



INTERSYSTEMS LEARNING SERVICES

# InterSystems Change Control



# **InterSystems Change Control**

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# ICC 530: CCR Tier 1 – Interoperability Components



# Overview

- Best practices.
- Handling differences between environments.
- Management Portal source control hooks.



# Best Practices

- Use Tier 0 CCRs when not feasible to maintain item in source control.
  - Makes change discoverable.
  - Enforces workflow such as peer reviews.
- Use source control when possible.
  - Tier 1 CCR.



# Developing Interfaces

- Use iterative process to configure new interfaces.
- Disable interfaces in development.
- Configure by progressing small, discrete CCRs to Closed.
- When interface ready for Go-LIVE, progress CCR enabling finished components.



# Product Versions

- Versions in slides refer to releases for InterSystems IRIS®.
- HealthShare versions do not correlate to InterSystems IRIS versions.





# Differences Between Environments

- Some configuration fields for Production components differ between environments.
  - File paths.
  - IP addresses.
- Production must be identical to integrate between environments.
  - Cannot make changes to Production directly in TEST, UAT, or LIVE.
- Solution is System Default Settings.



# System Default Setting

- Use to configure default values for settings of business components.
  - Alternative to specifying values of settings in Production definition.
  - Configure unique sets of default values in each Environment.
- Allows Production definition to be identical in all Environments.

BASE  
To\_Lab  
File Path = c:\**BASE**\In  
Failure Timeout = 15

TEST  
To\_Lab  
File Path = c:\**TEST**\In  
Failure Timeout = 15



# Creating System Default Settings

- Configure > System Default Settings.

The screenshot shows the 'System Default Setting' form. The form has a title bar with buttons: Save, Cancel, Reset, Expand Tree, and Contract Tree. Below the title bar, it says 'Use the form below to create a new System Default' and 'Setting in namespace TRAINING'. The form contains several fields: 'Production' (a dropdown menu with '\*' selected), 'Item Name' (a dropdown menu with 'BadMessageHandler' selected), 'Host Class Name' (a dropdown menu with '\*' selected), 'Setting Name' (a dropdown menu with 'FilePath' selected), 'Setting Value' (a text box with 'C:\test\output'), and 'Description' (a text box). To the right of the form is a tree view showing a hierarchy of settings. The tree view has a root node 'Production Settings' which has several sub-nodes: 'Demo.ComplexMap.SemesterProduction', 'Demo.DICOM.Production.AsyncRouter', 'Demo.DICOM.Production.Modality', 'Demo.DICOM.Production.Router', 'Demo.DICOM.Production.Storage', 'Demo.DICOM.Production.StorageFile', 'Demo.DICOM.Production.StorageLocal', 'Demo.DICOM.Production.WorkList', 'Demo.Dashboard.Production', and 'Demo.HL7.MsgRouter.Production'. Below these are 'Production Settings', 'ABC\_HL7FileService', 'Class', and 'Settings'. At the bottom of the tree view, there is a list of settings: 'Foreground', 'LogTraceEvents', 'PoolSize', 'RegistryID', 'FilePath', 'FileSpec', and 'ArchivePath'. The 'FilePath' setting is highlighted in yellow. Two red arrows point from the 'Production' dropdown to the 'Production Settings' node in the tree. Another red arrow points from the 'Host Class Name' dropdown to the 'Class' node in the tree. A third red arrow points from the 'Setting Name' dropdown to the 'FilePath' node in the tree. A red box with the text 'Can use \* to match all.' is positioned above the 'Production' dropdown. Another red box with the text 'Drag and drop setting from tree or select from Setting Name dropdown.' is positioned below the 'Setting Name' dropdown.

System Default Setting

Save Cancel Reset Expand Tree Contract Tree

Use the form below to create a new System Default  
Setting in namespace TRAINING

Production  
\*  
Required. Use \* to match all.

Item Name  
BadMessageHandler  
Required. Use \* to match all.

Host Class Name  
\*  
Required. Use \* to match all.

Setting Name  
FilePath  
Required.

Setting Value  
C:\test\output

Description

Deployable  
☐

Can use \* to match all.

Drag and drop setting from tree or select from Setting Name dropdown.

