UNIVERSITY OF LEICESTER

Job Title: Systems Administrator (Linux Services)
Grade: 7
Salary: £38,205 - £44,263
Department: Infrastructure and Operations, Digital Services
Hours/Contract: 37.5, 1.0 FTE
Job Family: Professional Services
Reference:

Role Purpose

As an experienced Systems Administrator you will be responsible, at the 2nd line support level, for ensuring consistent availability, efficient and secure operation of all Linux services used by the University. You will also participate in projects to introduce or change services. Your role will include the monitoring of services running on physical/virtual/cloud infrastructure and ensuring they are managed and maintained to prescribed baselines and SLAs, perform as designed, are securely maintained, and regularly monitored. You will seek opportunities to apply modern automation tools to service management, developing scripted and human processes, maintaining and improving documentation to meet operational requirements and support service delivery.

Working in a hybrid environment as part of a small team in Infrastructure Operations, you will be expected to work closely and actively collaborate with other Systems Specialists across Digital Services, particularly the Research Computing Services (RCS) team that operates the 3rd line High Performance Computing (HPC) services for the University. The RCS team naturally provides a career progression path for this post.

Using your strong scripting skills to support automation, you will have fundamental responsibilities to support and monitor physical and virtual Linux server estates which are mainly based on premise but with some select few suitable for cloud environment being progressively migrated to the cloud as part of our digital strategy. As such being conversant with Microsoft cloud features is an added advantage.

You will also be responsible for complex Incident and Problem resolution, preventative maintenance, upgrade work, and capacity management.

Context

The Infrastructure Operations team is one of five teams that report to the Head of Infrastructure and Operations (the others being Platforms, Networks, Voice Operations and Research) and is part of the wider Digital Services department. The team 'run, maintain and optimise IT services and facilities' and collaboratively works with the other teams within Infrastructure and Operations, the Security team and the RCS team on the development of new services, Incident escalation and Problem Management.

The main areas of focus for the role are: user administration in Linux, proactive and reactive security patching, monitoring, Azure Cloud tools/Defender for servers anti-virus, and the day-to-day administration of Linux servers on physical and VMware hosts.

In addition to focusing on core technologies you will actively pursue modernisation of our technology and infrastructure to use next generation technologies. Therefore, the role and the team are continually evolving hence this role would ideally suit an individual who can adapt to change. As a reward, you will have the opportunity to improve your career prospects as well as further expand your skills, knowledge and experience.

The post holder will work both on campus and in a hybrid environment, and will be entitled to a total of 41 days leave (comprising 27 University leave days, 6 University closure days and UK bank holidays.)

Resources Managed/Facts and Figures

Centralised systems and services that underpin University-wide activities where you will provide 2nd line support include:

- 4 on premise campus-based data centres with Azure cloud presence
- Physical, virtual and Cloud Linux servers running Debian (being decommissioned), CentOS and Rocky
- DiRAC DIaL2 - a national HPC service; 15000 CPU cores, 3PB Lustre storage
- DiRAC DIaL3 - a national HPC service; 26000 CPU cores, 4PB Lustre storage
- ALICE - campus HPC service; 5000 CPU cores, 4PB Lustre storage
- ARM-NVIDIA cluster – a small experimental cluster with A100 and Bluefield GPUs
- Managed Hosting (inc. bespoke and standard applications) - 300 LAMP servers running on VMware

Main Duties and Responsibilities	% Time
Support, monitor and maintain • Diagnose and resolve Incidents and Problems escalated from the Service Desk, Second Line Support teams, and transfer knowledge to those teams where appropriate • Liaison and coordination with suppliers, 3rd-parties and auditors on issues such as problem resolution, technical support, co-ordination of maintenance activities and providing documentary evidence • Monitor **capacity** and **performance, identify trends** in patterns of **demand** to inform service development and replacement planning; collate, interpret and report service statistics • **Analyse logs** and other sources of data which may **indicate problems** such as attempted security compromises, performance bottlenecks etc. • Work with the Security team on **proactive/reactive maintenance**, updates and vulnerability management • Plan and lead **preventative maintenance** and upgrade work, preparing change requests and **undertake impact analysis** as necessary • Liaison, negotiation and coordination of **activities/defects management** with 3rd-parties, suppliers and maintenance providers • **Maintain awareness of product development roadmaps**, known problems, planned fixes and upgrade paths	60
Infrastructure development • **Contribute to delivering projects** that form part of the Digital Services portfolio and strategy; represent the team advising and ensuring compliance to standards will be applied during the development • **Maintain and develop accurate technical documentation, procedures and processes** relating to the configuration of the Linux infrastructure including network, logical/physical diagrams, and SOPs • **Maintain accurate records** for asset configuration, etc. • **Develop, update and test IT service continuity plans** as and when systems are changed and as required	25

Main Duties and Responsibilities	% Time
• Marketing and promotion of new services hosted on Linux to mostly research users as well as assisting in the specification and evaluation of research services functionality Act as a technical lead • Provide consultancy within Digital Services and to the wider University • Liaise and coordinate with 3rd-party suppliers and partner organisations to **report and diagnose defects** and replace faulty equipment where necessary • **Provide technical advice on the integration of systems and services** within the area of expertise and responsibility; ensure the adherence to established standards and specifications	10
Self-development • **Maintain personal development**, skills and knowledge through active self-study to enhance personal growth and support the continuing and changing needs of the business • Investigation and evaluation of new developments and technologies • Maintain **close working relationships** with the Research Computing Services (RCS) team and broad interests with the research community	5

