Windchill Extension Test Plan

Extension Platform Validation Plan

Details	
Generated	2025/01/26 23:35
Group Id	com.wincomplm
Artifact Id	wex-platform-testplan-validation
Name	Extension Platform Validation Plan
Version	2.0
Beta	No
Windchill Version	13.0
Description	The platform within Windchill that manages extensions
System Extension	Yes

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Overview & Setup

ID	OV1	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

Version **2.0.2**
Windchill Version **13.1**

Click the link below to download the latest version of this test plan

Testing for the new Wincom Extension Platform 2.0 features that will be included in Windchill.

This test plan is functional only and does not test security.

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-platform-testplan-validation.release.testplan.pdf

Install test version

ID	ST1	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

Windchill will have the latest platform preinstalled but the latest version can be installed using the installer.

Actions

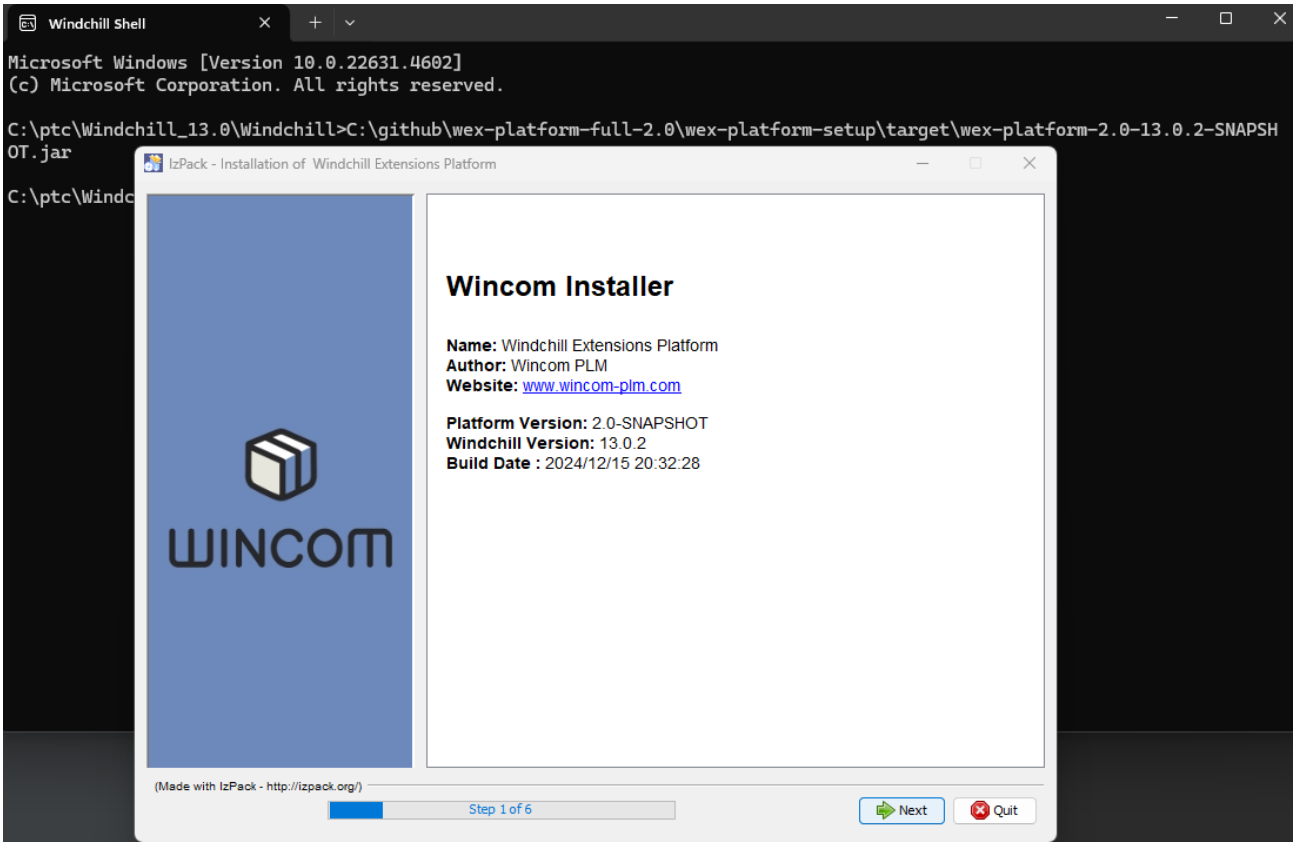
Download the installer and run it from a Windchill Shell