Production Settings

- Demo.ComplexMap.SemesterProduction
- Demo.DICOM.Production.AsyncRouter
- Demo.DICOM.Production.Modality
- Demo.DICOM.Production.Router
- Demo.DICOM.Production.Storage
- Demo.DICOM.Production.StorageFile
- Demo.DICOM.Production.StorageLocal
- Demo.DICOM.Production.WorkList
- Demo.Dashboard.Production
- Demo.HL7.MsgRouter.Production

Production Settings

- ABC\_HL7FileService
- Class
- Settings

Foreground

LogTraceEvents

PoolSize

RegistryID

FilePath

FileSpec

ArchivePath



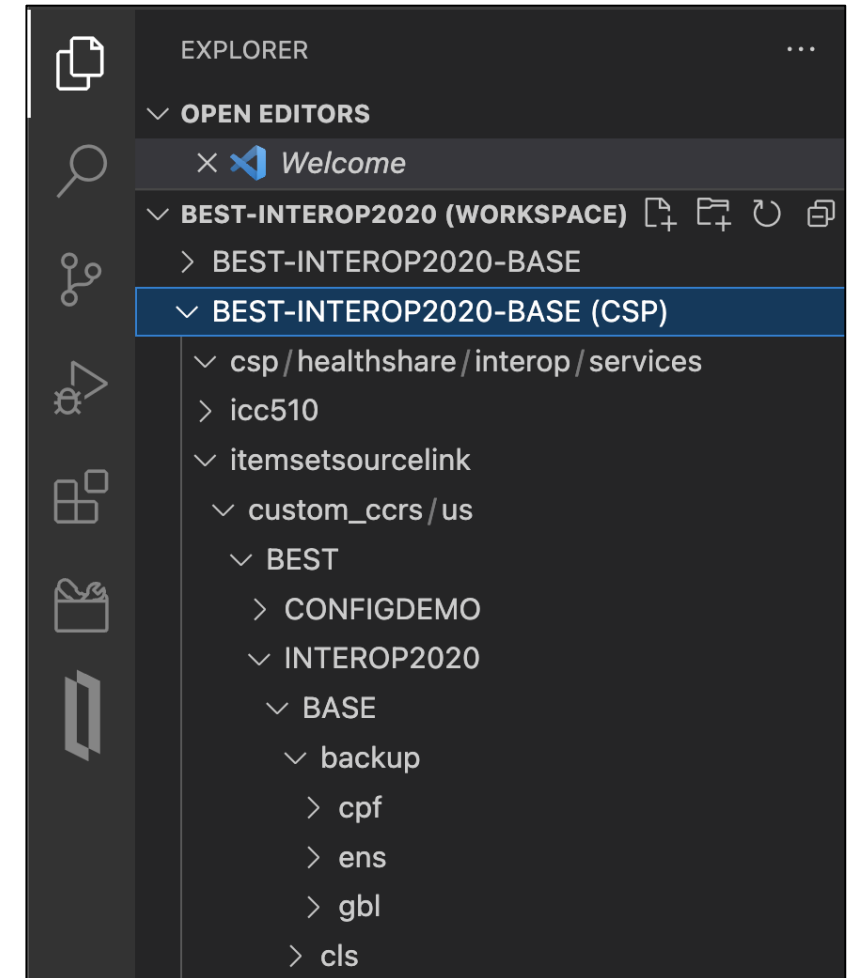
# Export System Default Settings

- Source control menu > CCR Controls > Export Default Settings > Choose Production > Export.
- Exports to /backup subdirectory.
- Can bundle and upload in BASE only.
  - Add to source control using itemsetsourcelink web application in IDE.



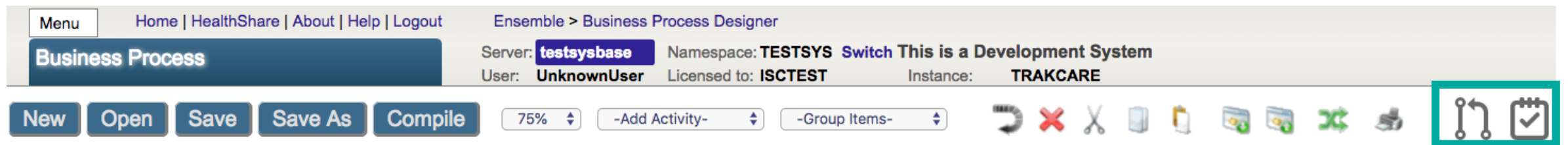
# Add Exported File to Source Control

- Export file to source workspace.
- To find file in:
  - VS Code – ObjectScript:
    - From Explorer > *itemsetsourcelink\_system* > *custom\_ccrs* > ...
  - In Studio:
    - From namespace view > CSP Files > *itemsetsourcelink\_system* > *custom\_ccrs* > ...
- Right-click file > Source Control > Add To Source Control > Yes.
- Bundle and upload to a CCR.



