

**NEES**

# **BatchsubmitGUI Training**

Ali Irmak Ozdagli

# What is Batchsubmit?

- Not all civil engineering researchers are accustomed with job scheduler system.
- It is not an easy job for them:
  - To submit a simulation job
  - To check job status
  - To download data
- Batchsubmit streamlines job scheduling by simplifying submission.

# Pieces of Batchsubmit?

- There are three commands researchers can use to manage jobs. These commands can be used
  - batchsubmit:
    - Used to submit a job to a HPC venue.
    - A job consists of executable, input files, number of required processors and walltime
  - batchstatus:
    - Used to check status of all jobs/a specific set of jobs/a single job.
  - batchcancel:
    - Used to cancel a specific set of jobs/a single job.

# Why do we need BatchsubmitGUI?

- Sometimes, even batchsubmit can be complicated for researchers. Because terminal!
- An interactive interface may help researchers to understand how job submission works.
- A front-end to use batchsubmit/status/cancel is necessary.

# Main features of BatchsubmitGUI?

- GUI for job submission and management
- Job submission/cancellation /deletion of job
- Periodic check of job status

# Future plans for BatchsubmitGUI?

- View details about the job such as run-time and selected options
- Multiple job cancellation and deletion
- A more reactive status updating

# How to use BatchsubmitGUI?

The screenshot displays the BatchSubmit GUI interface. The main window is titled "BatchSubmit" and has a tab labeled "Overview". The central part of the window is a table with the following columns: Job Type, Job Name, State, Submission Time, and Venue. The table contains numerous rows of job data. At the bottom of the window, there is a control bar with buttons for "New Job", "Cancel Job", "Control Buttons", "Archive", and "Refresh". On the right side of the window, there is a "Venue Status" panel that lists the status of various venues, including "carter", "hansen", "local", "osg", and "stampede". Each venue entry shows its current status, queue name, and resource limits.

Job Type	Job Name	State	Submission Time	Venue
HeHe	job00001	Completed		hansen
date	job00002	Completed		?
date	job00003	Completed		local
date	job00004	Completed		local
hebele	job00001	Completed		carter
matlab	job00001	Submitted		hansen
matlab	job00002	Submitted		hansen
matlab	job00003	Completed		?
matlab	job00004	Completed		?
matlab	job00005	Completed		?
matlab	job00006	Completed		local
mp_sim	job00001	Completed		local
opensees	job00002	Completed		hansen
opensees	job00003	Completed		hansen
opensees	job00006	Completed		carter
opensees	job00007	Completed		carter
opensees	job00009	Completed		hansen
opensees	job00013	Completed		?
opensees	job00014	Completed		hansen
opensees	job00015	Completed		carter
opensees	job00016	Completed		carter
opensees	job00017	Completed	Thu Jun 18 14:15:15 EDT ...	carter
opensees	job00018	Completed	Tue Jun 23 10:46:53 EDT ...	carter
opensees	job00019	Completed	Tue Jun 23 14:55:18 EDT ...	carter
opensees_for_lucas	job00001	Completed		carter
openseesmp	job00003	Submitted		carter
openseesmp	job00005	Completed		carter
openseesmp	job00007	Completed		carter
openseesmp	job00008	Completed		carter
openssd	job00001	Completed		hansen
sim	job00001	Submitted		hansen
sim2	job00001	Completed		local
tool_box	job00001	Completed		local
tool_box	job00002	Completed		local
tool_box	job00003	Completed		carter

**Job Table**

**Venue List**

**Control Buttons**

# How to submit a job?

The screenshot displays the BatchSubmit application window. The main area is a table with the following columns: Job Type, Job Name, State, Submission Time, and Venue. The table lists various jobs, including 'HeHe', 'date', 'hebele', 'matlab', 'mp\_sim', 'opensees', 'opensees\_for\_lucas', 'openseesmp', 'openssd', 'sim', 'sim2', and 'tool\_box'. The 'State' column shows 'Completed' or 'Submitted'. The 'Venue' column lists 'hansen', 'carter', and 'local'. A yellow circle highlights the 'New Job' button in the bottom-left corner of the interface.