Click the link below to download the latest installer

Windows:**java -jar wex-platform-xxxxx.jar**
Lunix (no GUI):**java -jar wex-platform-xxxxx.jar -console**

Click the link below to download the latest installer

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-platform-2.0-13.1.0.0-SNAPSHOT.jar



Result

Install complete

Set Windchill+ to be default

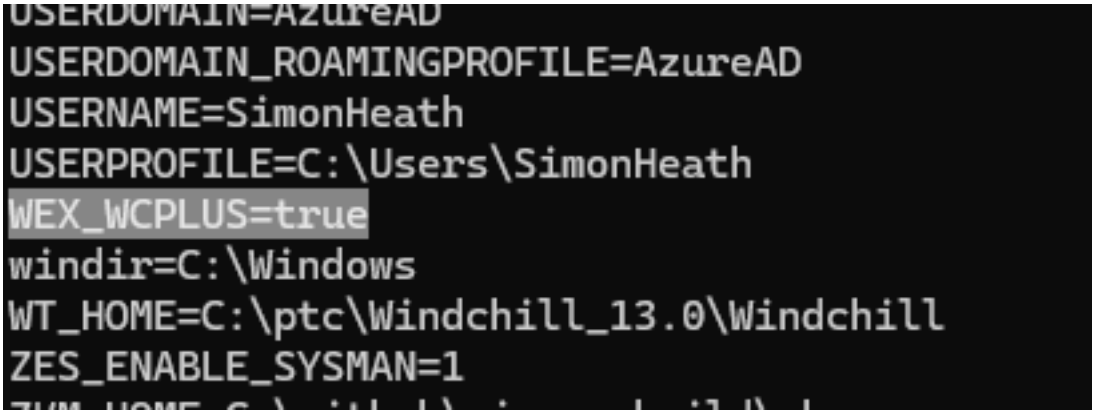
ID	ST11	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