# Management Portal Source Control Hooks

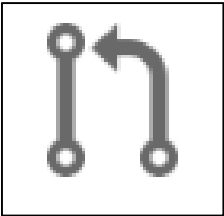
- Many pages in Management Portal have embedded hooks.
- Only visible in source control configured namespaces.
- Behavior same as source control menu in IDE.
- All items modified using Management Portal hooks automatically imported on ItemSet Deployment.
  - Data Lookup Tables as of February 2019.



# Management Portal Source Control Hooks (cont.)

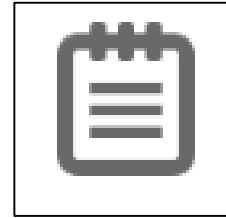
- Commands.

- Add to source control.
- Checkout.
- Undo checkout.
- CCR controls.
- Diff.



- Outputs.

- View unread output of control.



- All source control output has been viewed.



# Pages with Hooks

- Production (v2019.4+)
- Data Lookup Tables.
- Business Processes.
- Data Transformations.
- Business Rules.
- Record Maps.
- Complex Record Maps.
- HL7 v2 Custom Schemas (v2019.1+).

<b>Configure »</b>	Production
Build »	Business Partners
View »	Credentials
List »	Schedule Specs
Monitor »	Data Lookup Tables
Manage »	System Default Settings
Interoperate »	Enterprise Systems
Test »	Public-Service Registry
	External-Service Registry
	Message Bank Link

Configure »	Business Processes
<b>Build »</b>	Data Transformations
View »	Business Rules
List »	Record Maps
Monitor »	CSV Record Wizard
Manage »	Complex Record Maps
Interoperate »	
Test »	






# HL7v2 Schema Editor

- v2019.1+:
  - Has Management Portal hooks.
  - Only visible if privileged to edit a custom schema.
- Pre-v2019.1:
  - Use IDE to edit \*.HL7 files.
    - If not practical, do not include in source control.
  - Management Portal does not honor IDE check out status.
    - Consider locking down page to prevent accidental changes.



# Productions (v2019.4+): Undo Checkout

- Steps:
  1. Click  > Undo Checkout.
  2. Compile Production class in IDE.
  3. Click Update button on Management Portal Production page.
- Change not reverted until these 2 additional steps completed!
- Only need to do this 3-step process for Productions.
  - Undo Checkout action sufficient for other components with hooks in Portal.

localhost:52773 says

Detected a difference between the Production class definition and the runtime settings that are being used.

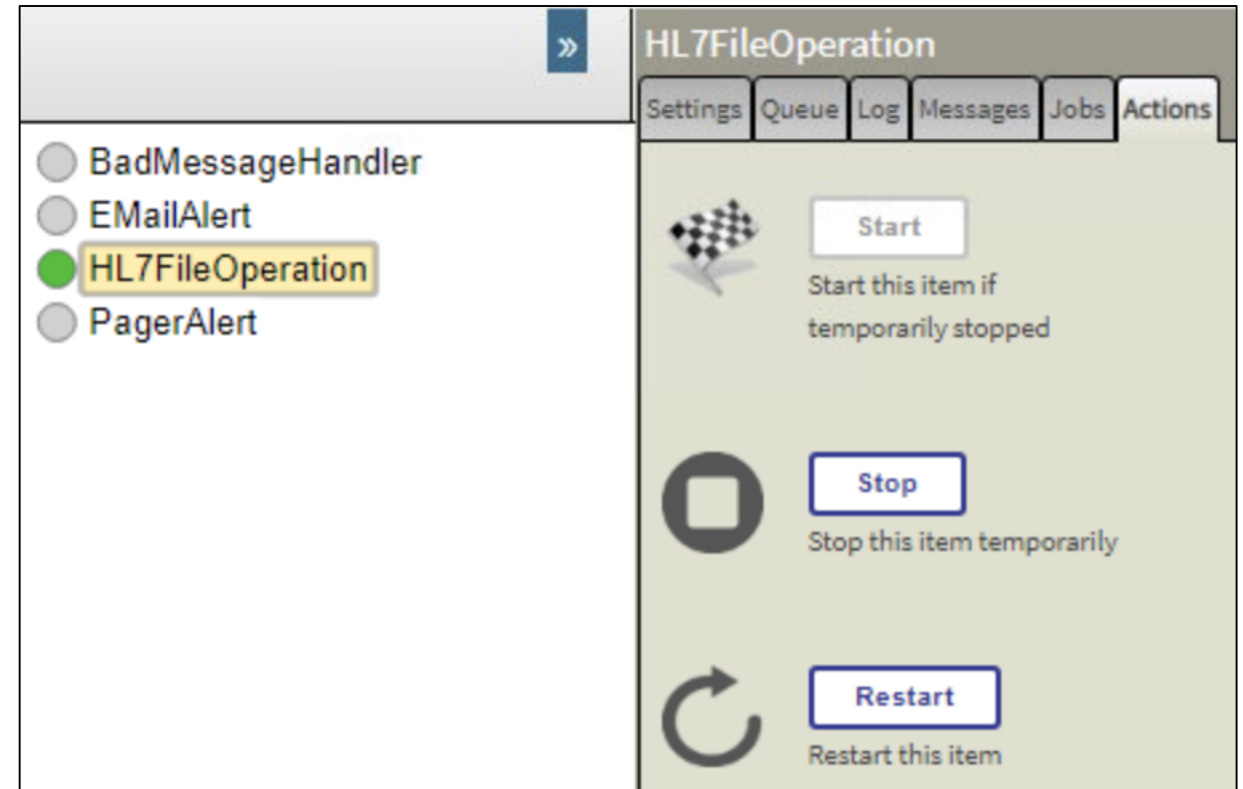
Compiling the Production class will change runtime settings to be the same as the production definition.

