

Description of the new tasks to be covered in the BE-CO group

Title of the activity to cover: 1.0

Linux Software Developer

Description of the activity to be covered

Does the idea of developing the mission-critical computing infrastructure of the Accelerator complex at CERN, the largest particle physics laboratory in the world, and providing operational support, attract you? Become involved in the operation and evolution of the CERN accelerator computing infrastructure. CERN, take part!

You will join:

- The Beams Department that is responsible for the operation and performance of the entire CERN accelerator complex, including the injector complex and their experimental areas and the LHC.
- The Controls Group that is responsible for the specification, design, procurement, integration, installation, commissioning and operation of the controls infrastructure for all CERN accelerators, their transfer lines and the experimental areas. Support is also provided to the technical infrastructure services that rely on standard controls facilities provided by the group (<https://be-dep-co.web.cern.ch/>).
- The Infrastructure Section that is in charge of the specification, procurement, administration and support of the CERN accelerator computing infrastructure. This portfolio covers the high-performance server platforms of the accelerator data center, operator workstations and accelerator real-time hardware platforms with their associated fieldbus networks (<https://be-dep-co.web.cern.ch/infrastructure>).

You will contribute to the mandate of the system administration team, covering the following domains:

- Integration and monitoring of all systems connected to the accelerator control system (consoles, servers, real-time embedded platforms, network agents, etc.);
- Installation, configuration and support of the control system computing platform for development and accelerator operation, based upon the Linux operating system;
- Operation of central control system computing servers;
- Computer and network security;
- Deployment and management of virtualized hosts;
- User support.

Your main activities will consist more particularly of:

- Code refactoring and improvement, moving from Python 2 to Python 3;
- Implementing changes from monolithic C/C++ applications to Python;

<ul style="list-style-type: none"> • Developing REST API services; • Creating microservices and deploy them on a containerised infrastructure; • Providing support to the accelerator control community. 					
Section to be integrated			BE-CO-IN		
Technical managers					
Desired start date			As soon as possible		
Estimated duration of the activity					
CERN estimate of the personal quantity needed to cover the activity			1		
<i>CERN estimate of the technical level of the staff involved and percentage of occupation</i>					
First speaker			<i>Percentage on the task</i>		100%
Mid-level Engineer					
Main place of work		CERN - Geneva			
Ready to intervene in					
PS	SPS	LHC	XXX	XXX	XXX
Qualification			Proven background in the field of software development (academic or technical engineer) with specific knowledge of the Linux operating system.		

Other qualifications	Skills
<ul style="list-style-type: none">• Knowledge of English (French would be a plus)• Ability to work effectively in a multi-cultural environment• Ability to work in a team• Ability provide support to users• Ability to communicate clearly and write technical documents• Fast learner	<ul style="list-style-type: none">• Python (2, 3)• Practical experience with C/C++• Knowledge of the SQL language and queries• Bash experience is appreciated <p>An exhaustive knowledge of Python modules is not required but we expect the candidate to be willing to learn it quickly (e.g.: django, fastapi, numpy) with possible training provided by CERN.</p>