Set the WEX_WCPLUS environment variable to ensure WC plus is preset

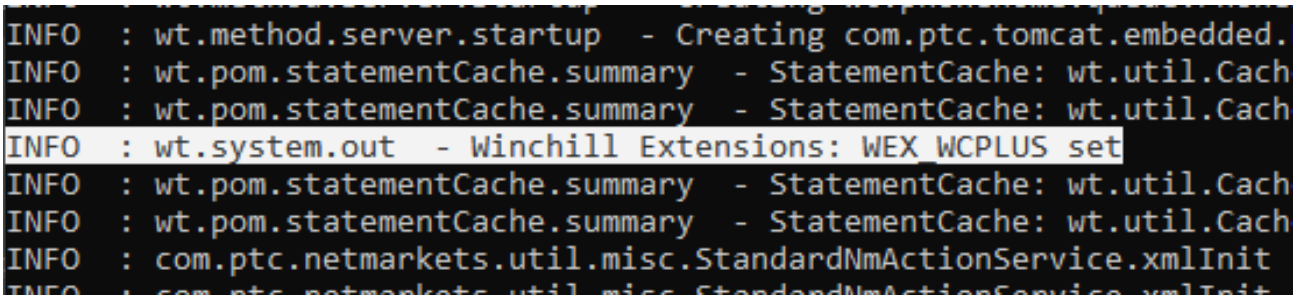
Actions

Set the WEX_WCPLUS variable to true

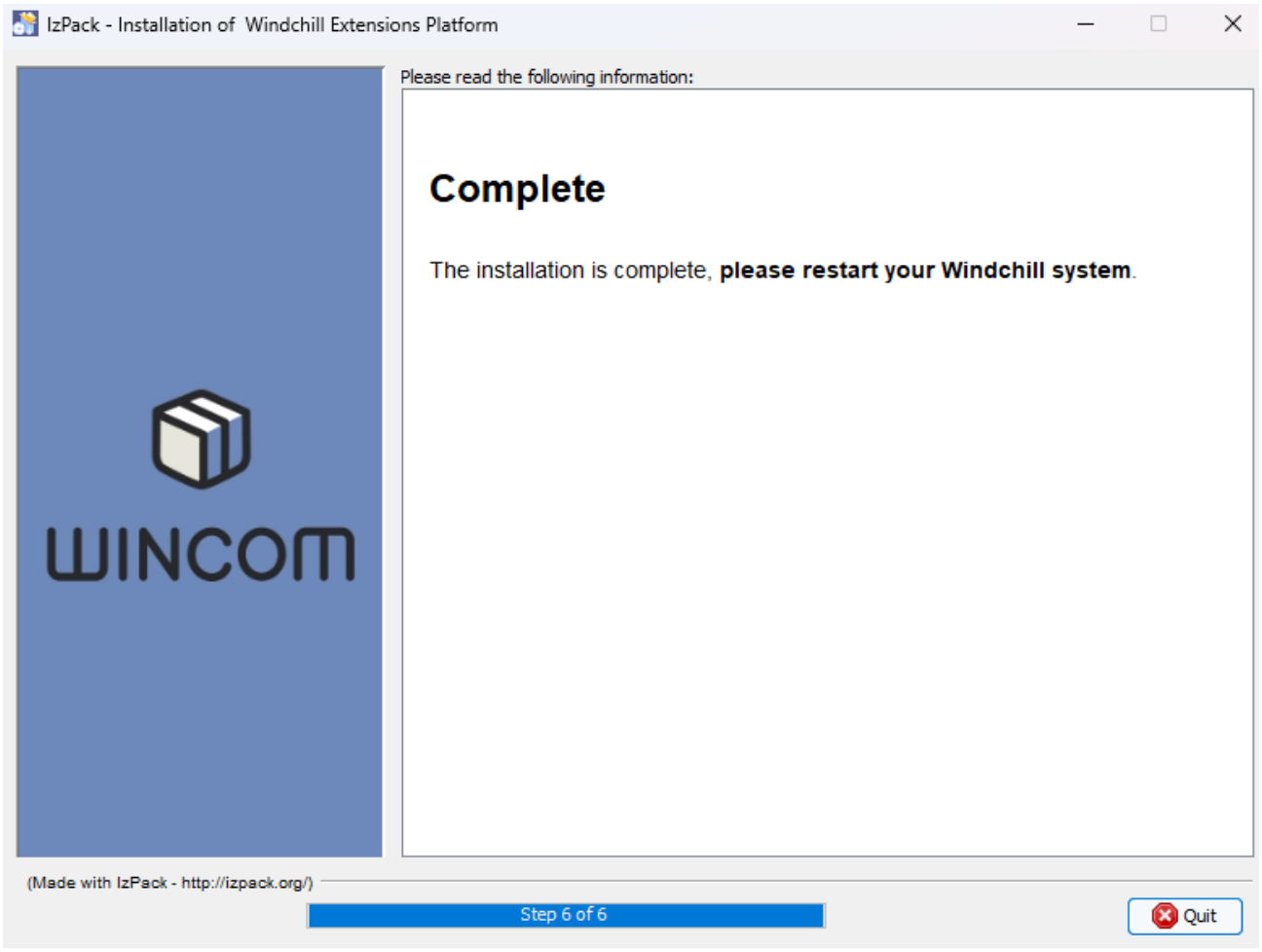


Result

On startup the variable is reported



Restart after install of new platform									
ID	ST12	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	
Description									
Checking the server starts correctly after install									
Actions									
Restart server									
Result									