OK



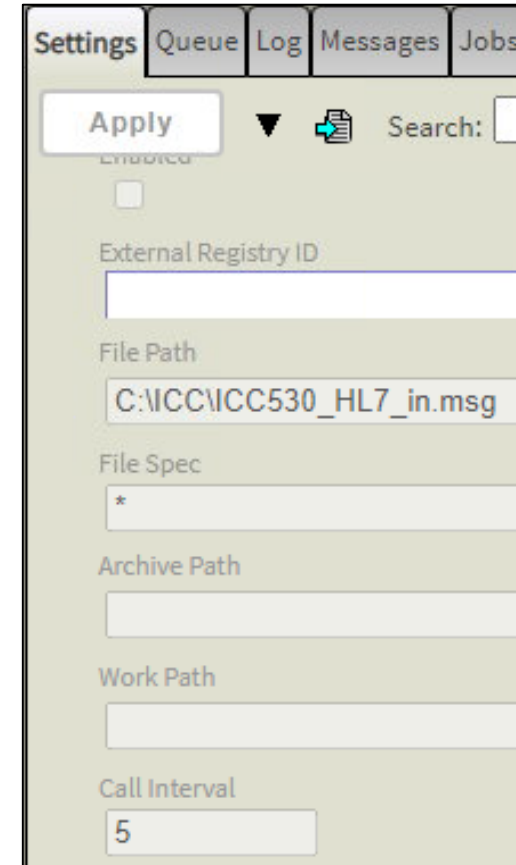
# Productions (v2019.4+): Temporarily Start, Stop, Restart

- Normally, double-click component to enable, disable, or restart.
  - Changes Production class definition, therefore:
    - Cannot do in TEST/UAT/LIVE.
    - Requires checkout in BASE.
- Able to temporarily stop, start, or restart components.
  - Select component > Actions.
  - Does not require unlocking environment or check out.
  - Cannot temporarily start if disabled.



# Business Component Setting Labels (v2019.4 – v2021.1)

- Fields greyed out when Production read only.
- Must checkout Production in BASE to see color coding.
  - Color coding indicates source of value.
- Cannot see color coding in TEST/UAT/LIVE because cannot checkout Production.



The screenshot shows a software interface with a tabbed menu at the top containing 'Settings', 'Queue', 'Log', 'Messages', and 'Jobs'. The 'Settings' tab is active. Below the tabs is an 'Apply' button, a dropdown arrow, a document icon, and a 'Search:' text box. The main area contains several input fields, all of which are greyed out (disabled). These fields are: 'External Registry ID' (empty), 'File Path' (containing 'C:\ICC\ICC530\_HL7\_in.msg'), 'File Spec' (containing '\*'), 'Archive Path' (empty), 'Work Path' (empty), and 'Call Interval' (containing '5').



# No Portal Hooks but Editable in IDE

- Example items:
  - Productions (pre-v2019.4).
  - \*.HL7 files (pre-v2019.1).
  - HealthShare Patient Index Linkage Definitions.
- Use IDE source control hooks.
- Warning: Management Portal pages without hooks do not honor IDE Check Out status.
  - Someone can check out item in IDE and someone else can still edit in Management Portal without checking out.



# No Portal Hooks but Editable in IDE (cont.)

- Example workflow for Productions pre-v2019.4:
  1. Checkout Production class from IDE.
  2. Modify within Management Portal.
  3. Make modification to Production in IDE (such as adding character somewhere).
  4. Compile Production.
  5. Undo the change from step 3.
  6. Compile Production.
  7. Diff changes to verify exported version accurate.
  8. Bundle and upload Production.



# Summary

- What are the key points for this module?



# Do Exercise 530-1 and 530-2

