

Where Used Service – Reference Guide

1. Concept Overview

The "Where Used" service tracks and manages dependencies between metadata objects (e.g., extension fields, validations, UI fields) in SAP CXM. Its main purpose is to provide visibility into where an object is used, supporting safe deletion, impact analysis, and dependency management.

2. Key Features

Up-front Dependency Tracking: Dependencies are recorded as soon as they are created or removed, via standard events.

Supported Dependency Types:

Hard Dependency: Must be removed before deleting the target object.

Soft Dependency: Target can be deleted; dependent objects may require cleanup.

No Maintenance: No tracking needed; consumer adjusts itself.

Extensible Registry: All participants (object types) and their relationships are registered in a central registry.

Event-Driven Updates:

Events: `createDependency`, `deleteDependency`, `updateDependencyForSource`

Consumers must emit these events to keep the dependency graph up to date.

APIs:

gRPC and REST APIs to add, remove, update, and query dependencies.

Supports mass operations and initial load for onboarding or data sync.

Tenant Copy Support: All dependencies are copied and synchronized during tenant lifecycle operations.

3. Typical Dependency Scenarios

Object	Usage In	Context Info	Dependency Type
Extension Fields	Validation	Entity, Custom Logic ID	Hard
Extension Fields	Determination	Entity, Custom Logic ID	Hard
Extension Fields	Autoflow		Hard
Extension Fields	Approval		Hard
Extension Fields	UI Data fields	UI View name, Parent UI context, Field Set	Soft
Extension Fields	CLR (Code List Restriction)		Hard

Current consumers include: Validation, Determination, Autoflow, Approval, CLR (Code List Restriction).

4. Example Use Case

An extension field used in a UI view is tracked as a dependency. Before deleting the field, the service can show all UI views where it is used, preventing accidental data loss.

5. API/Event Usage

Add Dependency Event

Remove Dependency Event

Replace Dependency Event

6. Troubleshooting

If you are unable to remove a field, it is likely referenced by other objects or services (e.g., Validation, Determination, Autoflow, Approval, CLR). Use the "Where Used" feature or API to list all usages and remove or update dependent references before deletion.