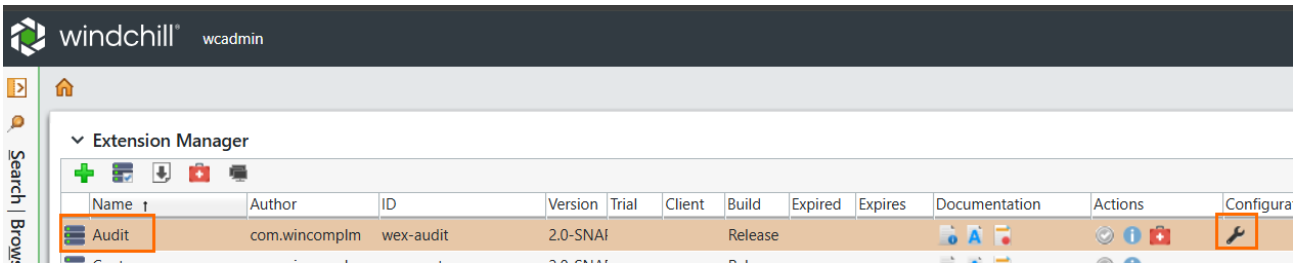
Check the audit WC+ is set to true

ID	ST13	Category	Functional	Security	NA	Execution	Manual	Reference	

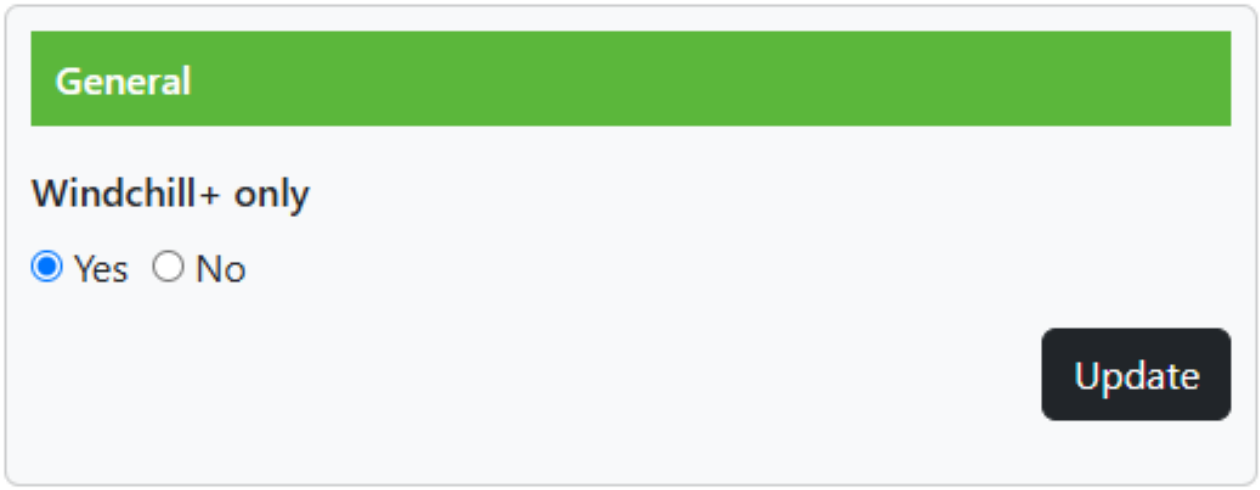
Description

The setting should be true

Actions



Result



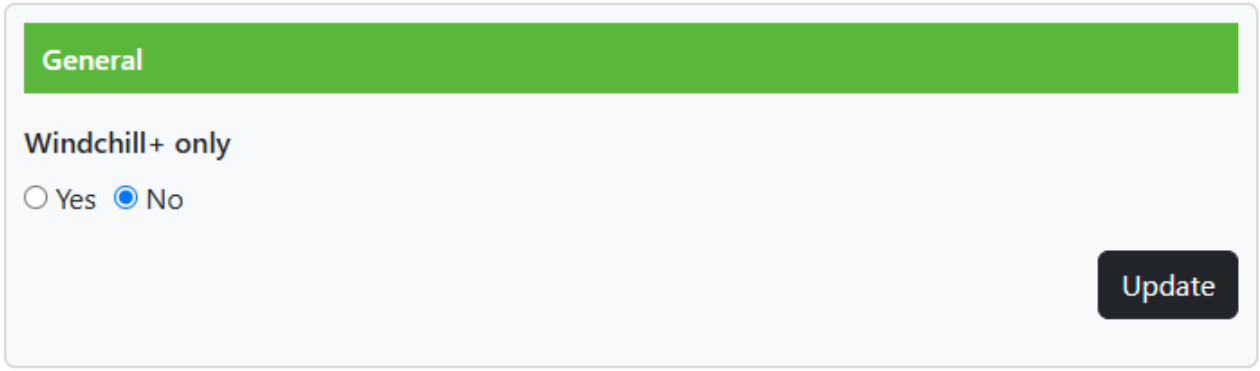
Check the audit WC+ is not changeable

ID	ST14	Category	Functional	Security	NA	Execution	Manual	Reference	

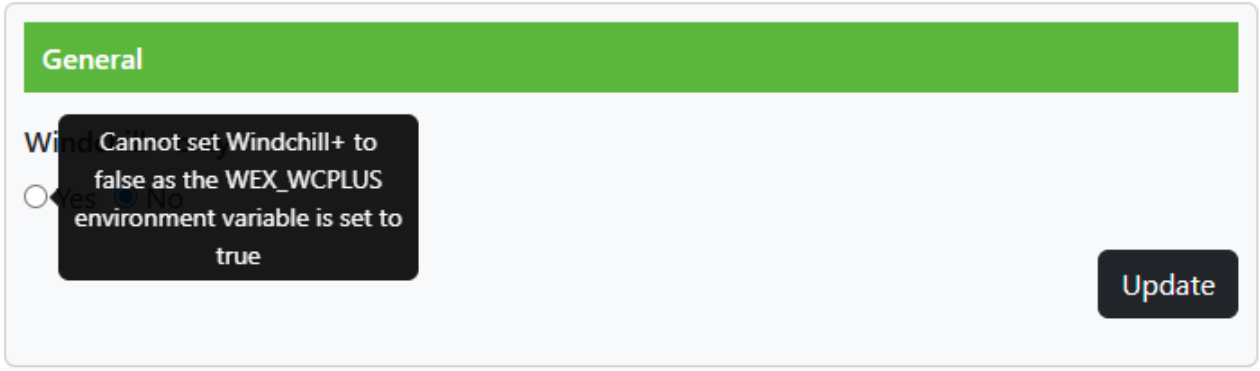
Description

It should not be possible even for site admin to set this flag to false if the enviroment variable is set

