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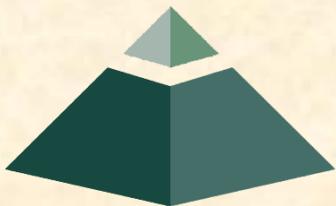
# Beta Presentation

## Simplifying High Performance Computing

**The Capstone Experience**  
Team Michigan State University HPCC

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Spring 2019



*From Students...  
...to Professionals*

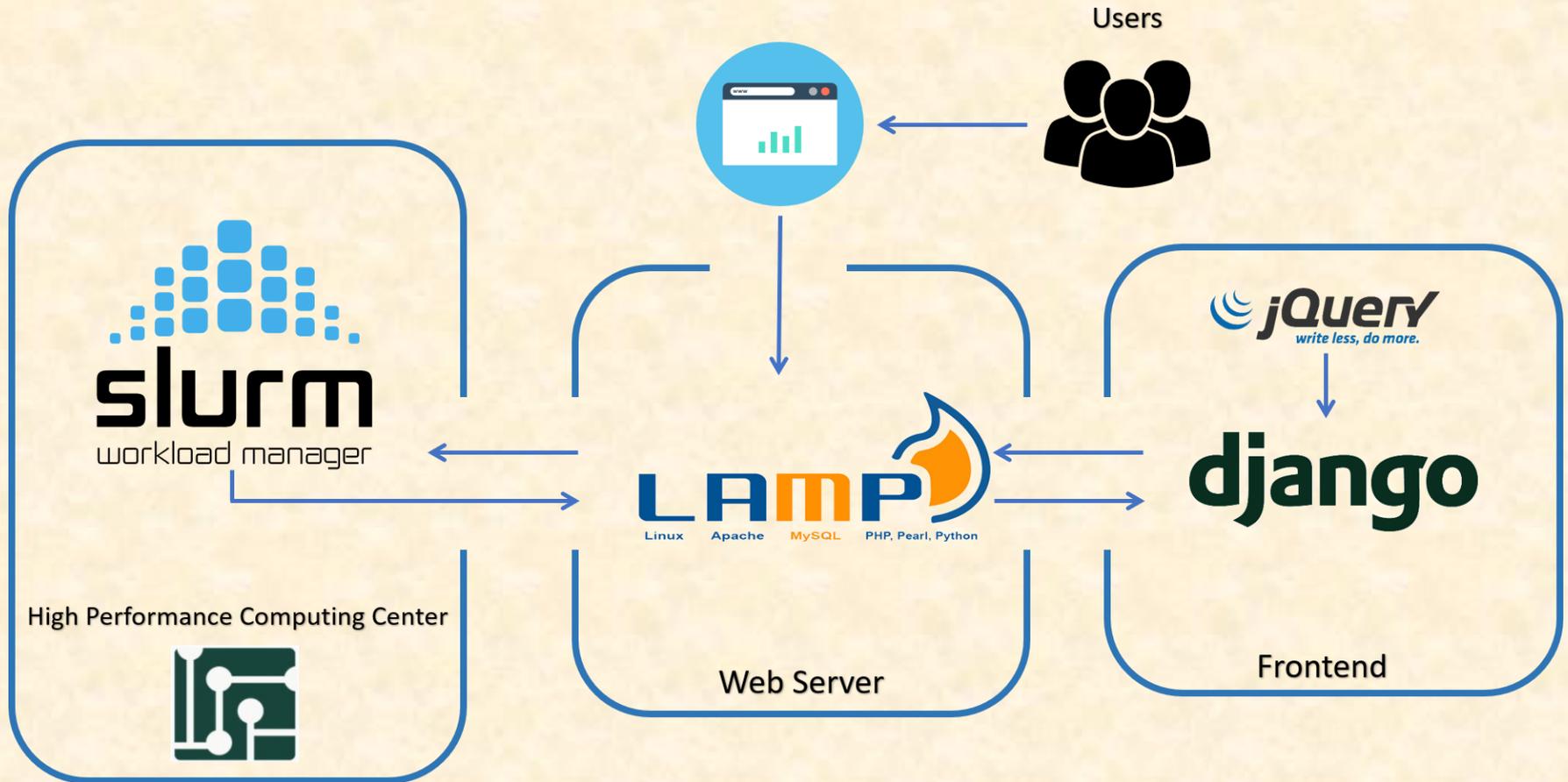
# Project Overview

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- Simplifies the Process of Using the HPCC
- Works Through a Simple Web App
- Provides Script Generation
- Job Monitoring
- Job Statistics
- Job Submission
- Etc...