Internal and External Relationships
• Daily contact with customers on resolving issues and providing support and guidance; maintaining an excellent customer focus, service and rapport whilst promoting Digital Services • Daily contact with other members of Digital Services, particularly with Network Operations, and Infrastructure Networks colleagues • Frequent contact with Estates and Campus Services, including involvement in all development and refurbishment projects • Regular contact with other Digital Services Senior Leadership Team on planning service developments • Regular liaison with system suppliers, and maintenance providers in developing services and dealing with complex issues • Occasional contact with external consultants and auditors • Occasional contact with peers at other sites that have similar service requirements • Occasional presentations, both internal and external, on service developments and proposals

Planning and Organising
• Forward planning/scheduling of hardware and software upgrades with lead times from weeks to several months; minimising the impact of downtime through planned changes • Able to coordinate and bring together the efforts of individuals working in other teams to deliver projects, or in resolving problems that require a mixture of supporting skills, abilities and knowledge

Planning and Organising

- Plan, prioritise and organise own workload to meet the requirements of the team and service provision/development; ensure operational efficiency whilst responding to new pressures including those arising from non-standard work

Qualifications, Knowledge and Experience

Essential

- Experience working in a complex IT organisation with a Linux systems administration background *
- A degree in a technical discipline or a degree in a non-technical discipline combined with substantial additional experience directly relevant to this post *
- Excellent conceptual knowledge of the major components constituting a modern IT architecture and their interactions with other components
- Excellent experience in the structured approach required to run highly available and scalable IT services *
- Proven expertise in the administration of Linux systems in a large complex environment with recent experience in security, scripting, automating manual tasks, monitoring and management of the following: *
  - Rocky Linux, CentOS, etc
  - Web servers (PHP, Apache, Nginx, HA Proxy, reverse-proxies, load-balancers)
  - Server virtualisation (e.g., VMware, OpenStack)
  - AAA solutions (LDAP, AD, PAM)
  - DHCP and DNS act as (Infoblox)
  - Firewalls
  - Monitoring and security tools such as, but not limited to WhatsUp Gold, Nagios, ELK, Nessus, etc.

Desirable

- Experience in providing IT Services within a Higher Education environment
- IT Service Management (ITIL) Foundation and/or experience of working within an ITIL environment
- Relevant professional qualifications e.g., Microsoft Associate/Speciality, etc.
- Experience in using a Service Desk ITSM toolset, e.g., Ivanti, ServiceNow, etc.
- Exposure to working with 'Agile' based product delivery
- Experience of a broader set of technologies such as: *
  - **Microsoft technologies**
    - Microsoft Cloud technologies, e.g., IaaS, PaaS, etc.
    - Microsoft Identity Manager (aka FIM)
    - Multi-Factor Authentication
    - Collaboration, e.g., Teams, Yammer, OneDrive, SharePoint, etc.
    - MySQL and PostgreSQL
    - Puppet or Ansible
    - BIND, TFTPD and DHCPD
    - Building and debugging software under Linux using standard tools
    - Web-fronted database services, e.g., IIS, MSSQL, SQL 2012+, etc.
    - Experience of HPC software and tools including Job schedulers (Slurm, PBS, Torque/Moab)

  - **Infrastructure Monitoring**
    - VMware LogInsight, HPE OneView, etc.
    - UNIX/LINUX/Microsoft AD integration

Criteria to be used in shortlisting candidates for interview

Skills, Abilities and Competencies

Essential

- Highly developed analytical skills and problem-solving ability, with the ability to matrix-manage others in investigating and resolving issues *
- Excellent interpersonal skills
- Effective oral, written and presentation skills in order to communicate effectively with Staff and Students
- Effective planning and organisational skills
- Customer focussed

Desirable

- Experience of working in a 'DevOps' culture

Criteria to be used in shortlisting candidates for interview

Criminal Declaration

If you become an employee, you must inform your manager immediately, in writing, if you are the subject of any current or future police investigations/legal proceedings, which could result in a criminal offence, conviction, caution, bind-over or charges, or warnings.

Supporting University Activities

As a University of Leicester citizen, you are expected to support key University activities such as clearing, graduation ceremonies, student registration and recruitment open days. We expect all staff as citizens to work flexibly across the University if required.

University Values

Inclusive - We are diverse in our makeup and united in ambition. Our diversity is our strength and makes our community stronger.

Inspiring - We are passionate about inspiring individuals to succeed and realise their ambitions. We challenge our community to think differently, to get involved, and to constantly embrace new ideas.

Impactful - As Citizens of Change we will generate new ideas which deliver impact and empower our community

Equality and Diversity

We believe that equality, diversity and inclusion are integral to a successful modern workplace. By developing and implementing policies and systems that challenge stereotypes across all aspects of our work, we have a culture that recognises and values the diverse contributions of our staff which benefits everyone. Our strong values of inclusivity and equality support our efforts to attract a diverse range of high-quality staff and students, and identify our University as a progressive and innovative workplace that mainstreams equality, diversity and inclusion.

Additional Information

The University operates a system of 'indeterminate' hours for staff at grade 6 and above; as such hours of attendance are not rigidly fixed and may vary according to operational requirements and may be extended as necessary for the performance of the members' duties.

The main period when office-based functions are operational is typically between the hours of 08:00 to 17:30 Monday to Friday each week. Depending on the nature of the work involved, staff may be required from time to time to commence work earlier and/or to finish work later than the above times as well as to occasionally work on evenings, weekends or bank holidays.