Job Type	Job Name	State	Submission Time	Venue
HeHe	job00001	Completed		hansen
date	job00002	Completed		?
date	job00003	Completed		local
date	job00004	Completed		local
hebele	job00001	Completed		carter
matlab	job00001	Submitted		hansen
matlab	job00002	Submitted		hansen
matlab	job00003	Completed		?
matlab	job00004	Completed		?
matlab	job00005	Completed		?
matlab	job00006	Completed		local
mp_sim	job00001	Completed		local
opensees	job00002	Completed		hansen
opensees	job00003	Completed		hansen
opensees	job00006	Completed		carter
opensees	job00007	Completed		carter
opensees	job00009	Completed		hansen
opensees	job00013	Completed		?
opensees	job00014	Completed		hansen
opensees	job00015	Completed		carter
opensees	job00016	Completed		carter
opensees	job00017	Completed	Thu Jun 18 14:15:15 EDT ...	carter
opensees	job00018	Completed	Tue Jun 23 10:46:53 EDT ...	carter
opensees	job00019	Completed	Tue Jun 23 14:55:18 EDT ...	carter
opensees_for_lucas	job00001	Completed		carter
openseesmp	job00003	Submitted		carter
openseesmp	job00005	Completed		carter
openseesmp	job00007	Completed		carter
openseesmp	job00008	Completed		carter
openssd	job00001	Completed		hansen
sim	job00001	Submitted		hansen
sim2	job00001	Completed		local
tool_box	job00001	Completed		local
tool_box	job00002	Completed		local
tool_box	job00003	Completed		carter

**Venue Status**

**carter**  
"This venue is currently available."  
**Queue: hees**  
Procs Per Node: 16  
Max Procs: 64  
Walltime: 72:00:00  
Max Walltime: 720:00:00

**hansen**  
"This venue is currently available."  
**Queue: hees**  
Procs Per Node: 4  
Max Procs: 48  
Walltime: 24:00:00  
Max Walltime: 720:00:00

**local**  
"This venue is currently available."  
**Queue: standby**  
Procs Per Node: 16  
Max Procs: 16  
Walltime: 24:00:00  
Max Walltime: 25:00:00