Actions



Result



Set Windchill+ to be not be default									
ID	ST15	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	
Description									
Set the WEX_WCPLUS environment to false									
Actions									
Set the WEX_WCPLUS variable to false									
Result									
Check the system settings									

Restart after reset of variable

ID	ST2	Category	Functional	Security	NA	Execution	Manual	Reference	

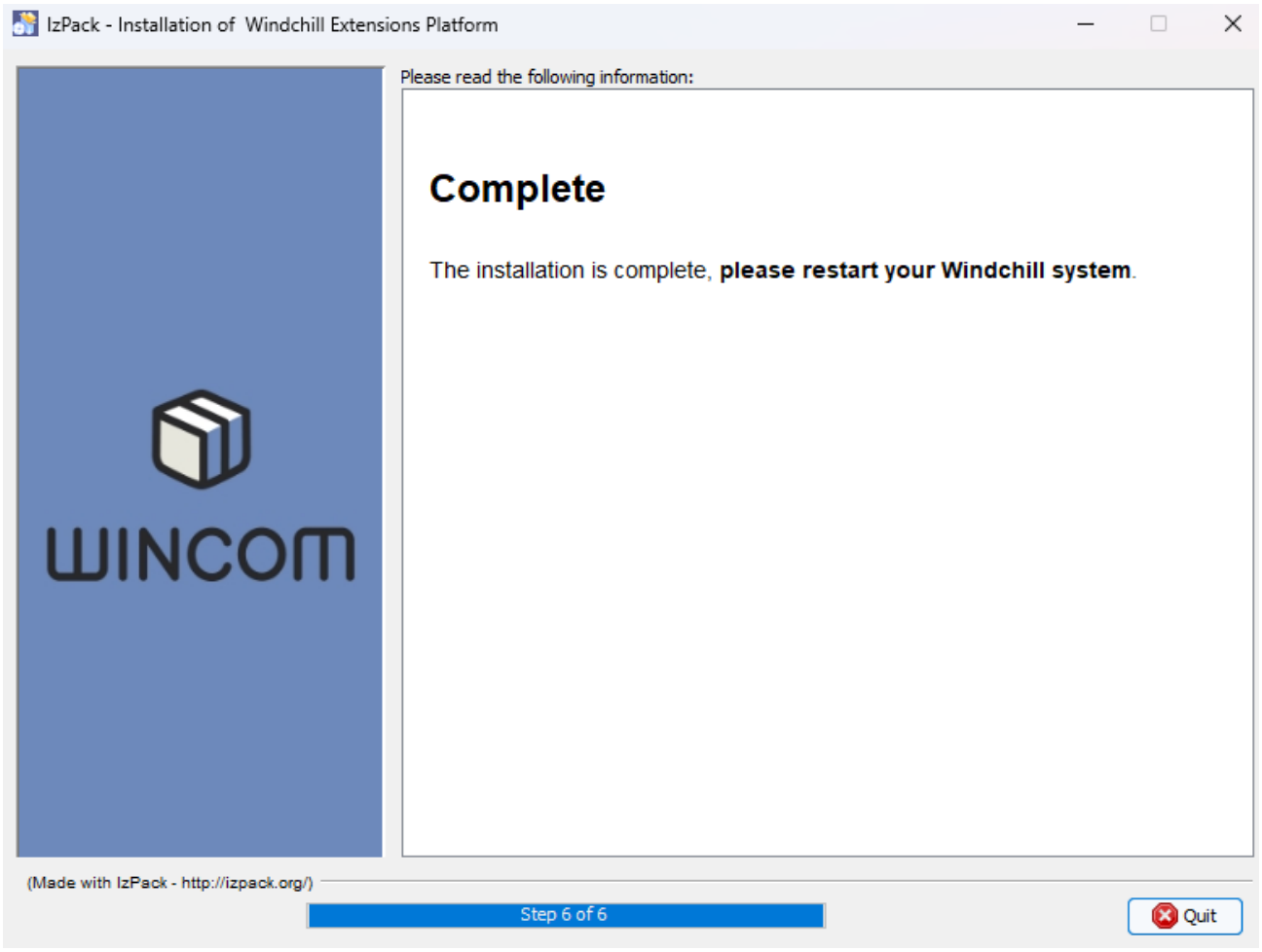
Description

Checking the server starts correctly

Actions

Restart server

Result



Create Wex Manager new user

ID	ST3	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

We will use three users during the testing

