

RECRUITMENT PACK



This document includes the following information:

- Job Description
- Person Specification
- Additional information

Making an application:

When completing the on-line application form you will be asked to answer questions to help you demonstrate how you meet the requirements of the post. Your answers will be used at the shortlisting and interview stages of the recruitment process. We therefore recommend that you take a copy of this recruitment pack to help with your preparation.

NOTE: You don't have to answer the questions in one attempt, but can save your incomplete application and return to it at another time. You may want to draft your answers using Microsoft Word and then copy your text into the application form. Please be aware that formatting (e.g. underline, bold, bulleting) will be lost in this process. If you are using an Apple product you will need to use an alternative web browser to Safari such as Google Chrome.

- Links to Guidance Notes and Frequently Asked Questions can be found on the Search Results page. These pages will open in a new window.
- **We recommend that you take a copy of this recruitment pack to help with your preparation.**

A commitment to sustaining an inclusive and diverse community is one of the University's Core Values and we are keen to address any imbalances in our workforce.

The University of Essex is proud to be part of the Disability Confident scheme and is committed to supporting diversity and equality, representative of our inclusive community. As part of our commitment to this scheme any candidate who has a disability and meets all the essential criteria for the role will be offered an interview. We also work in partnership with national disability organisation AccessAble who provide detailed online access guides to many of our campus buildings and facilities which you may find useful.

Please note: We are only accepting on-line applications for this post. However, if you have a disability that makes it difficult for you to provide us with information in this way, please contact the Resourcing Team (01206 876559) for help.

Closing Date: 5 September 2019

Interviews are planned for: 23 September 2019

Expected Start Date: As soon as possible (can be discussed during interview)



JOB DESCRIPTION – Job ref REQ03014

Job Title and Grade:	Hadoop Systems Engineer Grade 7
Contract:	Fixed-term, full-time for 12 months due to nature of project funding
Hours:	A notional minimum of 36 hours per week
Salary:	£30,942 - £33,797 per annum
Department/Section:	Smart Energy Research Lab (SERL) Project Team
Responsible to:	Jon Johnson - Co-Investigator SERL Project
Reports on a day to day basis to:	Darren Bell – Repository Architect
Purpose of job:	The Hadoop Systems Engineer is the lynchpin of the SERL data and research infrastructure and ensures that the services that the SERL team provides for researchers are performant and reliable. The scope of responsibility is considerable: proactively monitoring the ingest and egress of data to and from the system, analysing and reporting the health and performance of a petabyte-scale big data ecosystem, ensuring that the development team have the optimal microservice deployment pathways and ensuring that researchers have an optimal secure lab experience.

Duties of the Post:

The main duties of the post will include:

1. Administration, troubleshooting & support for a Petabyte-scale production Hadoop cluster
2. Administration, troubleshooting & support for other SERL infrastructure components including Red Hat OpenShift and ElasticSearch clusters
3. Production-quality configuration and management of the microservices and secure container infrastructure, and associated packaging and deployment of applications
4. Proactive monitoring and analysis of system performance of SERL infrastructure components
5. Administration & support for OpenShift and ElasticSearch clusters and how these relate to the deliverables of the Smart Energy Research Lab (SERL) project.
6. LDAP integration & access controls for users and groups through Ambari and Ranger
7. Troubleshooting configuration and management of security for Hadoop clusters using Kerberos and integration with LDAP/AD
8. Services installation, Ranger policy updates and other administration tasks using Ambari admin tool
9. Monitoring security advisories and implementing patch updates & fixes as needed (CentOS, HDP, HDF, RHOS and ElasticSearch)
10. Contributing to ongoing architectural improvements in microservices architecture (e.g. new service mesh patterns)
11. Maintenance and management of container registry and ensuring optimal integration with microservices infrastructure
12. Proactive monitoring of system components and contributing to improvements to log aggregation and reporting (on Grafana and Kibana for example)
13. Internal Training and Capacity Building: Working closely with colleagues in the SERL team to acquire big data and microservices knowledge.

Any other duties as may be assigned from time to time by the Repository Architect (UK Data Archive) or their nominee.



These duties are a guide to the work that the post holder will initially be required to undertake. They may be changed from time to time to meet changing circumstances.

