



14

## Process Metadata

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## Objectives

- At the end of this section, you will be able to
  - Name the assets that generate Designer metadata
  - Name the preconfigured searches
  - Configure a custom metadata search
  - Describe the differences between local and shared metadata
  - Use local metadata to investigate dependencies and references
  - Publish/retract metadata into/from a shared CentraSite registry
  - Use shared metadata to generate impact analysis

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## Designer Metadata: Assets

- Designer can be configured to generate metadata about workspace assets.
- Regarding BPM, Designer tracks the following assets:
  - Process projects
  - Processes and Process references
  - CAF Tasks and UI projects
  - Portlets and Portlet views
  - User Tasks and User Task references
  - IS and TN Document Type references
  - IS Service references
  - Business Rule references

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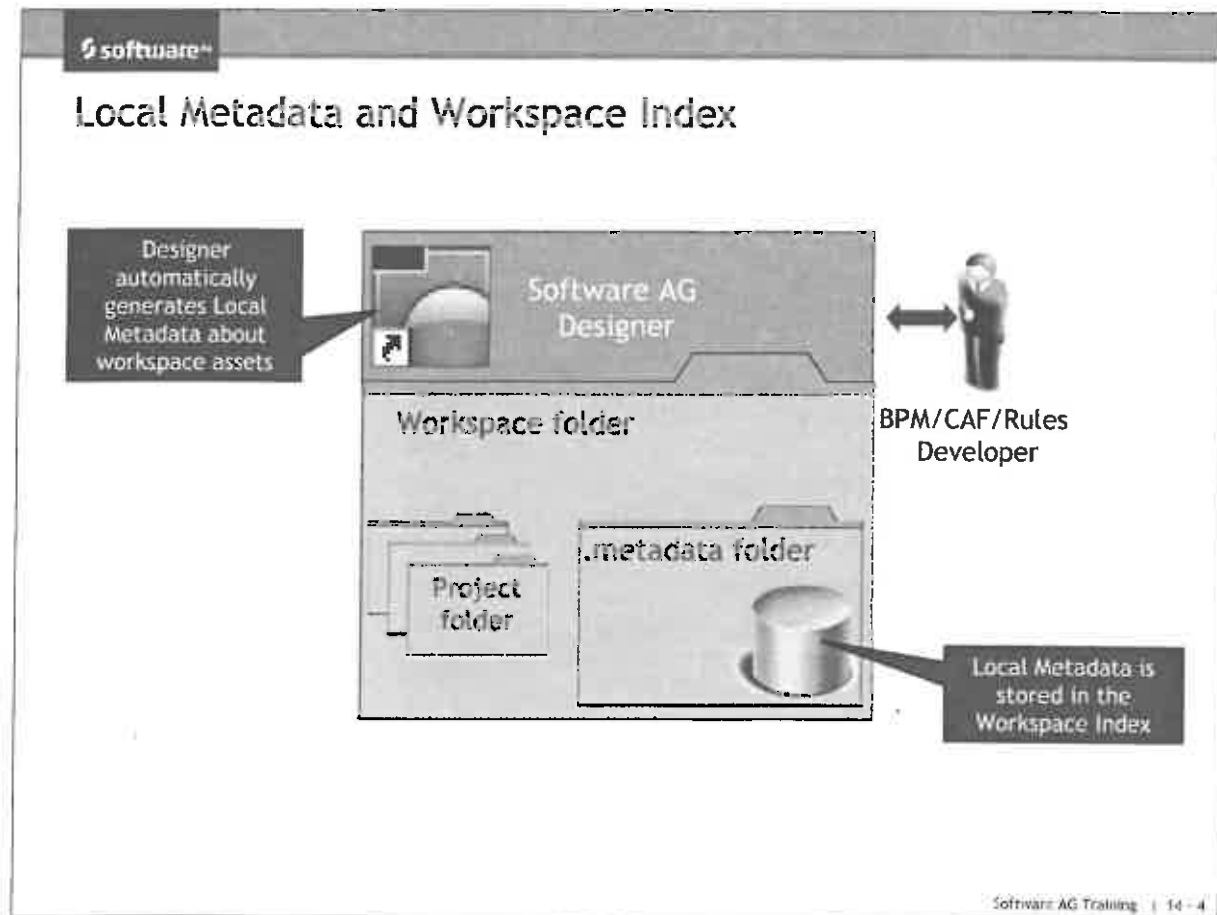
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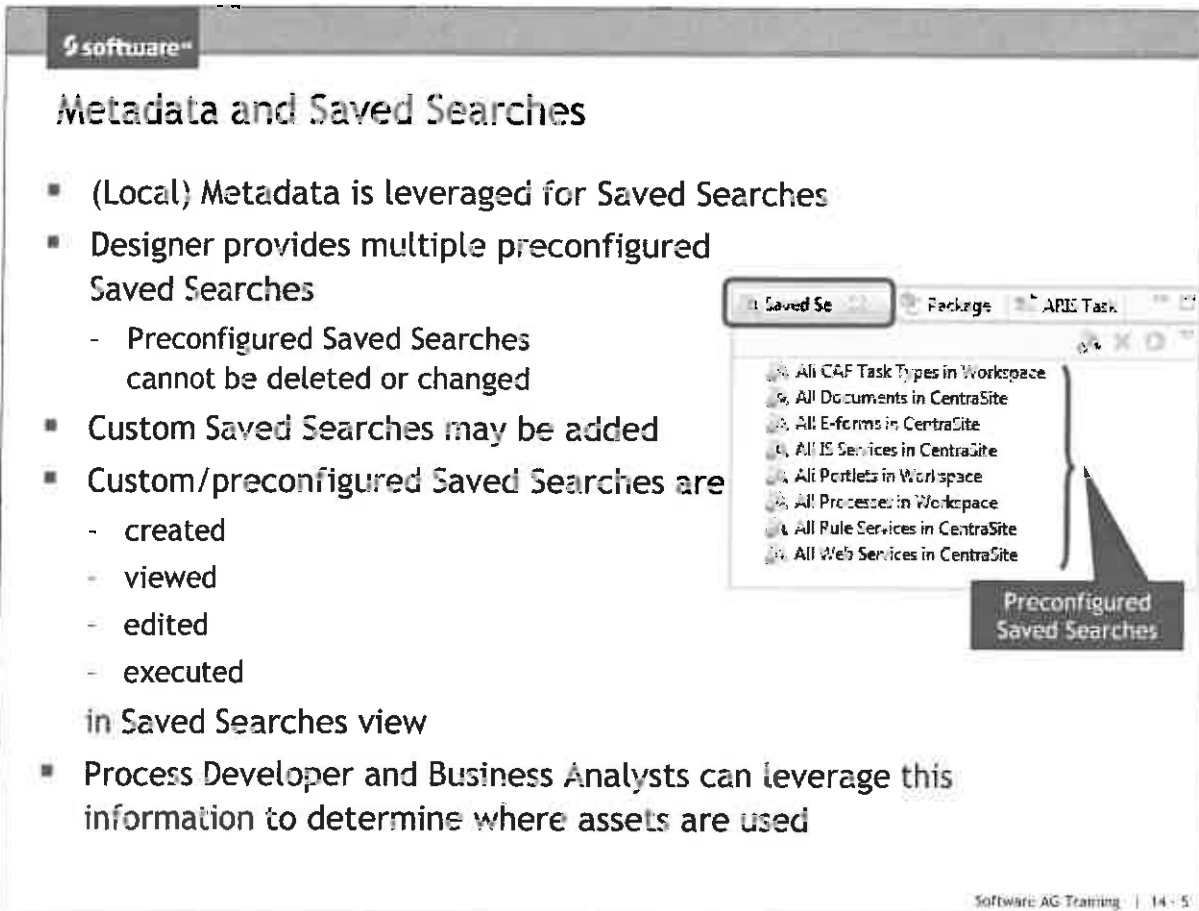
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This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. On the left side, there is a vertical margin line, creating a narrow left margin. The paper appears to be from a notebook or a standard ruled document.