**osg**  
"This venue is currently available."

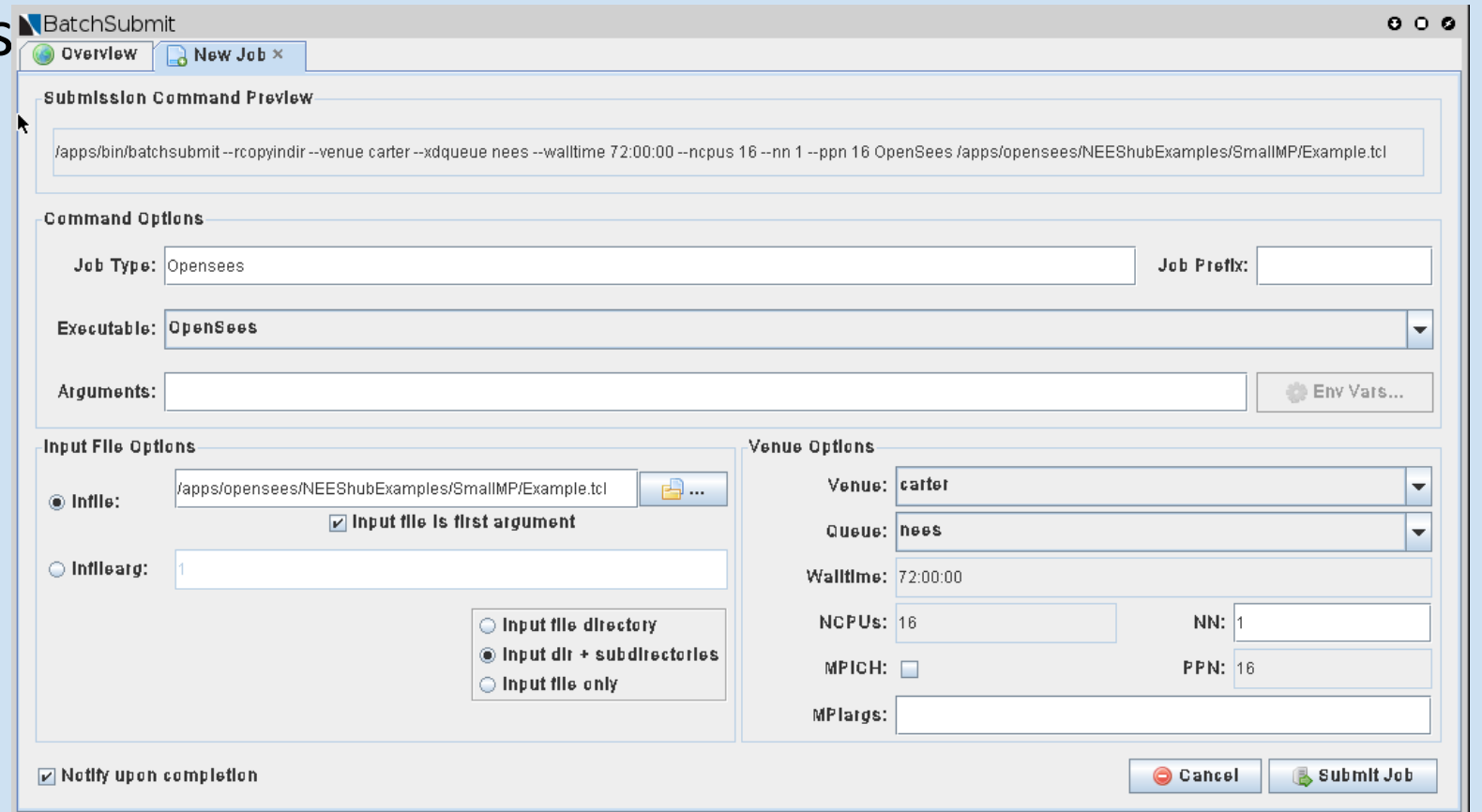
**stampede**

**Buttons:** New Job, Cancel Job, Delete Job, View Job, Archive, Refresh



# How to submit a job?

- Fill the relevant fields
- Select file input
- Submit Job

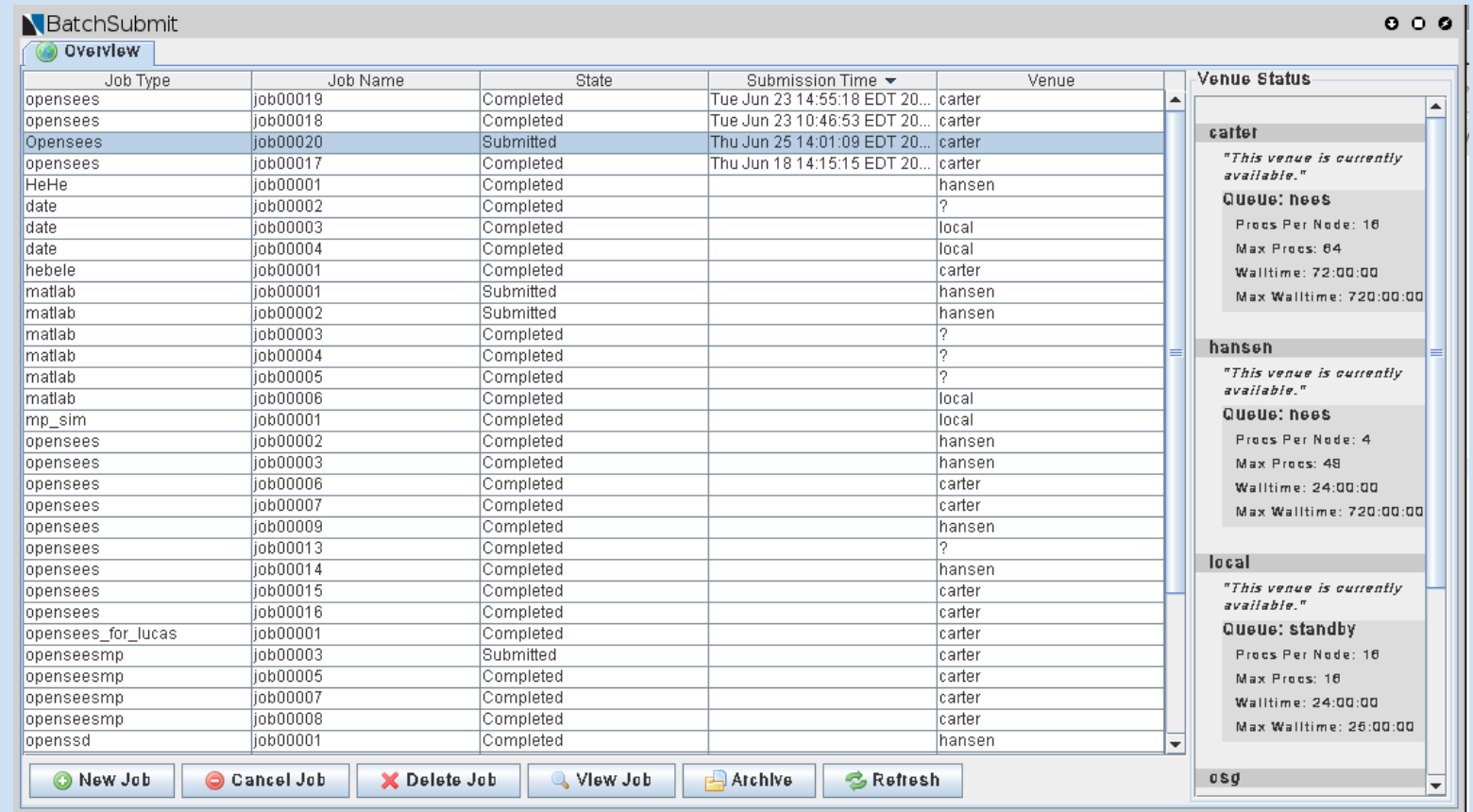


The screenshot shows the BatchSubmit application window with the following configuration:

- Submission Command Preview:** /apps/bin/batchsubmit --rcopyindir --venue carter --xdqueue nees --walltime 72:00:00 --ncpus 16 --nn 1 --ppn 16 OpenSees /apps/opensees/NEEShubExamples/SmallIMP/Example.tcl
- Command Options:**
  - Job Type: Opensees
  - Job Prefix: (empty)
  - Executable: OpenSees
  - Arguments: (empty)
  - Env Vars... (button)
- Input File Options:**
  - Infile: /apps/opensees/NEEShubExamples/SmallIMP/Example.tcl
  - Infilearg: 1
  - Input file is first argument
  - Input file directory
  - Input dir + subdirectories
  - Input file only
- Venue Options:**
  - Venue: carter
  - Queue: nees
  - Walltime: 72:00:00
  - NCPUs: 16
  - NN: 1
  - MPICH:
  - PPN: 16
  - MPIargs: (empty)
- Notify upon completion
- Buttons: Cancel, Submit Job

# How to submit a job?

- New job appears on the job table with the submission time.
- Once a job is submitted, it can be cancelled.
- When a job is cancelled or completed, it can be deleted.



The screenshot shows the BatchSubmit Overview window. The main table displays the following data:

Job Type	Job Name	State	Submission Time	Venue
opensees	job00019	Completed	Tue Jun 23 14:55:18 EDT 20...	carter