Terms of Appointment:

For a full description of the terms of appointment for this post please visit:

<https://www.essex.ac.uk/staff/employment-policies-procedures/my-contract>

PERSON SPECIFICATION

JOB TITLE: Hadoop Systems Engineer

Qualifications/Training

	Essential	Desirable
▪ Undergraduate or first degree in a computer-related or data-related discipline	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Experience/Knowledge

	Essential	Desirable
▪ Experience administrating Linux/Unix environments	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Experience administrating the Hadoop stack, particularly HDP and HDF	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Theoretical knowledge of big data/analytics concepts	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Understanding of networking concepts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Understanding of concepts related to services, API and microservices	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Experience working with Docker and/or other containerisation technologies e.g. Kubernetes	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Experience of developing and troubleshooting ETL pipelines	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Scripting experience in both: Python and Bash	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Understanding of relational and graph data models	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Experience with Git and/or Bitbucket	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ Experience with object-oriented or functional programming	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ Good understanding of search engine and indexing principles.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ Experience with system monitoring or BI dashboards	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ Understanding of software change control and configuration management	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ Experience of working with cloud services e.g. AWS, Azure etc.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Skills/Abilities

	Essential	Desirable
▪ Good interpersonal written and verbal communication skills	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Good numeracy skills	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Willingness to acquire new skills	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Ability to acquire new technical skills rapidly as a “self-starter”	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ High personal integrity, with the ability to maintain the confidentiality of personal data	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ The ability to produce high quality work within deadlines	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Self-motivation, initiative, and ability to work independently	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Ability to work in a team environment to solve complex problems with little direction	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Ability to manage a diverse workload and competing priorities	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Other

	Essential	Desirable
▪ Ability to meet the requirements of UK 'right to work' legislation*	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Can fulfil the staff vetting procedure for Government contracts (See General Information)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

* The University has a responsibility under the Asylum, Immigration and Nationality Act 2006 to ensure that all employees are eligible to work in the UK. Prior to commencing employment, the successful candidate will be asked to provide documentary evidence to this effect. Please note that the University may not be able to issue a Tier 2 Certificate of Sponsorship for this post. For further information about UK immigration requirements please follow this link <https://www.gov.uk/government/organisations/uk-visas-and-immigration>

ADDITIONAL INFORMATION

UK Data Archive – SERL Project Team

You can find more information about the department at the following link <https://data-archive.ac.uk/> and www.serl.ac.uk

General information

Informal enquiries may be made to Darren Bell, Repository Architect (telephone: 01206 873574, e-mail: dbell@essex.ac.uk). However, all applications must be made online.

Staff Vetting Procedures for Government Contracts:

The University of Essex has Government contracts, some of which require it to access Government systems, information or data. We have a duty to protect these assets and this obligation extends to our employees.

Due to the nature of the work, applicants who are offered employment in this role will be subject to a vetting procedure before the appointment is confirmed to enable the University to verify the following for the successful candidate:

- Identity
- Employment history (for a minimum of the past 3 years)
- Nationality and immigration status
- Criminal Record (unspent convictions only)

Criminal Record Disclosure Checks:

We encourage all applicants to provide details of warnings, reprimands, cautions or unspent criminal convictions at an early stage in the application process. Should you wish to declare such information, please email the Resourcing Team in confidence, (resourcing@essex.ac.uk) attaching brief details, or alternatively post details to the Resourcing Manager, Human Resources, University of Essex, Wivenhoe Park, Colchester CO4 3SQ. This information is seen only by those directly involved in the recruitment process.

Should you be appointed to this post you will be asked to make an application for a basic Disclosure and Barring Service (DBS) check to get a copy of your criminal record. This is called 'basic disclosure'. This only asks about unspent convictions. More information about the process can be at <https://www.gov.uk/request-copy-criminal-record> .

Having a criminal record will not necessarily bar you from working with us – this will depend on the nature of the position and the circumstances and background to your offence. A copy of the University of Essex policy on the recruitment of ex-offenders is available on the University website: <https://www.essex.ac.uk/staff/recruiting-staff/recruitment-of-ex-offenders-and-disclosure-and-barring-service> .

People Supporting Strategy

Please find a link to the People Supporting Strategy below:
<https://www.essex.ac.uk/-/media/documents/directories/human-resources/people-supporting-strategy.pdf>

Pay and benefits

We advertise our salaries on a range to indicate the trajectory of progression that can be made. Appointments are usually made at the start of the salary range. The university salary structure includes automatic pay progression within the published grades, subject to service and performance. In addition to this, there are performance related annual pay review schemes in place.



As an employer we offer a range of benefits and a commitment to career development and equal opportunities in an environment that both reflects and creates a rich interaction of people, disciplines and ideas.

- Pension scheme
- Generous holiday entitlement
- Competitive salaries
- Training and development
- Family friendly policies
- On campus childcare facilities, for more information visit www.wivenhoeParkDayNursery.co.uk
- Relocation support package for qualifying staff
- Interest free season ticket loan
- Range of optional salary exchange tax benefits (pension and bicycle schemes)

This document is produced by:

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