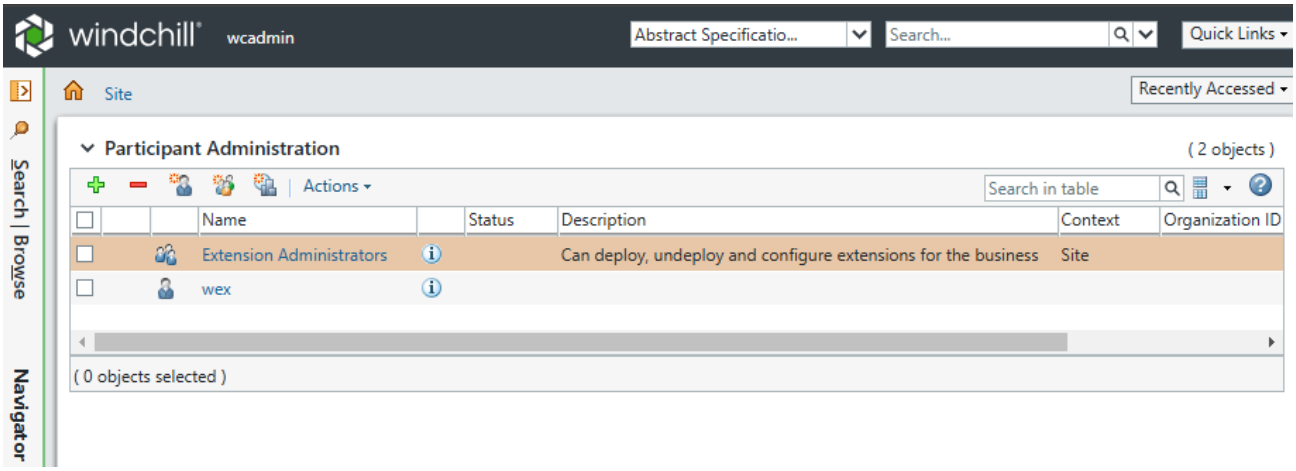
+ Site Admin - Will be able to perform all functions including system configuration (wcadmin)
+ Extension Admin - A user that can deploy and undeploy approved extensions (wex)
+ Standard User - A user with no special privilages (nowex)

Actions

Create a new user (wex) and add them to this group
Create a new user (nowex) and **do not** add them to this group

Result

The Group Extension Administrators is present (does not need to be manually created)



Ensure all Extensions are allowed to be installed

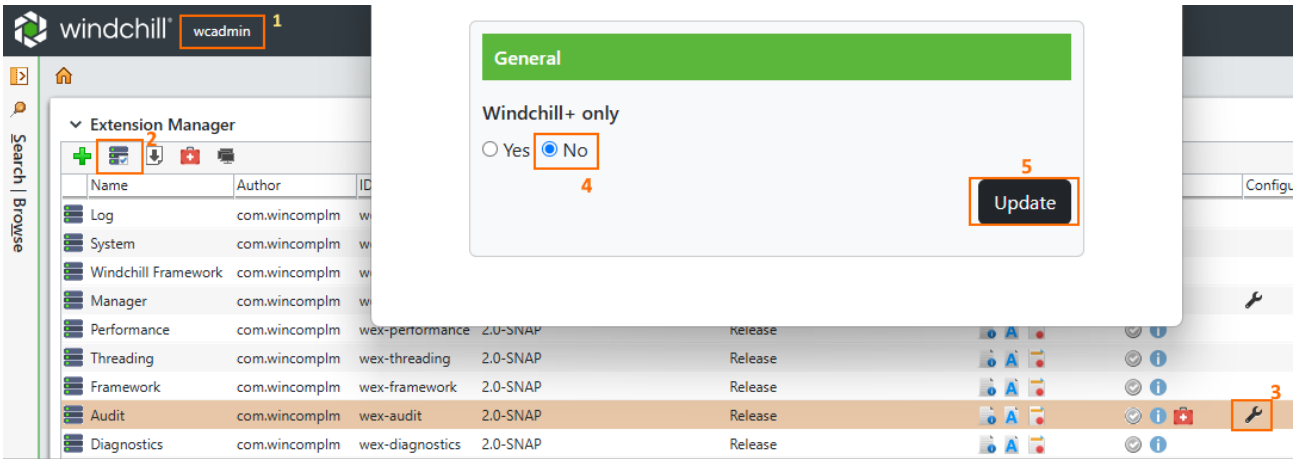
ID	ST4	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

