



### **High-Performance Computing (HPC) and Server Administrator**

The College of Science and Mathematics (CSM) is seeking a full-time High-Performance Computing (HPC) and Server Administrator to manage and maintain, configure, and operate research computing environments and CSM servers. The CSM has a wide range of computational needs, with faculty spread across five departments. Adding to the diversity of the requirements is a new interdisciplinary data analytics program in CSM, and the collaboration of CSM with the College of Integrated Sciences and Engineering (CISE) in development of HPC. This position represents an opportunity to support current efforts and to help expand into new areas to keep the CSM and CISE on the cutting edge of computational science. This position offers opportunities for professional development and growth, permitting the successful candidate to build upon their existing knowledge base.

The successful candidate will manage and maintain, configure, and operate the current HPC cluster infrastructure for CSM and CISE, including a multi-partition Slurm cluster of Red Hat Enterprise Linux (RHEL) machines. With appropriate training and/or professional development the successful candidate will transition into the additional role of system administrator of the current CSM server infrastructure. This infrastructure includes Windows Server 2019 domain controllers, Active Directory, Hyper-V virtualization, Linux and Windows virtual machines, print servers, DNS servers, file sharing, Synology NAS, VSS, and IIS.

Commitment to Diversity, Equity and Inclusion: The Colleges of Science and Mathematics (CSM) and Integrated Sciences and Engineering (CISE) are committed to increasing the diversity of its faculty, staff, and students and sustaining an inclusive work and learning environment.

#### **Duties and Responsibilities:**

- Manage and maintain, configure, and operate HPC infrastructure & CSM servers, providing support for instruction and research within the CSM, for CISE, and for collaborating partners.
- Install and maintain HPC hardware and software infrastructure for computing and storage (including compiling, maintaining, and debugging of scientific computing packages). Installation includes lifting and racking of servers.
- Proactively monitor server, network, and storage performance.
- Lead system troubleshooting, debugging, trigger monitoring, and development of an emergency management plan for systems.
- Communicate system downtime with administration, faculty, and students.
- Document development of support structures and changes to hardware and software systems.
- Document and coordinate the development and use of software support structures for the collection and tracking of HPC system utilization statistics.
- Coordinate with vendors, assisting in the procurement and purchase of new software and hardware, including the resolution of problems that may arise with new purchases.
- Support faculty, staff, and student users, providing training and support as needed to optimize computational capacity and improve research community access.
- Consult with members of the research community and facilitate projects using HPC resources, all while balancing system use.
- Work with college IT, university IT, and administration to ensure security, connectivity, and disaster recovery. This includes cybersecurity, confidentiality, and authentication needs of the college and institution.
- Remain active in the community, with a continuing education mindset, regarding enterprise storage architectures, systems, and software tools, and evaluate these to identify future acquisition objective.

- Lead or provide technical oversight in the evaluation of new HPC technologies (e.g., processors, accelerators, mass storage, interconnect, cloud computing) to identify future acquisition objectives.
- Perform other duties as assigned.
- The successful candidate will enjoy working in a team-building environment alongside administration, faculty, and students.
- The successful candidate will share the College and University's commitment to sustaining an inclusive work and learning environment.

### **Qualifications:**

#### Required:

- Bachelor's degree in a related field and a minimum of two years of related work experience or an equivalent combination of education and experience.
- A working knowledge of common scientific programming languages and Linux scripting.
- Experience with server/network design, architecture, and administration.
- Experience using and administering Linux (RHEL/CentOS, Ubuntu Server)
- Ability to learn and adapt quickly to new technologies.
- Excellent interpersonal skills are essential as is the ability to establish and maintain effective diverse working relationships
- Demonstrate commitment to supporting diverse and inclusive work and/or learning environments.
- Willingness to work with and train undergraduate students and researchers.

#### Preferred:

- Preferred candidates will have a Master's degree or Ph.D. in an appropriate area of specialization and have demonstrated experience with research computing environments.
- The ideal candidate will have 3 or more years of experience with management and maintenance of Linux systems, preferably in an HPC environment

#### The ideal candidate will have experience with:

- Software packages related to cluster computing such as Slurm, OpenMP, and OpenMPI/MPICH.
- Using and administering 2019 Windows Server and 2019 Datacenter.
- Virtualization in VMware or Hyper-V.
- Basic knowledge of Google Cloud Platform, Amazon Web Services, and/or Microsoft Azure.

**To apply**, visit <https://joblink.jmu.edu/postings/9342> or go to [joblink.jmu.edu](http://joblink.jmu.edu) and reference posting number F1638. Applicants will complete the application and attach a cover letter and CV or Resume. In their cover letter, applicants should describe their experience and commitment to supporting diverse and inclusive work and/or learning environments. Applicants will provide contact information for 3 references as part of the application; finalists' references will be contacted via JobLink to provide a letter of reference. Only complete submissions uploaded to the JobLink website will be considered by the search committee.

Applications will be accepted until the position is filled, with review of applications to begin July 17, 2021. Salary is commensurate with experience.

*James Madison University is committed to creating and supporting a diverse and inclusive work and educational community that is free of all forms of discrimination. This institution does not tolerate discrimination or harassment on the basis of age, color, disability, gender identity or expression, genetic information, national origin, parental status, political affiliation, race, religion, sex, sexual orientation or veteran status We promote access, inclusion and diversity for all students, faculty, staff, constituents and programs, believing that these qualities are foundational components of an outstanding education in keeping with our mission. The university is interested in candidates whose experience and qualifications support an ongoing commitment to this core quality Anyone having questions concerning discrimination should contact the Office for Equal Opportunity: (540) 568-6991.*