Notes: \_\_\_\_\_



If I change this process, what effect will it have on other assets?

## Dependents and References

Properties Search Problems Build Report Settings Pipeline Data

Processes - 9 matches matches for conditions "(Name)" in "Workspace"

Workspace	Type	Name	ID
Workspace	Process	HRwithElsePuja	AcmeHR/HRwithElsePuja
Workspace	Process	HRwithErrorHandling	AcmeHR/HRwithErrorHandling
Workspace	Process	HRwithSwimlanes	AcmeHR/HRwithSwimlanes
Workspace	Process	HRwithSmoothHandling	AcmeHR/HR

Show

- Next Match
- Previous Match
- Copy
- Paste
- Remove selected matches
- Remove all matches
- Search Again
- Show Preferences
- Show Dependencies

in Workspace

- in CertiaSite

- Results of a Saved Search can be leveraged for:
  - showing Dependencies
  - showing References

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## Notes:

## Show Dependents and References

- Developers leverage dependants and references to gain a deeper understanding of asset relationships
- Sample:** Dependents of the HR process:

Run the current  
Search again (F5)

Show previous  
Searches

Properties Search Problems Build Report Servers Pipeline Data Trace

Related Assets Results found for process AcmeHR/HR - 15 direct dependencies found in Workspace

Direct	Type	Name	Full Name	Description
<input checked="" type="checkbox"/>	IS Service	AcmeHR.HRwithTimeoutH...	uri://is/ns/service/AcmeHR.HRwithTimeoutHandling.HRwit...	
<input type="checkbox"/>	IS Type Definition	acme.hr.docemployeeAp...	uri://is/ns/doctype/acme.hr.docemployeeApplication	
<input type="checkbox"/>	IS Service	AcmeHR.HRwithTimeoutH...	uri://is/ns/service/AcmeHR.HRwithTimeoutHandling.HRwit...	
<input type="checkbox"/>	IS Service	AcmeHR.HRwithTimeoutH...	uri://is/ns/service/AcmeHR.HRwithTimeoutHandling.HRwit...	
<input type="checkbox"/>	IS Service	AcmeHR.HRwithTimeoutH...	uri://is/ns/service/AcmeHR.HRwithTimeoutHandling.HRwit...	
<input type="checkbox"/>	IS Service	acme.hr.validateResu...	uri://is/ns/service/acme.hr.validateResume	
<input type="checkbox"/>	IS Service	AcmeHR.HRwithTimeoutH...	uri://is/ns/service/AcmeHR.HRwithTimeoutHandling.HRwit...	
<input type="checkbox"/>	IS Service	AcmeHR.HRwithTimeoutH...	uri://is/ns/service/AcmeHR.HRwithTimeoutHandling.HRwit...	
<input type="checkbox"/>	IS Service	AcmeHR.HRwithTimeoutH...	uri://is/ns/service/AcmeHR.HRwithTimeoutHandling.HRwit...	
<input type="checkbox"/>	IS Service	AcmeHR.HRwithTimeoutH...	uri://is/ns/service/AcmeHR.HRwithTimeoutHandling.HRwit...	

Direct relationships are relationships that are one link apart

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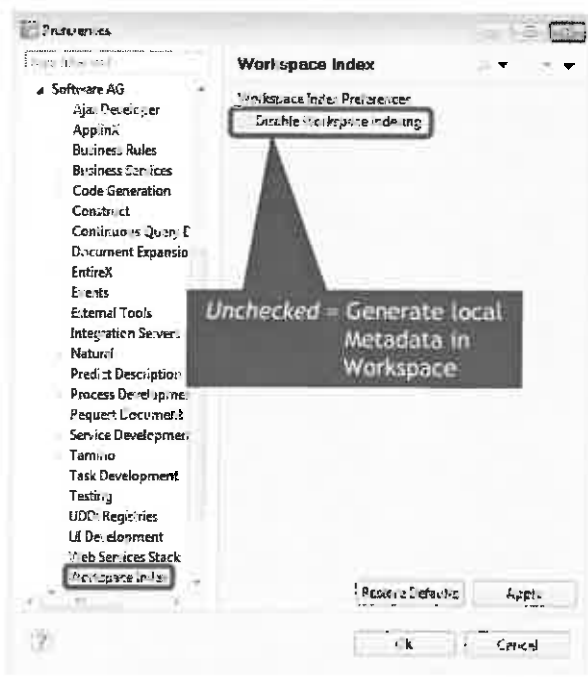
### Notes:



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## Generate Local Metadata - Enablement

- Generation of local metadata is enabled by default
- Use Designer preferences to disable metadata generation in Workspace Index, if it is not being used
- This may marginally increase the performance of Designer



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## Resetting Workspace Index...

- Resetting Workspace Index
  - only required if:
    - Metadata creation was disabled
      - Re-enabling metadata creation will not generate the missing metadata retroactively
      - Metadata is created or updated only when a file change occurs
      - Assets with the missing metadata are typically already saved
- Workspace Index is corrupted
  - If metadata seems to be missing for assets, consider resetting the Local Metadata Library.



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Notes: \_\_\_\_\_

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### ...Resetting Workspace Index

1. Ensure that Workspace Indexing is enabled (Designer preferences).
2. Exit Designer
3. Using a file explorer, navigate to:  
`<workspace>\.metadata\.plugins\  
com.softwareag.metadata.eclipse\index`
4. In the index folder, delete all contained files
5. Re-start Designer
6. Using Navigator view, close and open each project



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Notes: \_\_\_\_\_

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## Shared Metadata in CentraSite...

