```
14662.0  blin            7/25 18:05  Error from slot1_12@e163.chtc.wisc.edu: Failed to execute
```
'/var/lib/condor/execute/slot1/dir_3090825/condor_exec.exe': (errno=8: 'Exec format error')

Huh? Condor couldn't run your executable.

Solution: Set the executable bit on your executable (`chmod +x <filename>`) and/or add the missing shebang line at the top of the executable, e.g. '#!/bin/bash'.

Why are my jobs held?

$ condor_q -held

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?... @ 07/18/17 15:13:42

 ID   OWNER   HELD_SINCE HOLD_REASON

29494.0   blin   7/16 17:31 Failed to initialize user log to /home/blin/foo/bar/test-000.log or /home/blin/foo/./test.dag.nodes.log

Why are my jobs held?

$ condor_q -held

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?... @ 07/18/17 15:13:42

ID   OWNER   HELD_SINCE HOLD_REASON

29494.0   blin   7/16 17:31 Failed to initialize user log to /home/blin/foo/bar/test-000.log or /home/blin/foo/./test.dag.nodes.log

Huh? Condor couldn't read job or DAG log files

Solution: Ensure existence/proper write permissions for each folder in the specified path or choose a new location for your files!

Why are my jobs held?

$ condor_q -held

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?... @ 07/18/17 15:13:42

```
 ID   OWNER          HELD_SINCE  HOLD_REASON
19.0   blin         7/14 15:07 Error from fermicloud113.fnal.gov: Failed to execute
'/cloud/login/blin/school/sleep.sh': invalid interpreter (/bin/bash) specified on first line
of script (errno=2: 'No such file or directory')
```

Why are my jobs held?

$ condor_q -held

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?... @ 07/18/17 15:13:42

```
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'/cloud/login/blin/school/sleep.sh': invalid interpreter (/bin/bash) specified on first line
of script (errno=2: 'No such file or directory')
```

Huh? There are carriage returns (^M) in your executable.

Solution: Use `dos2unix` or `vi -b <filename>` to see and delete the carriage returns (use 'x' to delete).

Why are my jobs held?

$ condor_q -held

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?... @ 07/18/17 15:13:42

```
 ID   OWNER        HELD_SINCE  HOLD_REASON
19.0   blin        7/14 15:07 Error from slot1_1@e026.chtc.wisc.edu: Job has gone
over memory limit of 1 megabytes. Peak usage: 1 megabytes.
```

Why are my jobs held?

$ condor_q -held

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?... @ 07/18/17 15:13:42

ID   OWNER   HELD_SINCE HOLD_REASON

19.0   blin   7/14 15:07 Error from slot1_1@e026.chtc.wisc.edu: Job has gone over memory limit of 1 megabytes. Peak usage: 1 megabytes.

Huh? You've used too many resources.

Solution: Request more!

Why are my jobs held?

Edit your jobs on the fly with `**condor_qedit**` and `**condor_release**`:

1. $ condor_qedit <job ID> <resource> <value>
    a. $ condor_qedit <job ID> RequestMemory <mem in MB>
    b. $ condor_qedit -const 'JobStatus =?= 5' RequestDisk <disk in KiB>
    c. $ condor_qedit -const 'Owner =?= "blin"' RequestCpus <CPUs>
2. $ **condor_release <job ID>**

Or remove your jobs, fix the submit file, and resubmit:

1. $ condor_rm <job ID>
2. Add request_disk, request_mem, or request_cpus to your submit file
3. $ condor_submit <submit file>
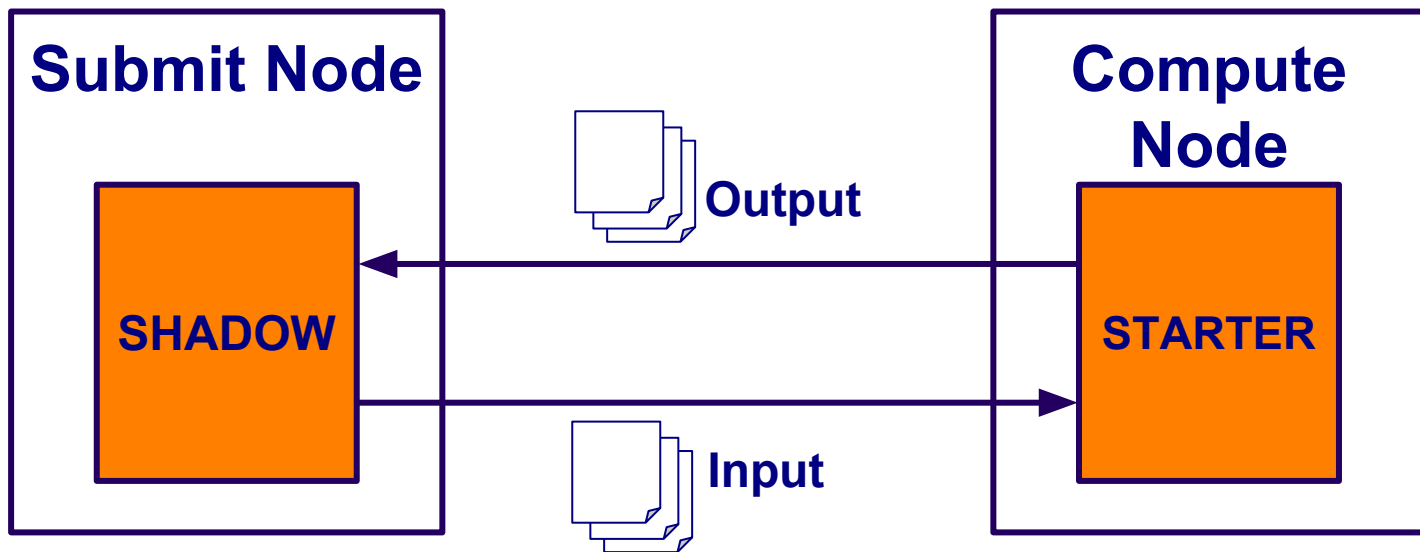
Why are my jobs held?

$ condor_q -held

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?... @ 07/18/17 15:13:42

24.0   blin   7/14 16:12 Error from fermicloud113.fnal.gov: STARTER at 128.104.100.52 failed to send file(s) to <128.104.100.43:64130>: error reading from /var/lib/condor/execute/dir_24823/bar: (errno 2) No such file or directory; SHADOW failed to receive file(s) from <128.104.100.52:10507>

Why are my jobs held?

Why are my jobs held?

$ condor_q -held

-- Schedd: learn.chtc.wisc.edu : <128.104.100.43:9618?... @ 07/18/17 15:13:42

 24.0   blin   7/14 16:12 Error from fermicloud113.fnal.gov: STARTER at 128.104.100.52 failed to send file(s) to <128.104.100.43:64130>: error reading from /var/lib/condor/execute/dir_24823/bar: (errno 2) No such file or directory; SHADOW failed to receive file(s) from <128.104.100.52:10507>

Huh? Your job did not create the files that you specified in *transfer_output_files*.

Solution: Check for typos in *transfer_output_files*, job runtime, add debugging information to your code.

My jobs completed but...

The output is wrong:

1. Check *.log files for return codes or unexpected behavior: short runtimes, using too much or too few resources
2. Check *.err and *.out for error messages.
3. Submit an interactive job: `condor_submit -i <submit file>` and run the executable manually.
   a. If it succeeds, does your submit file have the correct args? If yes, try adding 'GET_ENV=True' to your submit file.
   b. If it fails, there is an issue with your code or your invocation!

Troubleshooting DAGs

1. Check *.rescue* files (which DAG nodes failed)
2. Check *.dagman.out (errors with job submission)
3. Check *.nodes.log (return codes, PRE/POST script failures).
4. If PRE/POST scripts failed, run them manually to see where they failed.

Thanks!

Questions?