

# IO2010 Control Application Developer SCOD-011

## General information

Job category	Standard
Status	Published
Department	SCOD / Science & Operations Department
Division	SCOD / Control System Division
Section	SCOD / CSD / CODAC Section

## Job description

Main job	Computer Science - System Administration
Title of the position	Control Application Developer SCOD-011
Job family	Coordinating Technician
Grade	G4 or G5
Direct employment	Required
	<p>To develop a software suite, entitled CODAC Operation Application System, with emphasis on data access and data services;</p> <p>To extend and maintain the in-house developed applications (web applications, middleware software) and improve performance and robustness;</p> <p>To deliver the test suite for the different Unified Data Access (UDA) clients (written in multiple languages and running on various Operating Systems);</p> <p>To timely deliver appropriate services to all clients of ITER data in accordance with the project needs.</p>
Purpose	<p>Background information:</p> <p>The ITER CODAC is the integrated control, data access and communication system to control and operate ITER facilities. The CODAC has continuously developed two software suites in accordance with purposes and released at regular intervals.</p> <p>i) CODAC Core System is a software tool kit for plant control system developments. It's based on Linux and Experimental Physics and Industrial Control System (EPICS) and includes configuration tools, communication middleware, device drivers and human machine interface tools.</p> <p>ii) CODAC Operation Application System is another software suite for operation of ITER facilities, execution of plasma experiments, remote participation and data services.</p> <p>With respect to data handling in a part of operation application system, all the data produced during ITER lifetime shall be archived and serviced to all users on-site and off-site in the effective, flexible and homogeneous way by implementing UDA system.</p>
Main duties / Responsibilities	<p>Takes part in evaluation of visualization tools and web-based application to access ITER archived data;</p> <p>Develops ITER plugins for selected web-applications from the fusion community ;</p> <p>Collects user's requirements for data services and translates them into new application features;</p> <p>Monitor the different services and takes part in the migration and maintenance of the central services;</p> <p>Develops, maintains and implements utilities to ease data access based on user's requirement;</p> <p>Assists in the review and improvement of the different test plans;</p> <p>Supports in the execution of the various test plans;</p> <p>Improve application performance and robustness;</p> <p>Collaborates with development team and IT staff to set specifications for new applications;</p> <p>Writes high-quality code to program complete applications on schedule;</p> <p>Maintains and develops C/C++ code written by third-parties;</p> <p>Contributes to graphic designs of applications;</p> <p>Produces and maintains all documents to support above activities;</p> <p>May be requested to be part of any of the project/construction teams and to perform other duties in support of the project schedule;</p> <p>May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays;</p> <p>Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics.</p>

Measures of effectiveness	<p>Reports to the CODAC Section Leader; Closely interfaces with the CODAC Development Team; Acts as an interface with all clients using ITER data handling software; In response to requests from the Director-General and/or Head of Science &amp; Operations Department (SCOD), or proactively, informs the DG/ Head of SCOD of any important and urgent issues that cannot be handled by the concerned line management and may jeopardize the achievement of the Project's objectives.</p>
	<p>Successfully and timely delivers application software (i.e. web-based applications, utilities for data services, etc) for data services in a high quality; Maintains data access services with a high degree of availability, especially Unified Data Access (UDA) server and web-based applications; Correctly monitors systems in operation and reports issues with proposed solutions; Maintains up-to-date documentations related to software engineering activities in the scope of work; Performs timely and accurately the work duties and reporting as described in the Detailed Work Schedule.</p> <p>Project Construction Phase</p>

## Applicant criteria

Technical experience/knowledge	Level of study	At least Bachelor's degree or equivalent
	Diploma	Computer Science or other relevant discipline
	Level of experience	Please refer to G4 or G5 specific requirements
		Extensive experience in similar jobs (involving similar work responsibilities) and/or additional training certificates in relevant domains may be considered a reasonable substitute for the required educational degree.
		At least 5 years (G4 level)/7 years (G5 level) of experience in software development, including at least 4 years' experience in Java and Python;
		Experience in developing Python script with Matplotlib, numpy, h5py modules;
		Experience in Tomcat, HTML5, JavaScript, Web services (REST/SOAP);
		Strong knowledge in design of Web application design (REST/SOAP);
		Strong grasp of security principles in web application design;
		Experience with C/C++ programming;
Technical experience/knowledge		Experience in software development techniques, especially agile methods;
		Experience with databases (MySQL, Postgre SQL or Oracle);
		Good experience with Linux systems
	Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit, Ability to communicate effectively
		Excellent organizational skills and the ability to set priorities and meet deadlines;
	General skills	Ability to work effectively in a multi-disciplinary environment;
		Ability to apply high standards of team mindset, trust, excellence, loyalty and integrity
	Languages	English (Fluent)
	Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
		Knowledge of IT security;
Others		Experience with MS SharePoint and/or Atlassian tools is considered an advantage.
		Knowledge of industrial software quality standards (MISRA, HIC++ and others) is considered an advantage;
		Knowledge of Windows development environment is considered an advantage.