- Shared Metadata can be created in a common CentraSite registry/repository
  - CentraSite is typically launched on a shared network node
  - Access to CentraSite configured using Designer preferences
  - Support for multiple CentraSite instances

- Access from multiple Designer instances supports team development

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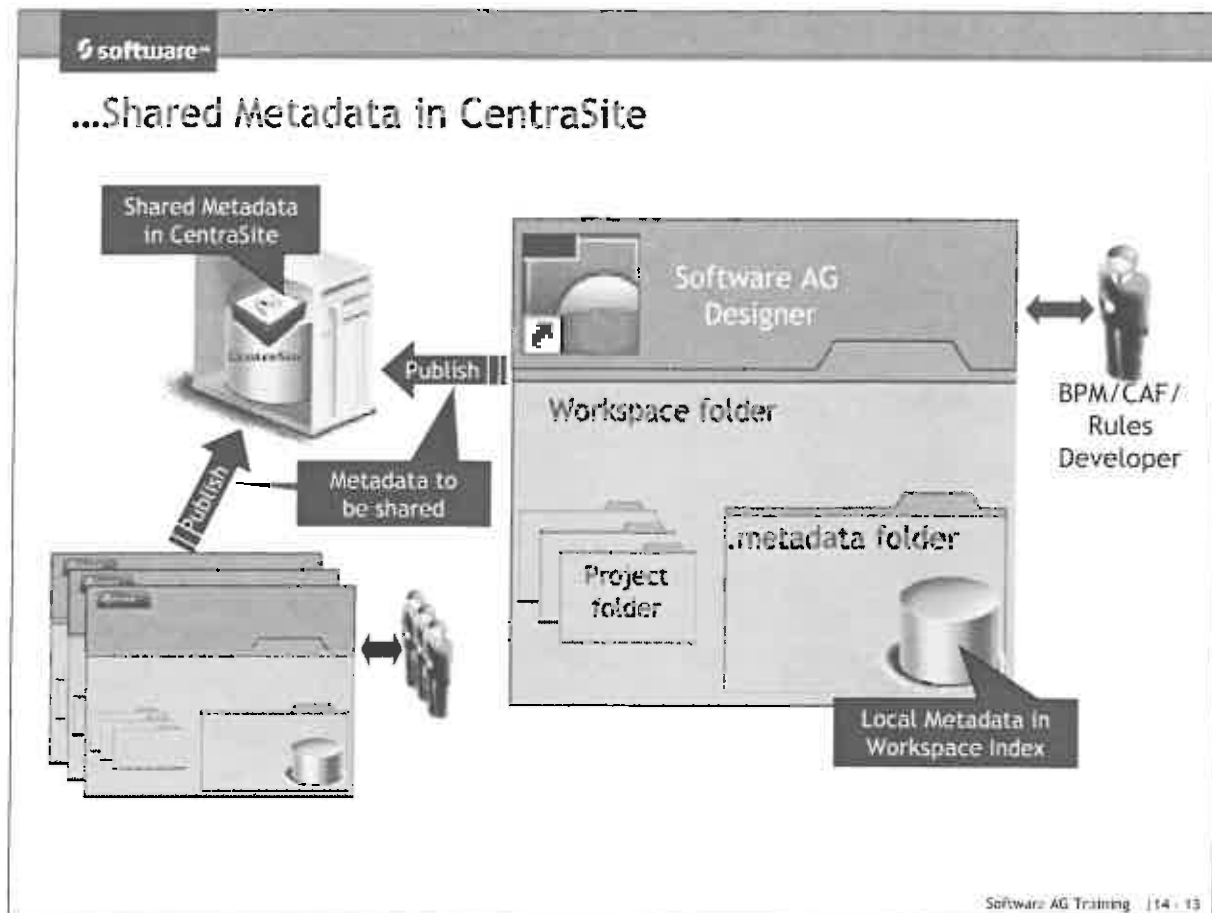
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## Publishing Metadata to CentraSite...

- Creation of shared metadata is on demand
  - Not published to CentraSite automatically
- Use Publish to share metadata about an asset:



- Metadata can be published to CentraSite even if generation of local metadata is disabled

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...Publishing Metadata to CentraSite

1. Select project in Solutions view
2. Click "Publish"
3. Select asset(s) to be published
4. Click "OK"
5. Click "OK"

Store:

- Workspace (local)
- CentraSite (shared)

A Saved Search result

Process	Type	Path
HP with Sometimes	Process	HP with Sometimes
HP with TimeRule	Process	HP with TimeRule
HP with TimeOut Handling	Process	HP with TimeOut Handling
HP with Error Handling	Process	HP with Error Handling
HP with OutOfHanding	Process	HP with OutOfHanding

**Notes:**



## Using Local and Shared Metadata

- Metadata (local/shared) are information about BPM Processes, User Tasks, Portlets,...
- Workspace Index and CentraSite may also contain non-BPM metadata, for example document and service information published from IS or other webMethods products
- Local and Shared Metadata may be accessed from Designer through:
  - Saved Searches view
  - Search view
- Shared Metadata may be accessed from Designer through:
  - Registry Explorer view
  - Impact Analyzer view

