

A Comprehensive Study on Echo Content Management System

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ABSTRACT

Echo OpenCms is a professional, easy to use website content management system. OpenCms helps content managers worldwide to create and maintain beautiful websites fast and efficiently.

The fully browser based user interface features configurable editors for structured content with well defined fields. Alternatively, content can be created using an integrated WYSIWYG editor similar to well known office applications. A sophisticated template engine enforces a site-wide corporate layout .

OpenCms is based on Java and XML technology. It can be deployed in an open source environment (e.g. Struts2, Apache, Tomcat, MySQL) as well as on commercial components (e.g. Windows NT, IIS, Tomcat).

Keywords: echo, CMS, java, interface, architecture.

INTRODUCTION

Green Echo CMS is an open source Java CMS for creating personalized. Echo CMS clean, modular architecture and support for open standards make it the ideal solution for agile development and open integration. Echo CMS emphasis on the separation of the content from the presentation logic enables content editors to create content once, and then publish it to web sites. Echo enables webmasters to create new channels or configure existing page using its Channel Manager and Template Composer. Using the Relevance Module, specific content can be targeted at specific visitors based on the visitor's current context, past personal history and matching personas created by the marketing team.

Under the hood Echo CMS supports many open standards such as JCR and REST to simplify development and integrations with existing systems. Echo CMS Delivery Three Tier provides the tools for rapid development of websites and other channels such as REST endpoints or RSS feeds. Both the Echo CMS user interface and the Delivery Tier. Browse through the topics below.

BASIC FEATURE'S

Architecture

- CMS, Repository & Delivery Tier
- Deployments
- Content Model

Website Development

- Building Websites with Echo
- Component development



User Management

- Logging in
- Users & Roles
- Administration

Integrations & Extensions

- Content, Data & Front End Integrations
- Echo Customizations

Enterprise Features

- Relevance Module
- Reporting Dashboard

Workspaces

- Channel Manager
- Searching within the CMS

Document Actions

- Creating a document
- Editing a document
- Publishing a document

Developer Resources

- System Requirements, Release Notes
- and IDE Support
- Using the Console

Document Actions

- Creating a Page
- Editing a Menus
- Publishing a Mail

Echo CMS comes in two flavors: the Community Edition (distributed under Apache 2 license) and the Enterprise Edition, which includes additional modules such as Relevance and Reporting. More information about these two editions and their differences can be found. If you want to play around with the Community Edition of Echo CMS, check out the Getting Started Trail. Depending on your interest in Echo, here are some pointers into the documentation on our Echo Campus:

- For developers that want to learn more about how to develop using Echo :
 - First follow our Development
 - The list of Add- Ons that can be found on the Echo CMS,
 - How to build Echo from source
- Architects that want to know more about the internal working of Echo :
 - Read the architecture page
 - What are our System requirements

We hope you enjoy the information on our Echo Community web site - and are looking forward to hear more from you on our or in the comments section you find on each page.

ECHO CMS ARCHITECTURE

Echo CMS is a Java-based open source *web content management platform*. It uses modern web architectures, open standards and open source components throughout. In all layers of the architecture, open and extensible APIs are available for Integrated Echo into your existing application architecture.

The Echo architecture is highly modular. This modular and clean architecture has several technical benefits such as ease of integration and great scalability, and also functional benefits such as content reuse. In the next sections, details are provided on each module in the Echo stack. We highlight the three modules

HIGH LEVEL COMPONENT OVERVIEW

At high level Echo architecture consists of three major components:

- Content repository ("Echo Repository")
- Authoring application ("Echo CMS")

Content Repository

The core of Echo CMS is the Echo Repository. All content, metadata and configuration is stored in this central component. In addition to providing a storage layer, the repository is also responsible for the base content management services such as meta-data and workflow, content searching, Menu Editing processing, scheduling, transformation and aggregation, and the orchestration thereof.

Echo Repository is based on Apache, an open source implementation of the Java specifications. All content management functionality is exposed through a standard set of API interfaces. This allows your application or process to integrate with Echo for automatic creation, import, export and publication of content, in addition to the web based authoring application. An important feature of Echo CMS is that it strictly separates content and content management from the context of its usage. Echo CMS does not maintain content in a "page-oriented" Create Page, Editing Menu manner, but stores and manages metadata that is context-dependent separately. This allows for reuse, filtering of content across different contexts, channels and devices. Especially within a large enterprise environment this is an important feature supporting reuse, integration and interoperability with other applications.

Authoring

The Echo CMS authoring application provides a web-based user interface through which teams can collaborate to create and manage their content. All from within the same user interface, web masters, marketers, editors and authors can perform functions such as the creation of new sub-sites, editing of page , menu structures or content, creation of different page for different targeted personas, and so on.

Depending on the role within the organization, certain functions or content can be hidden or made read-only for certain groups of users through centralized access management and workflow systems.

The authoring application is fully customizable through a GUI plugin architecture based on the Apache Wicket web application framework.

Delivery

Echo delivery tier provides the framework and tools for rapid development of websites and other channels such as REST endpoints or RSS feeds. It can be used to quickly create multi-site and multi-channel front-ends through a combination of configuration and development. It provides functionality for creation of page , which can be further refined by webmasters in the authoring application.

Features include a engine which is easily configurable through the authoring application's user interface, and a tag library and expression language to accommodate the development of a JSP or Struts2-based view layer. Echo delivery tier also has built-in caching and page diagnostics to ensure great performance.

QUALITY ATTRIBUTES

Echo architectural design is driven by the following quality attributes:

- **Interoperability**
The ability of a system to work together with other systems.
- **Extensibility**
The ability to extend a system and the level of effort required to implement the extension.
- **Scalability**
The ability of a system to handle a growing amount of work in a capable manner or its ability to be enlarged to accommodate that growth.
- **Performance**
The amount of work accomplished by a system compared to the time and resources used.
- **Availability**
The proportion of time a system is in a functioning condition.
- **Security**
The ability of a system to reliably control, monitor, and audit who can access the system and who can perform what actions on which resources, and the ability to detect and recover from failures in security mechanisms.

CONCLUSION

The CMS accepts third-party plug-ins that provide functions such as banner advertising, shopping carts, blogs, wikis, newsletters, opinion polls, chat rooms and forums. Over the years, a few Web publishers have custom-coded their own content management systems, but there have been myriad CMS packages available on the market offering quite a variety of different features and approaches. However, the most popular open source CMS platforms are WordPress, Joomla! and Drupal come in a distant second and third.

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