# System Architecture



# Job Submission

The screenshot displays the MSU HPCC Script Generator web interface. The page header includes the MSU HPCC logo and the text "Created for Capstone Spring 2019". The main content area contains several input fields for job parameters:

- Wall time:** 00:00:01
- Job name:** job name
- Nodes:** 1
- CPUs:** 1
- MemoryPerCPU:** 20M
- Tasks:** 1
- ExecutableName:** example.py

Buttons for "Update Bash Script", "Download Bash File", and "Generate Bash Script" are visible. A text area on the right displays the generated bash script:

```
#!/bin/bash

##SBATCH Lines for Resource Request ##

#SBATCH --time=00:00:01
#SBATCH --nodes=1
#SBATCH --tasks=1
#SBATCH --mem-per-cpu=20M
#SBATCH -J job name
##Command Lines to Run ##

srun -n 1 python ./example.py
```

Below the script area, there is a "Choose File" button with the text "No file chosen" and a "Submit Job" button. The browser's address bar shows the URL "https://35.9.22.112/ScriptGen/bash/". The Windows taskbar at the bottom shows the system tray with the date and time "6:28 PM 4/1/2019".



# Job Queue

Job Queue

Not secure | https://35.9.22.112/ScriptGen/jobqueue/

MSU HPCC  
TCER  
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job_id	user	name	job_state	run_time_str	num_nodes	nodes	start_time	submit_time
17001	luedtke2	hpcctest.sb	FAILED	00:00:00	1	cse498-1520-dell-15	2019-04-01 22:17:01	2019-04-01 22:17:01
17002	luedtke2	hpcctest.sb	FAILED	00:00:00	1	cse498-1520-dell-15	2019-04-01 22:18:02	2019-04-01 22:18:01
17003	luedtke2	hpcctest.sb	FAILED	00:00:00	1	cse498-1520-dell-15	2019-04-01 22:19:02	2019-04-01 22:19:01
17004	luedtke2	hpcctest.sb	FAILED	00:00:00	1	cse498-1520-dell-15	2019-04-01 22:20:02	2019-04-01 22:20:01
17006	luedtke2	hpcctest.sb	FAILED	00:00:00	1	cse498-1520-dell-15	2019-04-01 22:21:02	2019-04-01 22:21:02

[Capstone Our Team](#) [HPCC Home](#) [Old Job Sub](#)



# Stats Table

MSU HPCC  
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Job Submissions 2018 Failed Jobs Breakdown Top Job Submitters Statistics Table

Average Wait Time	14.371428571428572
Total Jobs Submitted	1015
Jobs Submitted this Week	509
Percent of Jobs Completed	99.70443349753695
Percent of Errored Jobs	0.2955665024630542
Percent of Jobs Running	0.0
Percent of Jobs Pending	0.0
Total Complete Jobs	1012
Total Errored Jobs	3
Total Running Jobs	0
Total Jobs Pending	0
Total Jobs Submitted in Group	6077
Percent of Group Jobs Completed	86.73687674839559
Percent of Errored Group Jobs	13.26312325160441

Capstone Our Team HPCC Home Old Job Sub

Type here to search 6:28 PM 4/1/2019

# Results/ Downloads

The screenshot shows a web browser window with the URL <https://35.9.22.112/ScriptGen/Results/>. The page header includes the MSU HPCC logo and the text "MSU HPCC Created for Capstone Spring 2019". The main content is a table with two columns: "Job Name + Job ID" and "Output Files". The table lists 16 jobs, each with a corresponding "Output File" link. The footer of the page contains the text "Capstone Our Team HPCC Home Old Job Sub".

Job Name + Job ID	Output Files
sbatch-5562	<a href="#">Output File</a>
sbatch-5569	<a href="#">Output File</a>
sbatch-5574	<a href="#">Output File</a>
Success-6682	<a href="#">Output File</a>
Fresh-7383	<a href="#">Output File</a>
MLTask-7442	<a href="#">Output File</a>
OpenCV-7455	<a href="#">Output File</a>
Quadratic-7462	<a href="#">Output File</a>
Fractal-7478	<a href="#">Output File</a>
Time-7486	<a href="#">Output File</a>
LOL-7487	<a href="#">Output File</a>
Science-7529	<a href="#">Output File</a>
Test-8146	<a href="#">Output File</a>
Hello-7534	<a href="#">Output File</a>
Hello-7540	<a href="#">Output File</a>
ML2-16997	<a href="#">Output File</a>
HPCC-15239	<a href="#">Output File</a>

# What's left to do?

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- Site UI Cleanup
- Bugfixes
- Optimizations
- Playground



# Questions?

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