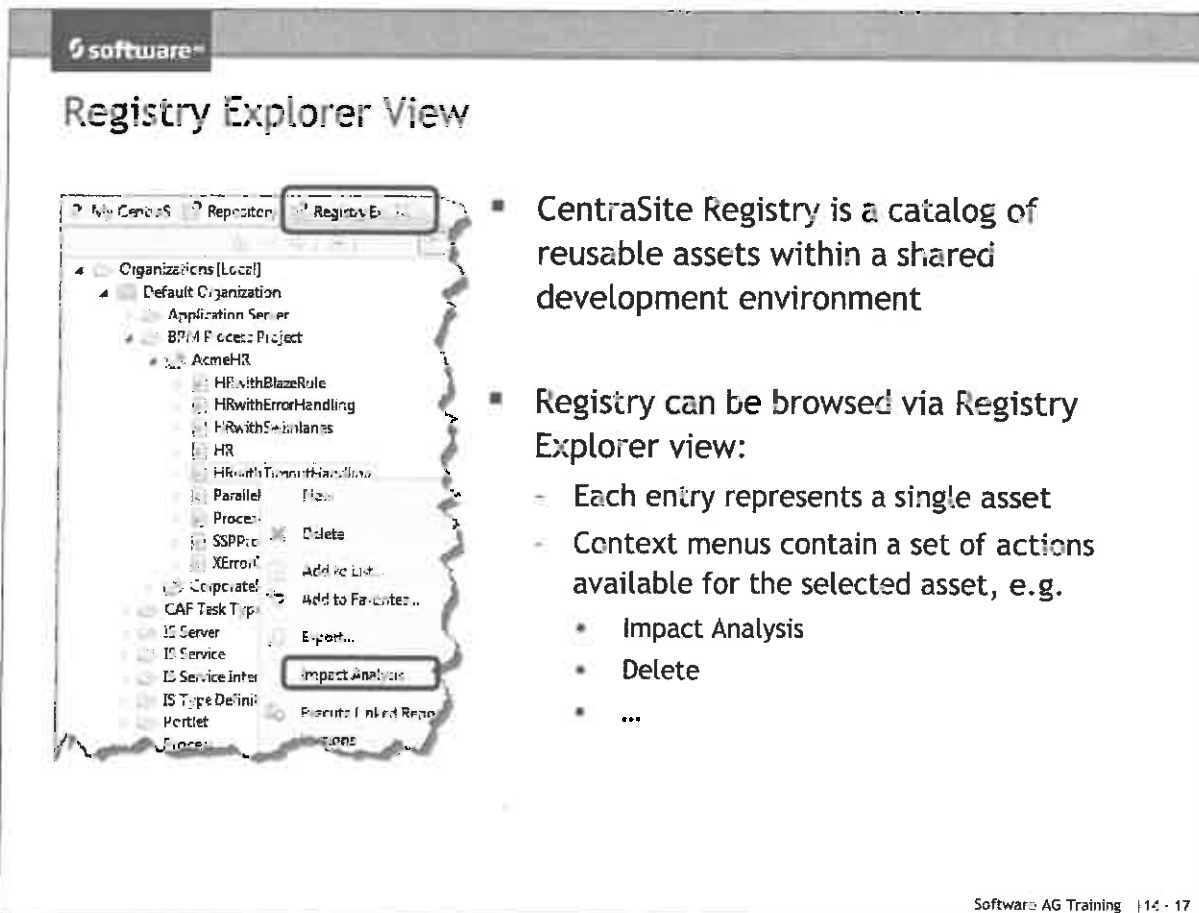


Drop-down is available when creating a custom Saved Search.

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**Notes:**





**Notes:**

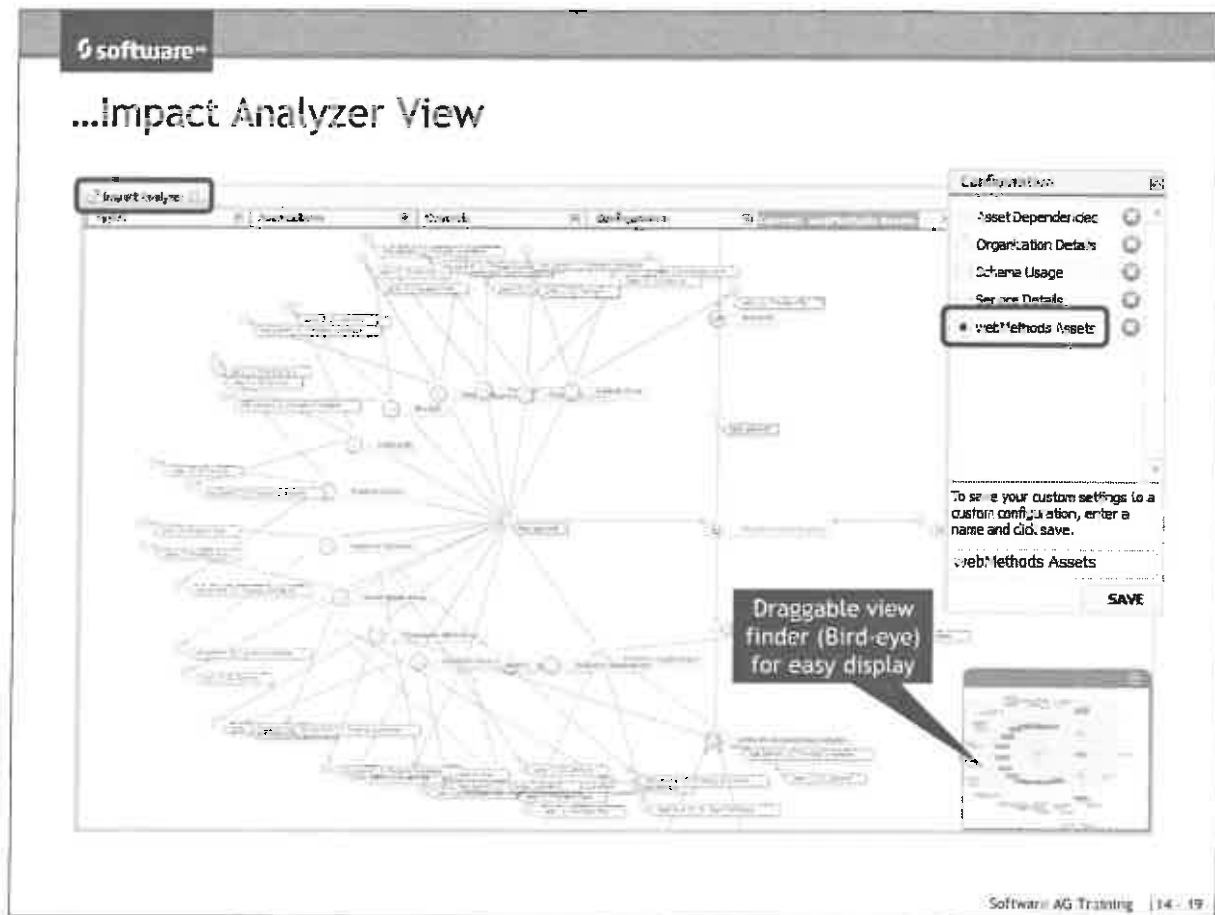


### Impact Analyzer View...

- Impact Analyzer view provides a textual and graphical view of related assets
- Impact Analyzer view can be used to navigate dependency trees quickly and efficiently to determine a deeper understanding of impact analysis
  - Assets can be collapsed
  - Assets can be expanded
  - Assets to be displayed can be filtered
- Only available for shared metadata published to CentraSite

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## Notes:



Notes: \_\_\_\_\_

[illegible]

Asset vanished from re-executed Saved Search

Store	Type	Name	ID
CentraSite	Process	HRwithBlazeRules	AcmeHR_HRwithBlazeRules
CentraSite	Process	HRwithBlazeRule	AcmeHR_HRwithBlazeRule
CentraSite	Process	HRwithTimeOutHandling	AcmeHR_HRwithErrorTimeOutHandling
CentraSite	Process	HRwithErrorHandling	AcmeHR_HRwithErrorHandling

## Retracting Shared Metadata from CentraSite

1. Select the asset in Solutions view
2. Right-click on the asset and select "Retract"
3. Confirm your selection
4. Click "OK"
5. Click "OK"

**Notes:**



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## Team Development and Process Versioning



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## Objectives

- At the end of this section, you will be able to
  - Enable team development by using a VCS like CVS or Subversion
  - Describe side-by-side deployments
  - Version process models

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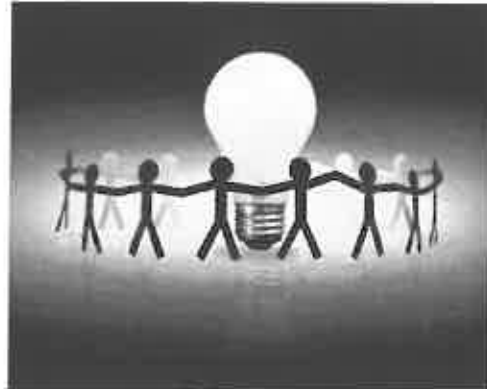
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## Team Development

