Joget DX8

Introduction to Plugin Architecture

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Prerequisites

1. Understand Java web enterprise application and able to code.

2. Understand basic Joget components and its usages.

Content

1. Introduction to Plugins
2. Plugin Types

Chapter 1
Introduction to Plugins

What Is Plugin?

- Allows the functionality of the system to be extended dynamically.
- To achieve extensibility and adaptability of product features
- Any kind of integration that is not yet available in Joget as standard feature can be accomplished by developing a plugin, without breaking the fundamental core of the product.
- Joget plugin architecture supported 2 type of plugin structure
  - Standard Java Plugin
  - Dynamic OSGi Plugin

Plugin Architecture

Standard Java Plugin

- Build as a standard Java JAR
- Plugin classes should be placed in a package name starting with org.joget. (OEM release package are allowed to specify other package names)
- Make JAR available in the Java classpath (e.g., place it under WEB-INF/lib or application server lib folder).
- Requires restarting the JVM for deployment or changes.
- May cause library version conflicts with base libraries or other plugins.
- Easier to develop and test using normal Java classes and libraries.

Dynamic OSGi Plugin

- Build as an OSGi (Open Services Gateway initiative framework) JAR bundle.
- Deploy JAR using the Manage Plugins in the Web Console.
- Supports dynamic loading/unloading/reloading without restarting.
- Runs in isolated mode, preventing library version conflict with base libraries or other plugins.
- More difficult to develop and test due to OSGi configuration and isolation.
- Technology powering this structure: Apache Felix.