Must be done as a site admin

Actions

Login as site admin and access the Extension Manager (1)
Access system extensions (2)
Access wex-audit configuration (3)
Change to Windchill+ false, to should be preset to true(4)
Update (5)



Result

Configuration updated

Manager

ID	M1	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

This section will test the manager exposed to nominated users and works as expected.
Test extensions are provided for 13.1

Check standard user has no access to the extension manager

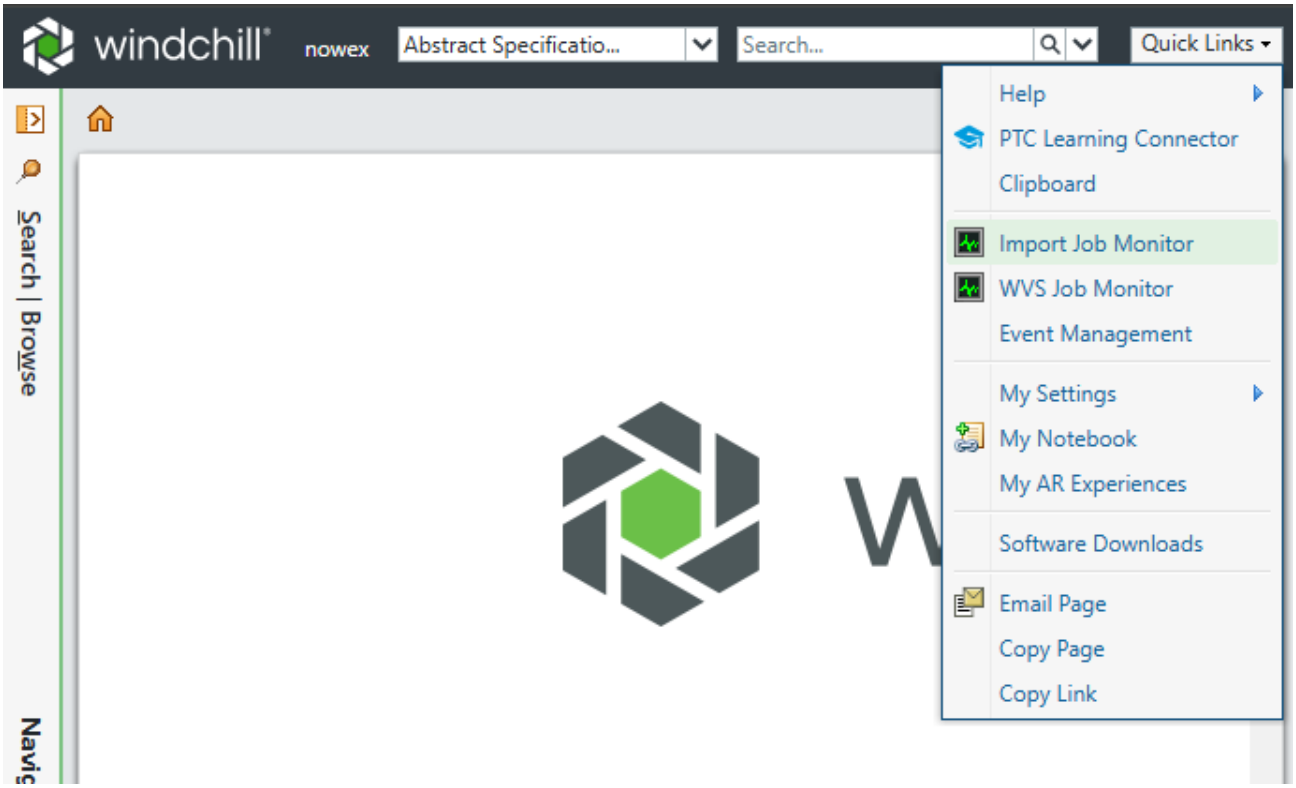
ID	M2	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

Login as standard user (nowex)
Standard users, those not site admin or in the extension administrators group, do not see the manager

