Case Study – Portal Build Server

TECH MILEAGE

1. Introduction

This document provides the details of the Portal build server infrastructure created for a well known automobile company. The Document includes the details of the components of the build server and scenarios which were covered for build and deployment process.

2. Continuous Integration System

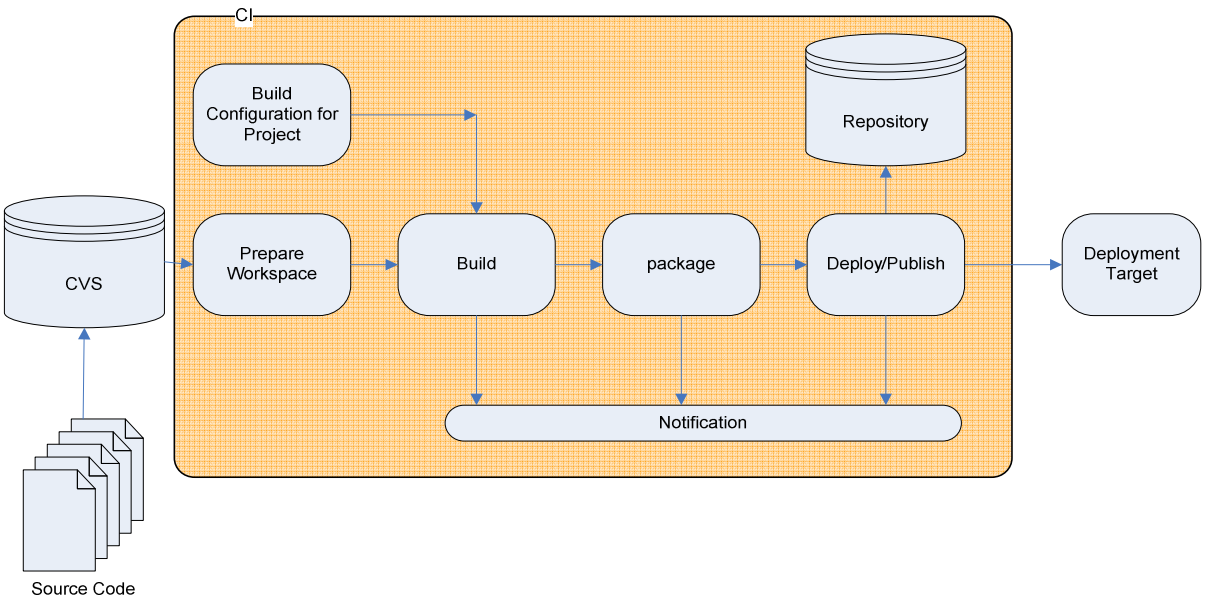

Figure : Basic structure of Implemented CI System

The Continuous Integration (CI) system of was designed with the following approach-

1. Developers check new and modified code into the source code repository.
2. The CI server creates a dedicated workspace for each project. When a new build is requested or scheduled, the source is retrieved from the repository into this workspace, where the build is then executed.
3. The CI server executes the build process on the newly created or refreshed workspace.
4. If the build fails, registered individuals can be notified by email, instant messaging, or some other method.
5. If the build is successful, the artefacts are packaged and transmitted to a deployment target (such as WPS/WAS) and/are stored as a new versioned artefact in a software repository. This repository is a part of the CI server and lies inside of an apache web server,
6. CI server has a console where projects can be configured and debugged, and where requests can be issued for operations such as ad hoc immediate builds, report generation, or retrieval of built artefacts.