Chapter Review
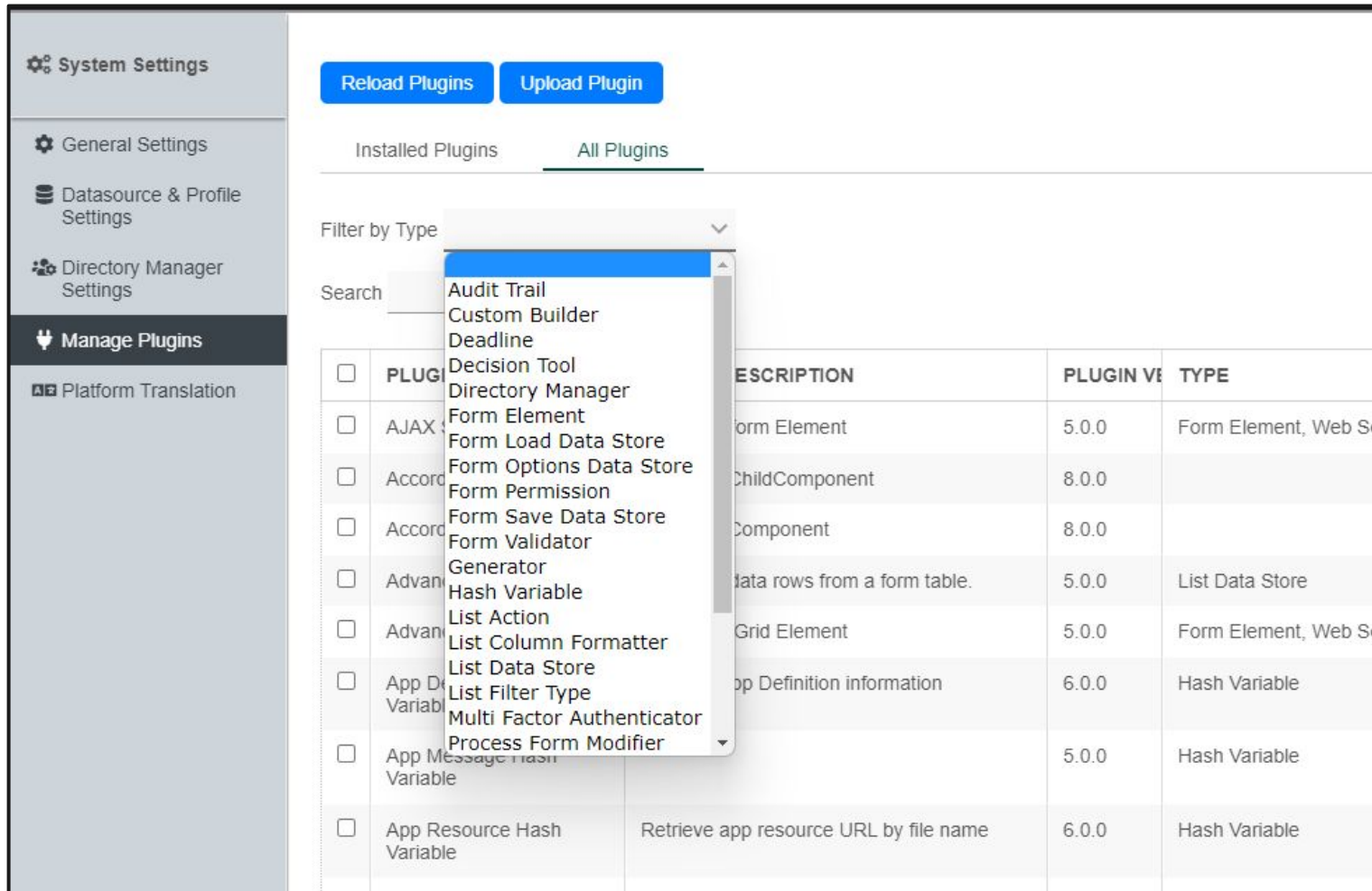
- Able to differentiate between the 2 types of plugin.
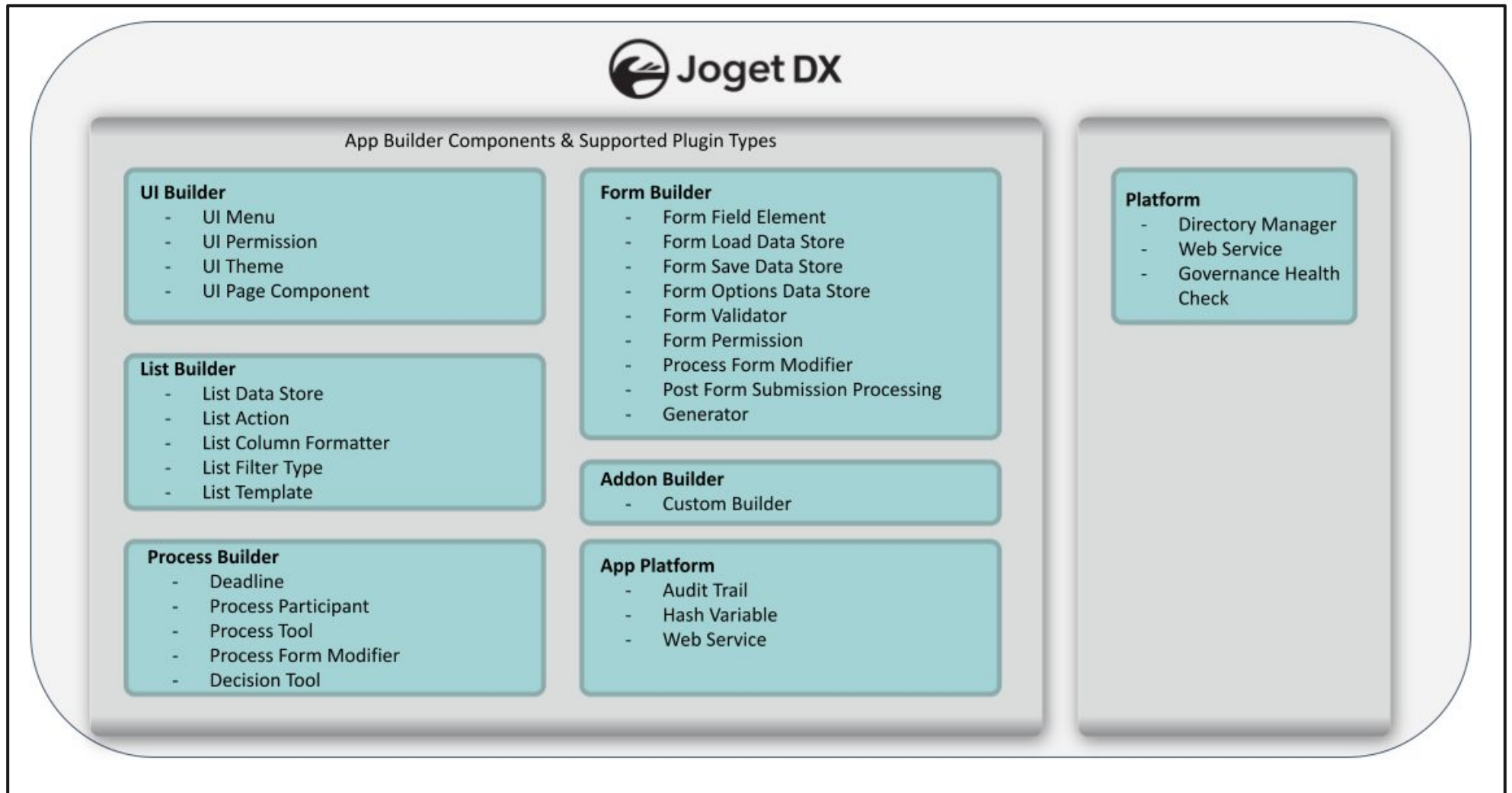
Chapter 2
Plugin Types

