# Title: Systems Administration and Architecture

## Number of positions: 1

## Length of internship: 8 months

## Work Location: Ottawa, ON

## About Us

We are Microbial Biodiversity Bioinformatics group within Science and Technology Branch of Agriculture and Agri-Food Canada (Federal Government). We are a dynamic small team that supports agriculture scientists with the computational side of their research as well as data infrastructure. Our day-to-day tasks range from interacting with scientists to collect their research requirements, to researching and working with novel technologies to create bioinformatics tools and platforms, to installing and supporting grid and cloud computing, necessary for the big data research. Located in the historic Experimental Farm close to downtown Ottawa.

## Overview

AAFC Science and Technology Branch operates a cluster of large servers totaling 500+ cores, 4TB of memory, and 350TB of storage as well as many standalone servers for hosting applications, databases, and services. Management of this infrastructure requires knowledge in systems administration, enterprise linux, virtualization technologies,

## Responsibilities

Working as part of a team and under the supervision of a mentor, the successful candidate will:

* Deploy, administer, and optimize an array of linux servers
* Install, configure, and deploy software and services
* Implement and ensure functionality of a database backup system
* Manage an infrastructure monitoring system
* Develop and document procedures for infrastructure management
* Deliver conceptual, logical, and physical solutions, specifications, and documentation
* Research, identify, test, certify, and select technology products required for solution delivery
* Translate business requirements into appropriate system solutions
* Establish and implement technology migration strategies for a specific application or architecture

## Education Requirements

Minimum 2 years of education in a University program such as Computer Science, Systems Engineering, Software Engineering, or Bioinformatics. A combination of related education and experience may be considered sufficient.

## Required Qualifications

* Experience using and administering the Linux operating system
* Basic knowledge of virtualization, networking, distributed network attached storage
* Self-motivated learning
* Strong problem solving and analytical skills
* Strong oral and written communications skills

## Asset Qualifications

* Knowledge of relational database management systems (MySQL, Postgres)
* Experience with HPC cluster and large distributed storage systems
* Experience managing an Apache webserver and/or tomcat application server
* Experience with the Git Source Code Management System
* Knowledge of workflow systems such as Galaxy, Taverna, or Kepler

## Minimum Qualifications

* Must be a Canadian citizen
* Must pass the Government of Canada Security Clearance
* Must successfully complete any required training, testing, or orientation courses

## Learning Opportunities

Will provide supplemental training and learning opportunities where required in the following areas:

* Systems development life cycle and systems architecture principals
* Cloud systems and architecture
* Git Source Code Management System
* Workflow systems
* Metadata management systems and data warehousing systems
* Service Oriented Architecture
* Relational Database Management Systems