- Planning for team development should be considered early in a project
  - Implementing team development after a lot of development has already taken place will require a lot more effort
- Project management should mandate that every developer leverage source code control on their processes, tasks and generated code
  - An incomplete source code control is nearly as bad as a non-existent one
- Introduce source code control by using a Version Control System (VCS), also referred to as Source Code Control system (SCC)



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## VCS/SCC Systems

- Commonly used VCS/SCC systems:
 

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Open Source
  - Concurrent Versions System (CVS)
  - Subversion
  - Visual SourceSafe
  - ClearCase
  - Perforce
- Supported Features:
  - Check in/out
  - Revert changes
  - Delete
  - Get latest/earlier version
  - View history
  - Hierarchical behavior
  - Multiple user support
  - Standard copy and paste, move, and rename behavior

```

graph TD
    subgraph Client [VCS Client]
        GUI[GUI]
        Eclipse[Eclipse plug-in]
        IS[IS Package]
    end
    subgraph Server [VCS Server]
        Repo[(VCS Repository)]
    end
    Client <-->|proprietary protocol| Server
    Client <-->|HTTP/webDAV| Server
    
```

The diagram illustrates the VCS/SCC architecture. At the top, the 'VCS Client' is shown as a stack of three components: 'GUI', 'Eclipse plug-in', and 'IS Package'. Below it, the 'VCS Repository' is represented as a cylinder, which is part of the 'VCS Server'. Two bidirectional arrows connect the client and the repository: one labeled 'proprietary protocol' and the other 'HTTP/webDAV'. A callout box points to the repository with the text 'Shared and versioned sources'. A callout box points to the client with the text 'Check in, check out,...'.

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## Designer and VCS Support

- Designer supports source code control for
  - Process projects
  - CAF projects
  - webMethods Business Rules projects
  - other projects (e.g. Java, webMethods EntireX, NaturalONE,...)and
  - IS assets (e.g. packages, documents, services, etc....)
- Source Code control for workspace-related resources are handled using a VCS client delivered as Eclipse plug-in
  - CVS client plug-in to be installed with Software AG Designer
  - others can be added by installing related plug-ins
- Source Code control for IS packages from Designer IS Package Navigator view is handled via Integration Server accessing a VCS
  - supporting Subversion, ClearCase, Visual SourceSafe, not supporting CVS
  - Affected Integration Server requires WmVCS package and one of {WmSubversion | WmClearCase | WmSourceSafe}



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## Concurrent Versions System (CVS)

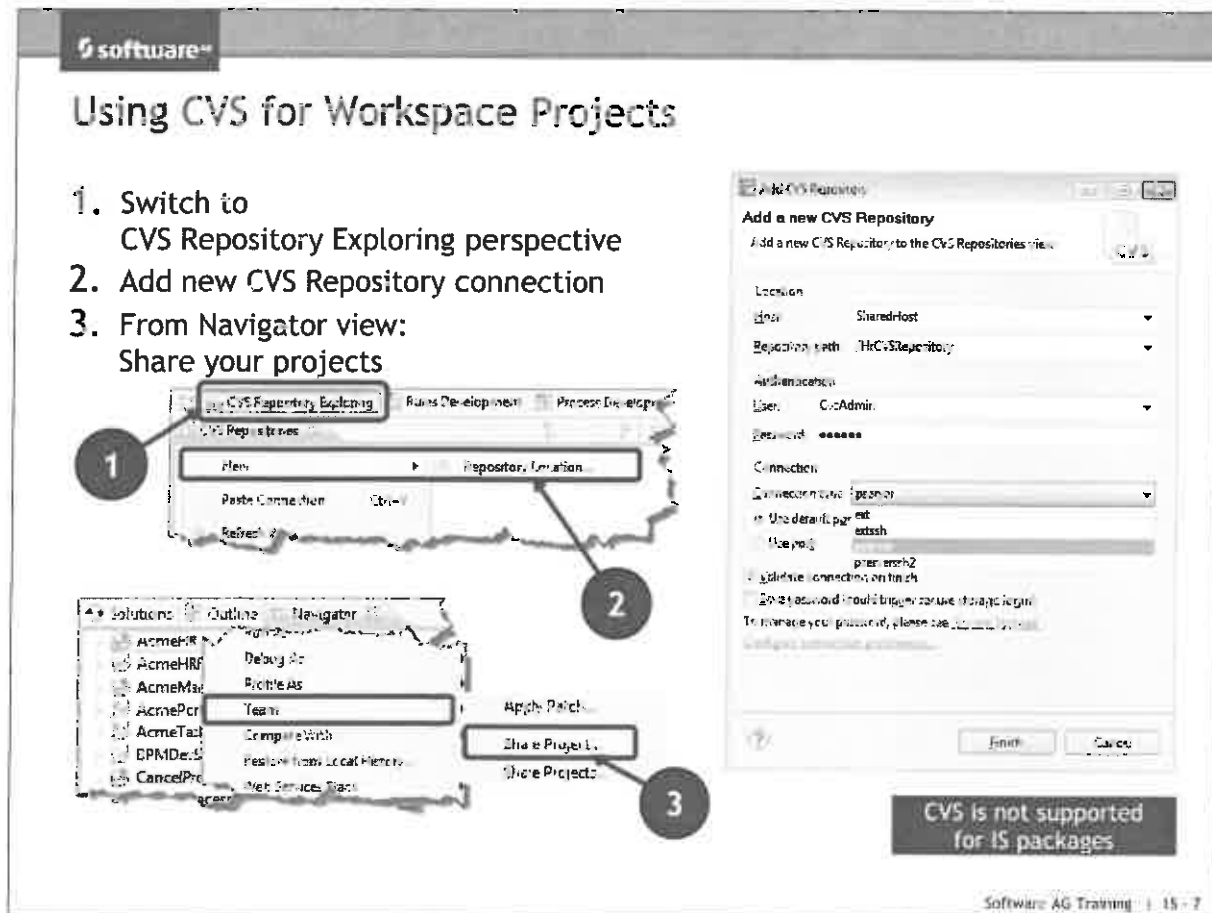


- CVS is an Open Source VCS.
  - From Designer, you can record the history of sources files, and documents related to your process or CAF projects.
  - CVS client installed as Eclipse plug-in with Software AG Designer; CVS Server has to be installed on a shared server
  - Currently not supported for source code control of IS packages
- CVS has a rich feature set including:
  - Client/server CVS architecture enables developers to function as a single team
    - Version history stored on a central server; client machines have a copy of all the files
  - Unreserved checkouts allowing more than one team member to work on the same file simultaneously
  - Scripting of CVS operations such as check-in and check-out
  - Site-specific security policies may be set (again using a script)
  - CVS runs on most UNIX/Linux operating systems and Windows