Locate Available Plugins

- Settings -> Manage Plugins

Plugin Types

Joget DX

App Builder Components & Supported Plugin Types

UI Builder
- UI Menu
- UI Permission
- UI Theme
- UI Page Component

List Builder
- List Data Store
- List Action
- List Column Formatter
- List Filter Type
- List Template

Process Builder
- Deadline
- Process Participant
- Process Tool
- Process Form Modifier
- Decision Tool

Form Builder
- Form Field Element
- Form Load Data Store
- Form Save Data Store
- Form Options Data Store
- Form Validator
- Form Permission
- Process Form Modifier
- Post Form Submission Processing
- Generator

Addon Builder
- Custom Builder

App Platform
- Audit Trail
- Hash Variable
- Web Service

Platform
- Directory Manager
- Web Service
- Governance Health Check

UI Builder Plugin Types

- **UI Menu Plugins** to extend types of pages available in UI Builder.
- **UI Permission Plugins** to handle permissions and access rights in a UI.
- **UI Theme Plugins** to change the UI design of UI.
- **UI Page Component Plugins** to allow users to configure the UI of the app's page with ease. (New in DX8)

List Builder Plugin Types

- **List Data Store Plugins** to extend methods of loading data for a list.
- **List Action Plugins** to extend methods of executing an action on list item. (e.g. Delete a record)
- **List Column Formatter Plugins** to extend ways of formatting column data.

List Builder Plugin Types

- **List Filter Type Plugins** provides more means of filtering data.
- **List Template Plugins** provides data representation layer. (New in DX8)

Process Builder Plugin Types

- **Deadline Plugins** provide the ability to recalculate deadline limit and SLA limit based on programming logic.

- **Process Participant Plugins** are used to provide custom selection of users to workflow participants.

- **Process Tool Plugins** to integrate with external systems and allow extra processing in the middle of a process.

Process Builder Plugin Types

- **Process Form Modifier Plugins** is used to modify the form design mapped to a process flow activity.

- **Decision Tool Plugins** are used in a route in a process flow to decide the next transition to flow to after the route.

Form Builder Plugin Types

- **Form Element Plugins** to extend types of fields available in Form Builder.

- **Form Load Data Store Plugins** to extend methods of loading data in a form from any data source.

- **Form Save Data Store Plugins** to extend methods of storing data in a form to any data source.

Form Builder Plugin Types

- **Form Options Data Plugins** to extends method to loading data for a form field options from any data source.

- **Form Validator Plugins** to extend ways to validate form data.

- **Form Permission Plugins** to handle permissions and access rights in a form.

Form Builder Plugin Types

- **Process Form Modifier Plugins** to modify the form design mapped to a process flow activity.

- **Post Form Submission Processing Plugins** is used for integrating with external systems or make extra processing after a form is saved.

- **Generator Plugins** to generate/scaffolding work for app based on current working form in the Form Builder.

Addon Builder Plugin Types

- **Custom Builder Plugin** is used to extend the builder feature in addition to the default form, list, UI & process builder.

App Platform Plugin Types

- **Audit Trail Plugins** is triggered after process related event to provide extra processing capabilities. (e.g. Capture reporting data or user notification.)

- **Hash Variable Plugins** to extend support of processing Hash Variable.

- **Web Service Plugins** to provide additional HTML page or Web Service for AJAX call for the system.

Platform Plugin Types

- **Directory Manager Plugins** to integrate users from external system. E.g. Active Directory or LDAP.
- **Web Service Plugins** to provide additional services for the system.
- **Governance Health Check Plugins** is used to assure the stability of the applications in terms of Performance, Quality Assurance and, Security.

Platform Plugin Types

- **Multi Factor Authenticator Plugin** is used by Security Enhanced Directory Manager to provide multi factor authentication feature.

Chapter Review

- Understand all types of plugins and the purpose that each of the plugin type serves.

Module Review

1. Introduction to Plugins.
2. Plugin Types.

Recommended Further Learning

- Building Joget from source.
- Learn to create a Plugin.

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