Course code: **CQ**

Course title: **Adobe CQ for Java programmers**

Days: 5

Description:

Course intended for:

The training is addressed to Java programmers (backend), who would like to get familiar with the application development skills in the Adobe Communiqué content management system.

Course objective:

The training objective is to acquire the basic skills necessary to develop Web portals on the basis of CQ. It introduces the general theory and aspects of the technology, necessary to commence programming. After the participants get familiar with the locally launched instances, the trainer will discuss the general issues associated with the fundamental concepts of CQ, which are OSGi and its implementation in the form of Apache Felix, Java Content Repository using the Content Repository Extreme as an example, ReST and the Apache Sling Web framework. Then the participants will go through the application development process, including the Web template with components to be embedded, integrated with the Web interface, which is to be made accessible later for the Web page editors. The basic terms, necessary to work as an author, such as parsys and dialog, are discussed. Some frequently encountered issues are also presented, such as the basics of securing access through the Closed User Group, path mapping and shortening, introduction to dispatchers. Main emphasis, however, is put on getting the participants familiar with the API provided and with the basic methods of access to objects and data in the rendered page requests.

Requirements:

The training content assumes the practical skill of Java language programming, basic HTML ad familiarity with the JSP technology.

Course parameters:

5*8 hours (net 5*7 hours) of lectures and workshops (with a visible emphasis on workshops). During the workshops, exercises will be conducted to provide the participants with basic programming skills and a thorough knowledge of the CQ environment.

Group size: no more than 8 participants.

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Course curriculum:

1. Introduction to CQ
    I. Launching – command line parameters
        i. Author mode
        ii. Publish mode
    II. The system interface
    III. Content management
        i. Activation
        ii. Pages
            A. Structure
            B. New page creation
                a. Title vs. name
                b. Template
            C. Switching to edition
            D. Operations
        iii. Media (digital assets)
            A. Upload
            B. Renderings
            C. Editing properties
            D. Operations
        iv. Tags
            A. Operations
            B. Properties
    IV. Administration
        i. Users
            A. Operations
            B. Groups
            C. Properties
            D. Access rights
        ii. Tools
            A. Structure
            B. Designs
            C. ClientLibs
            D. Workflows
        iii. Basic package management - Package Manager
            A. General information
            B. Upload
            C. Installation
        iv. Replication
            A. General information
            B. Agents
            C. Tree activation
    V. Tools associated with CRX repository
        i. CRXDE Lite
            A. Interface

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IV. Addressable resources
V. Uniform, constrained
VI. Representation oriented
VII. Stateless

4. JCR + CRX
   I. Hierarchy
   II. Transactionabillity
   III. Referential constraint
   IV. Versioning
   V. Workspace
   VI. Name space
   VII. Paths
   VIII. Path transformation to URL
   IX. Global ID
   X. Full text search
   XI. Nodes
      i. Attributes
         A. Value types
            a. string
            b. uri
            c. boolean
            d. date
            e. long
            f. double
            g. decimal
            h. path
            i. name
            j. binary
            k. reference
            l. weakreference
         B. Distinguished attributes
            a. jcr:primaryType
            b. sling:resourceType
            c. sling:resourceSuperType
            d. jcr:mixinTypes
            e. jcr:title
            f. cq:template
            g. jcr:uuid
            h. cq:renderer
      ii. Types (jcr:primaryType)
         A. nt:unstructured
         B. nt:file
         C. nt:Folder
         D. nt:OrderedFolder
         E. dam:Asset
         F. cq:Page

iv. Suffix
IV. Script file location on the basis of URL
i. libs, apps
ii. GET, POST
iii. Priorities
V. Mappings for Resource Resolution
i. sling:match
ii. sling:redirect
iii. sling:internalRedirect
iv. sling:alias
v. sling:status

7. Out of the Box
I. /libs
i. /libs/foundation/global.jsp
ii. components
A. parsys
B. sitemap
C. text
D. image
E. breadcrumb
II. Geometrixx - a model application
i. application structure
ii. content structure
iii. components
iv. renderers

8. Development
I. Tools
i. CRXDE Lite based development
ii. FileVault
iii. Maven
iv. Eclipse
II. Java API overview
i. CQ taglib
A. include
B. includeClientLib
C. defineObjects
D. requestURL
ii. JSP objects
A. componentContext
B. component
C. currentDesign
D. currentPage
E. currentStyle
F. designer
G. editContext
H. pageManager

I. pageProperties
J. properties
K. resourceDesign
L. resourcePage
M. resource
N. slingRequest
O. resourceResolver

iii. Classes, interfaces
A. org.apache.sling.api.adapter.Adaptable
B. org.apache.sling.api.resource.Resource
C. org.apache.sling.api.resource.ResourceResolver
D. org.apache.sling.api.scripting.SlingScriptHelper
E. org.apache.sling.api.request.RequestPathInfo
F. com.day.cq.wcm.api.Page
G. com.day.cq.wcm.api.PageManager
H. com.day.cq.dam.api.Asset

III. We develop
i. An application
ii. A template
iii. A renderer
iv. Page structure
v. Basic page content
vi. Several rendering scripts
vii. Modularization
viii. We initialize WCM
ix. Design
x. Navigation
xi. Title
xii. Logo
xiii. We use drag and drop
xiv. Bundle
xv. Dialog
A. panel
B. textfield
C. textarea
D. selection
E. options
F. tabpanel
G. multifield
H. richtext
I. image
J. dialogfieldset

IV. Debugging
V. Security
i. CUG
ii. Dispatcher

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