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Notes: \_\_\_\_\_

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## Notes:

## Subversion



- Subversion is an Open Source VCS
  - Has to be installed on a shared server
- Subversion offers most of the features of CVS, with some compelling extras:
  - Directories, renames, and file meta-data are versioned:
    - Subversion in contrast to CVS can track not only file change history, but all the changes in file system of the shared projects
    - Subversion allows to add/delete/remove/rename all the shared resources without creating new items and losing information about deleted ones.
    - Subversion also allows arbitrary properties to be versioned along with any file or directory
  - Subversion can use HTTP-based protocols for network communications:
    - Apache web server can provide repository-side network service
  - Efficiency add-ons over CVS:
    - Binary files are handled efficiently
    - Changes to files are handled efficiently

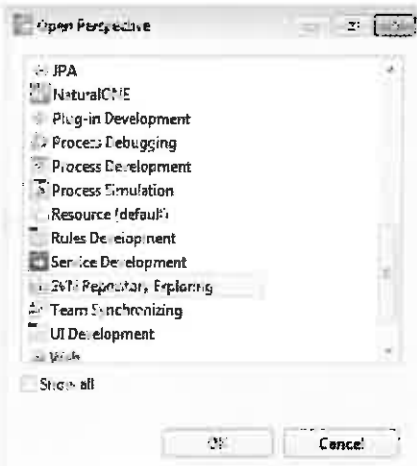
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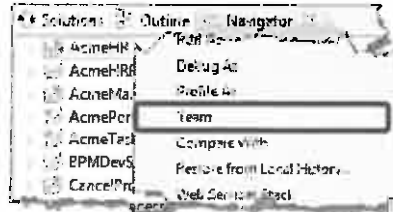
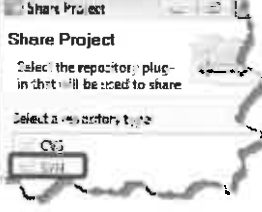
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Using Subversion...

- Subversion can be used for source code control of:
  - Process projects
  - CAF projects
  - ...



The Subversion Eclipse plug-in must be downloaded and installed before it can be used in Designer from Navigator view

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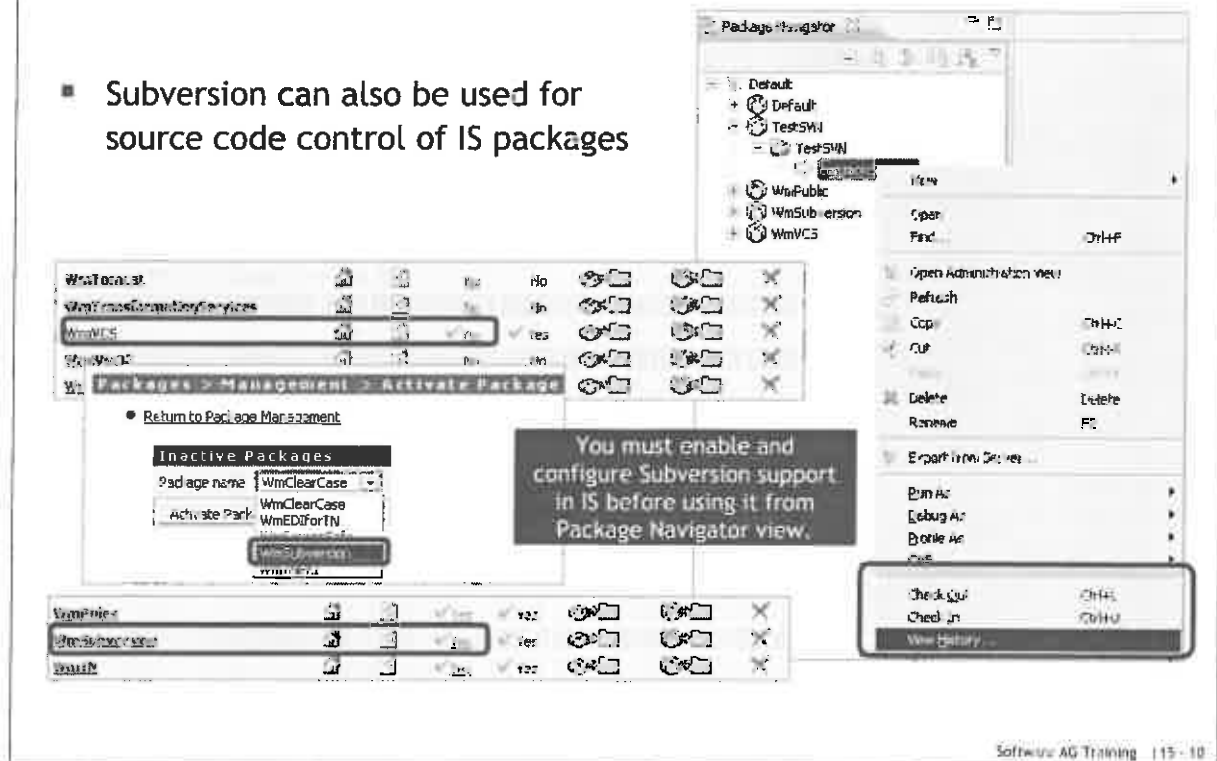
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## ...Using Subversion

- Subversion can also be used for source code control of IS packages



## Notes:

## Process Model Versioning

- webMethods Designer provides the ability to version process models.
  - Process version is a property of the process - not related to a VCS version number
  - Versioning does not affect CAF Task project
- When a new process version is built and uploaded:
  - A new set of assets is created in participating Integration Server(s)
  - New process model data is loaded into the database (Audit DB)
  - Enabling new model with higher version disables model with older version
- webMethods runtime provides the ability to have “side by side” deployment of process versions:
  - A running process will continue to completion on the version on which it launched
  - New process instances will run on the new version