opensees	job00018	Completed	Tue Jun 23 10:46:53 EDT 20...	carter
Opensees	job00020	Submitted	Thu Jun 25 14:01:09 EDT 20...	carter
opensees	job00017	Completed	Thu Jun 18 14:15:15 EDT 20...	carter
HeHe	job00001	Completed		hansen
date	job00002	Completed		?
date	job00003	Completed		local
date	job00004	Completed		local
hebele	job00001	Completed		carter
matlab	job00001	Submitted		hansen
matlab	job00002	Submitted		hansen
matlab	job00003	Completed		?
matlab	job00004	Completed		?
matlab	job00005	Completed		?
matlab	job00006	Completed		local
mp_sim	job00001	Completed		local
opensees	job00002	Completed		hansen
opensees	job00003	Completed		hansen
opensees	job00006	Completed		carter
opensees	job00007	Completed		carter
opensees	job00009	Completed		hansen
opensees	job00013	Completed		?
opensees	job00014	Completed		hansen
opensees	job00015	Completed		carter
opensees	job00016	Completed		carter
opensees_for_lucas	job00001	Completed		carter
openseesmp	job00003	Submitted		carter
openseesmp	job00005	Completed		carter
openseesmp	job00007	Completed		carter
openseesmp	job00008	Completed		carter
openssd	job00001	Completed		hansen

The right-hand side of the window shows the Venue Status for three venues: carter, hansen, and local. Each venue status includes a message ("This venue is currently available."), a Queue name (hees, standby), and performance metrics (Procs Per Node, Max Procs, Walltime, Max Walltime).

At the bottom of the window, there is a toolbar with the following buttons: New Job, Cancel Job, Delete Job, View Job, Archive, and Refresh.