3. Build Server Overview - Components

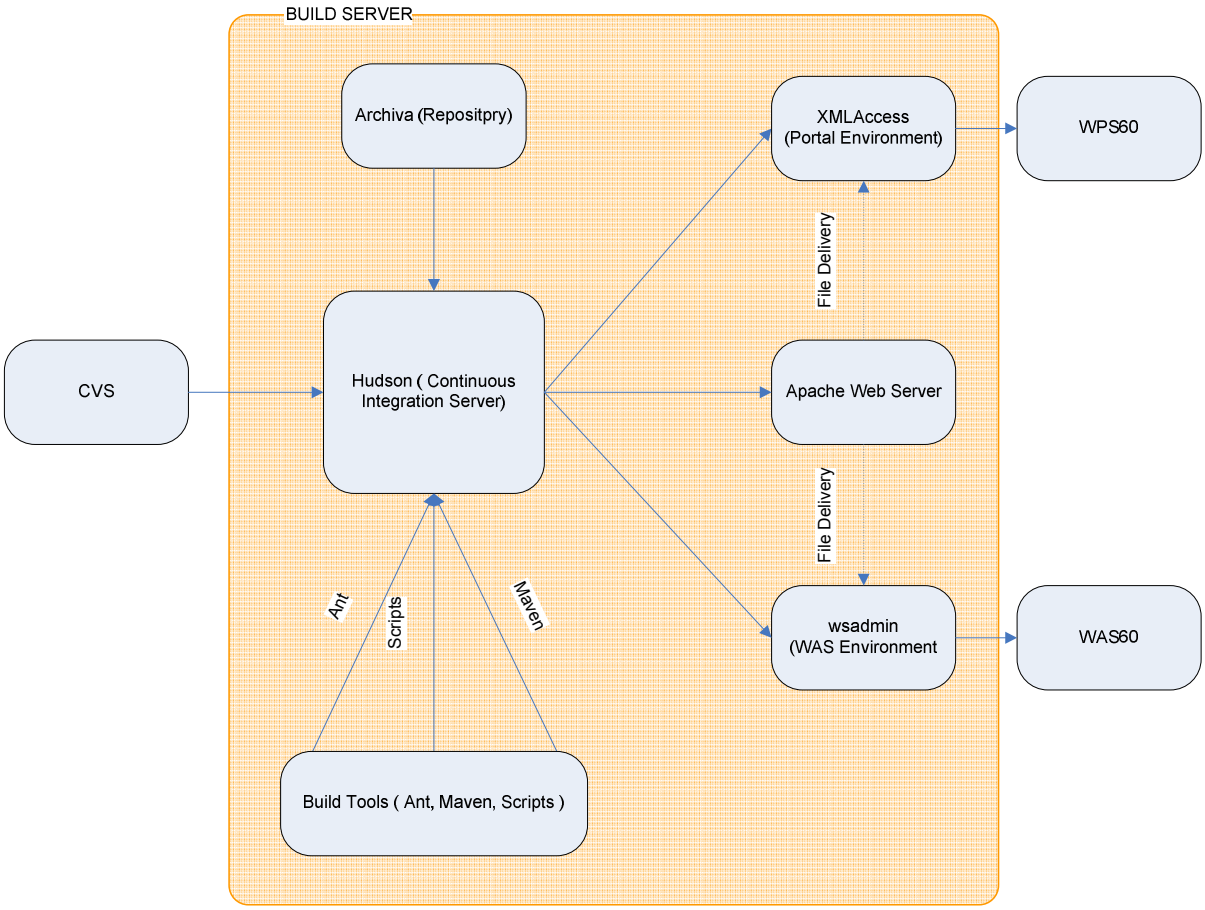

Figure : Build Server Overview

3.1 Hudson – CI Server

Hudson is a CI server which is a free and open source product hosted at Java.net Hudson is Java-based but is not limited to building Java-based software. It has a Web-based user interface, which is user friendly, intuitive, and responsive.

3.2 Apache server

The Apache server is used for file delivery using http. This makes the process easier as the different machines and environments do not need ftp/scp access for file transfer.

3.3 Archiva

Apache Archiva is an extensible repository management software that helps take care of enterprise-wide build artefact repository. It is the perfect companion for build tools such as Maven and ANT.

Archiva offers several capabilities, including remote repository proxy, security access management, build artefact storage, delivery, browsing, indexing and usage reporting functionality.

3.4 Maven

Maven is a build tool which is widely used.

3.5 Ant

Ant is a build tool which is widely used.

3.6 XML Access

The Websphere Portal configuration client, XML Access, allows the Portal administrator to update and maintain a portal application installation and to easily maintain settings without having to remember which Portal administration portlet to use. For example, installing a portlet, setting security and changing parameters all can be done in one easy step using the Portal configuration client XML Access tool.

3.7 WS Admin

For the deployment of themes and J2ee components.

4. Scenarios Covered

Build server was designed to cover the following scenarios –

1. Building and deploying a Websphere Portlet Factory project – Ant based
2. Building and deploying a Portlet project – Maven based
3. Building and deploying a Theme & Skin Project – Ant based
4. Build and deploying any Java/J2ee project using Maven/Ant