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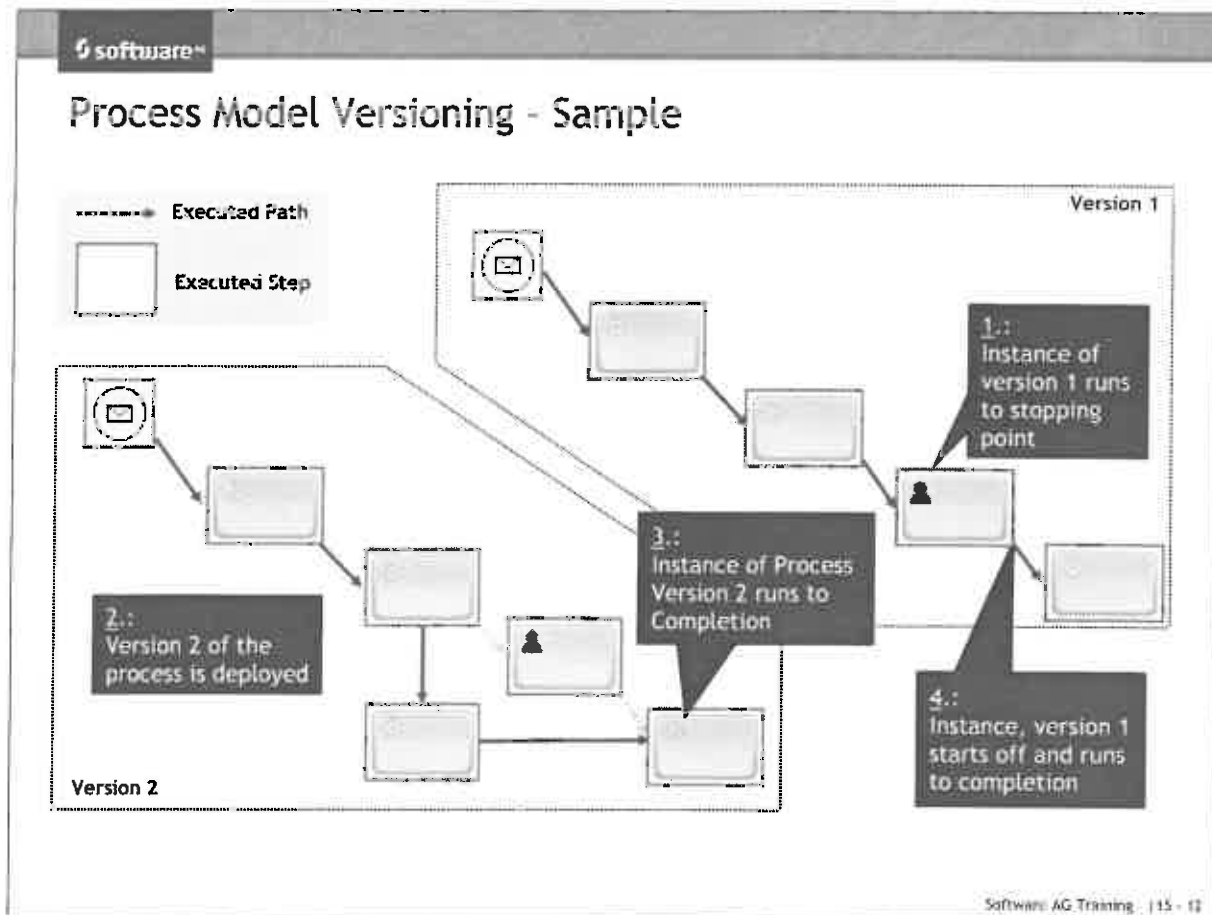
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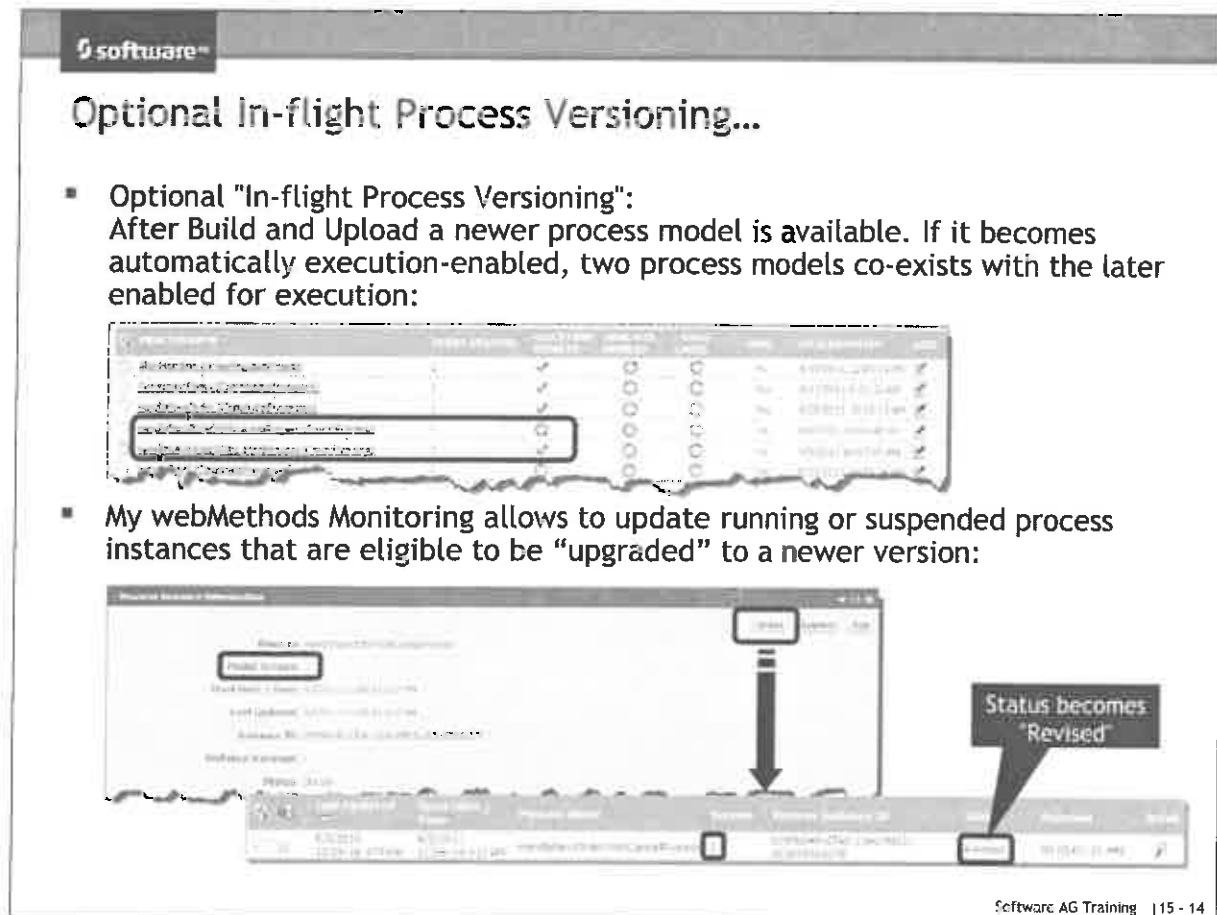


The screenshot displays the SAP Studio interface. On the left, the 'Properties' window for a process named 'HR' is shown. The 'General' tab is active, displaying fields for 'Process Name', 'Process ID', 'Version' (highlighted with a red box), and 'Created By'. A callout box points to the 'Version' field, stating: 'Version Numbers are reflected in the generated assets, which can be seen from Service Development perspective'.

On the right, the 'Package Navigator' shows a tree structure for the 'AcmeHR' package. Under the 'HR' package, there are two 'Default' sub-packages, each containing a list of flow services. The 'HR 1' and 'HR 2' sub-packages are highlighted with red boxes. A callout box points to the 'HR 2' sub-package, stating: 'Generated flow services suppressed by default in Package Navigator'.

