T308  
System 800xA - with AC800M Hardware Maintenance and Troubleshooting  

Learn how to troubleshoot the AC800M hardware in Extended Automation System 800xA. Be able to explain System 800xA architecture and the function of the different components.

Course type and methods  
This is an instructor led workshop with short presentations and demonstrations, extended exercises, hands on sessions and discussion. Approximately 50% of the course is hands-on lab.

Student Profile  
This training is targeted to first level maintenance personnel. Note: There is some overlap in T308 with the material of T314 Basic Configuration. Since both courses are intended not to require prerequisite knowledge of 800xA, there is introductory material in both courses that is very similar.

Prerequisites  
Students shall know the fundamentals of working with Control Systems and have basic knowledge of Microsoft Windows/Windows Server.

Course objectives  
Upon completion of this course the participants will be able to:
- Explain the System 800xA architecture and the function of the different components
- Operate objects through faceplates Configure IT assets
- Handle alarms
- Navigate in the Project Explorer
- Describe the structure of application programs i.e. variables, libraries, programs, tasks
- Configure the AC800M hardware and corresponding I/O’s
- Load the controller and work in online mode
- Troubleshoot and exchange AC800M hardware
- Troubleshoot Profibus and Modulebus communication to the S800 I/O’s
- Troubleshoot the OPC communication to the AC800M controller
- Monitor control applications
- Trace alarms from the Human System Interface (HIS) down to control logic
- Trace signals in Control Builder

Main topics  
- System 800xA architecture
- Operation
- Project Explorer
- AC800M hardware
- Hardware diagnostics
- Hardware redundancy
- Monitoring applications
- Alarm tracing
- Signal tracing
- I/O communication
- OPC communication
- Miscellaneous

Duration  
The duration is 5 days
# Course Outline

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Course overview</td>
<td>• Control Builder overview</td>
<td>• Signal tracing in structured text</td>
<td>• Signal tracing in function designer</td>
<td>• System troubleshooting</td>
</tr>
<tr>
<td>• System architecture</td>
<td>• Plant Explorer Workplace</td>
<td>• Signal tracing in control modules</td>
<td>• MMS communication</td>
<td></td>
</tr>
<tr>
<td>• Operation</td>
<td>• Hardware troubleshooting</td>
<td>• Signal tracing in sequential function charts</td>
<td>• Signal tracing from 800xA workplace</td>
<td></td>
</tr>
<tr>
<td>• AC800M hardware</td>
<td>• Signal tracing in Function Block Diagrams</td>
<td>• System troubleshooting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Controller preparation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>