At the bottom left, the 'Generate Elements to Display' dialog is open. The 'Show all elements' radio button is selected, and the 'Hide generated flow services' checkbox is checked (highlighted with a red box). A callout box points to this checkbox, stating: 'Generated flow services suppressed by default in Package Navigator'.

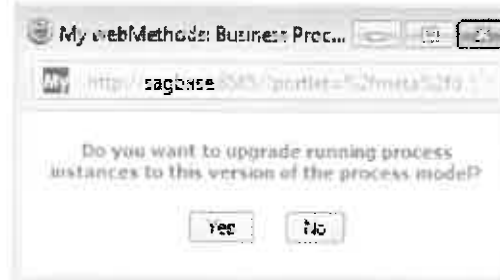
## Notes:



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## ...Optional In-flight Process Versioning

- Optional "In-flight Process Versioning":  
If a newer process model with a higher version number is not "auto execution-enabled" after a successful Build and Upload, but manually done through the Business Process page in My webMethods Administration, an upgrade message box will appear when saving:



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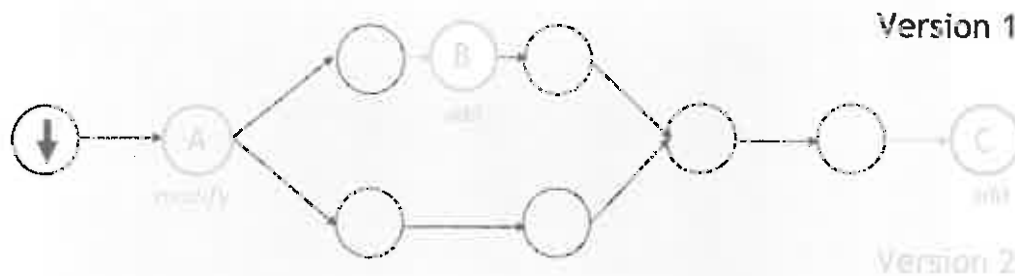
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### In-flight Process Versioning - Remarks

- **Handle with care!** Only useful, if process has been
  - increased by adding new steps
  - modified slightly in a compatible way



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## Notes:



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## Wrap Up

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## What Should I Take Next?

Now that you have completed the **webMethods 8.2 BPM for Developers** class, there are a number of other courses you can take:

- Interested in more Business Process related courses?
  - ④ *webMethods 8.2 Optimize for Process*
  - *webMethods 8.2 Business Rules*
  - *Model-to-Execute with ARIS and webMethods BPMS*
- Interested in Integration Server services development or administration?
  - ④ *webMethods 8.2 Integration Workshop*
  - *webMethods 8.2 Administration Workshop*
- Interested in UI Portlet development?
  - *webMethods 8.2 CAF UI and Portlet Development*
- Interested in Trading Networks?
  - *webMethods 8.2 Trading Networks Workshop*

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## Certification

- Our certification programs establish standards for knowledge and skills necessary to successfully implement mission-critical IT systems using Software AG technology




④ <http://www.softwareag.com> → Services → Global Education Services

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**Notes:**

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## Further Information

- Find our Developer Communities at  
<http://communities.softwareag.com> 
- Contact our Support web site at  
<http://empower.softwareag.com> 
- Discuss product and feature ideas at  
<http://brainstorm.softwareag.com> 

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Thank you

## Questions and Comments

*Thank you!*

*Please don't forget to complete a course evaluation.*

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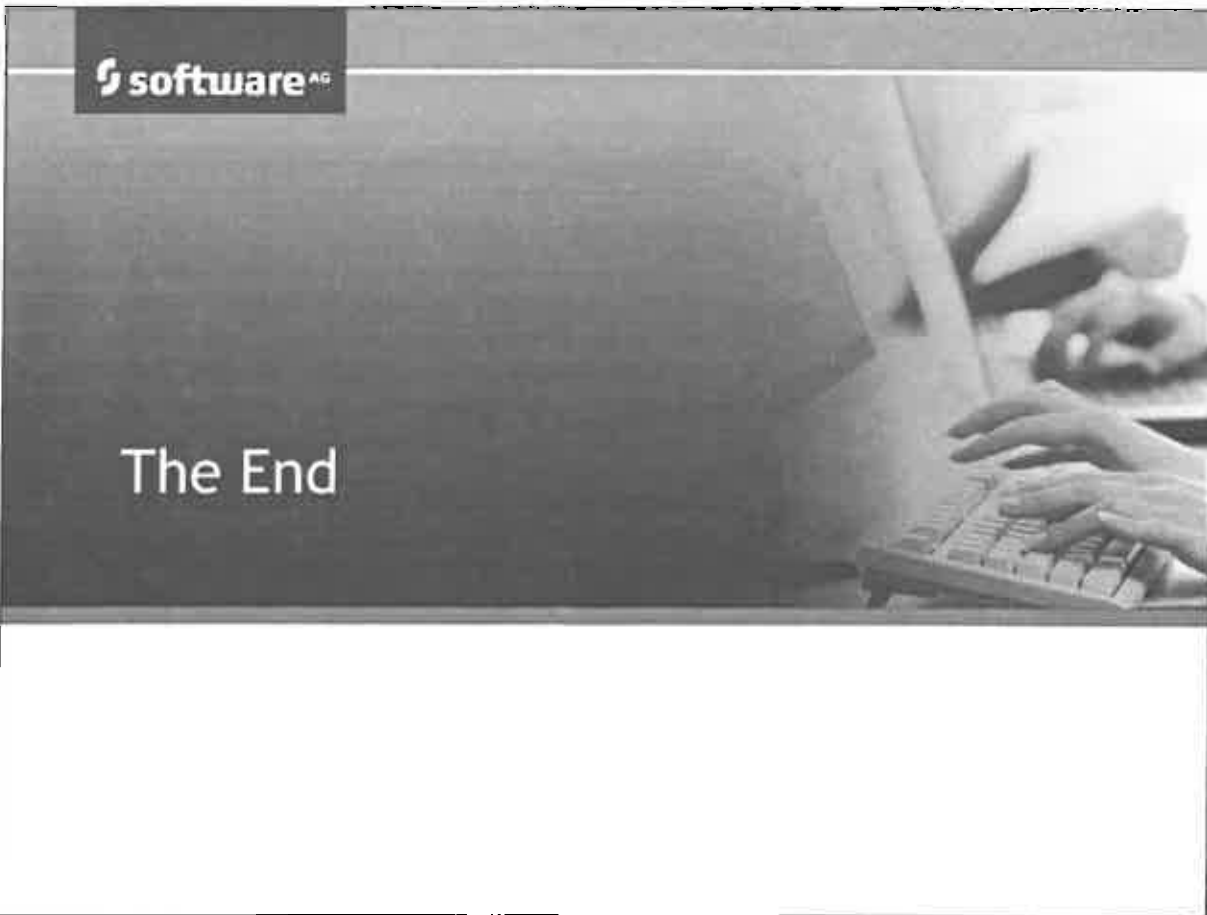
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