Actions

Access the quick links menu to ensure no manager is present



Check wex user has access to the extension manager

ID	M3	Category	Functional	Security	NA	Execution	Manual	Reference	

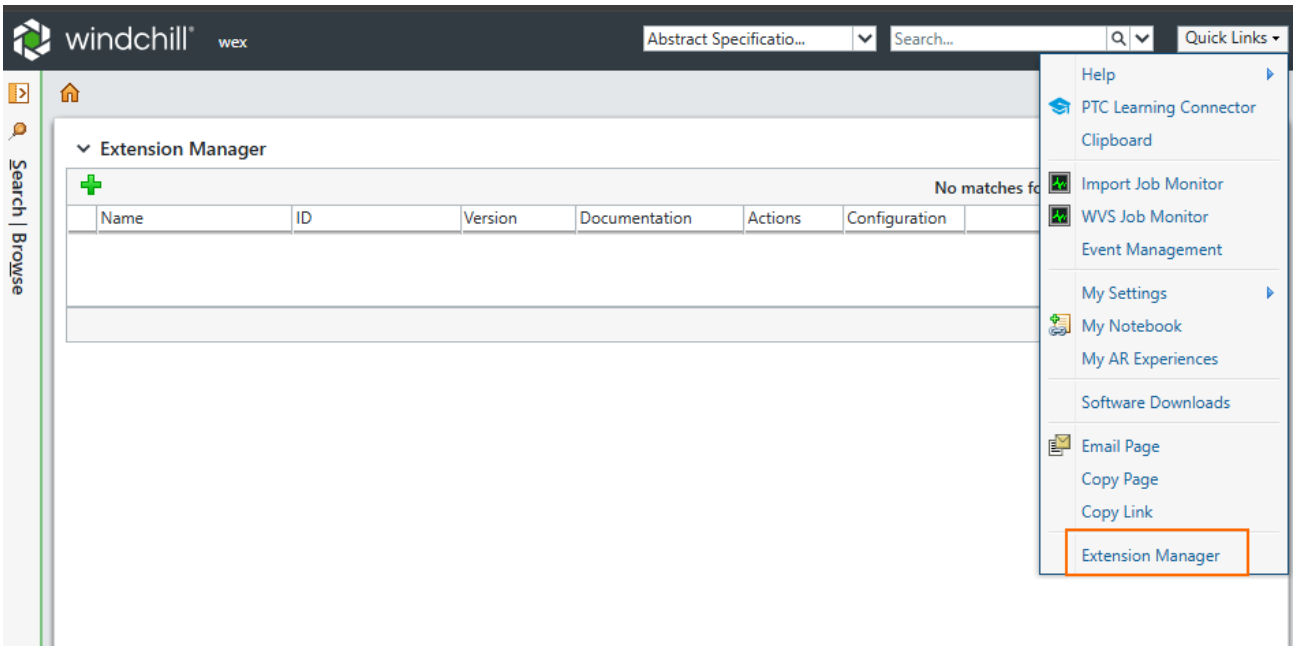
Description

Login as extension administrator (wex)
Wex admin users do see the manager

Actions

Access the quick links menu to ensure manager is present

Result



Check extension manager user can do an install of a signed extension

ID	M4	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

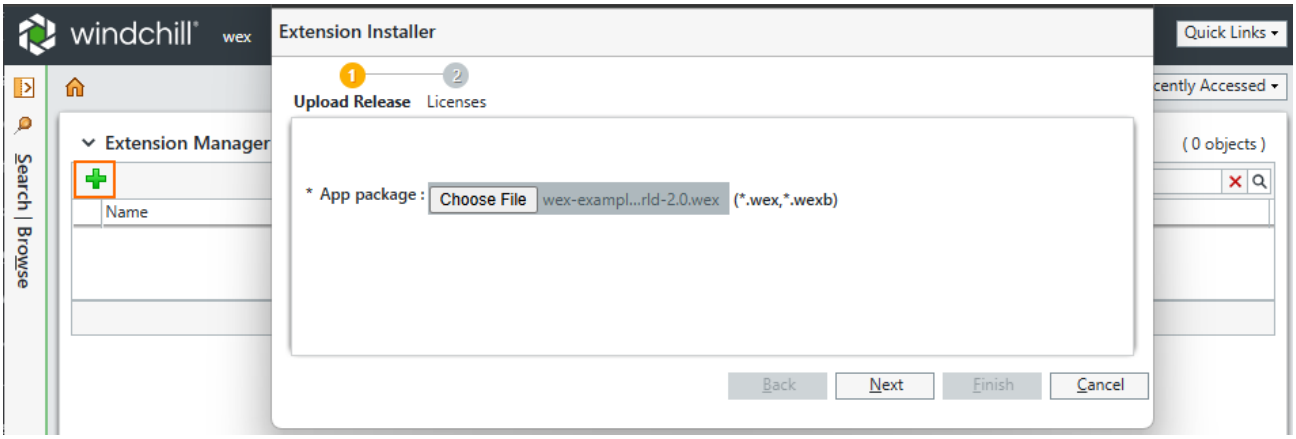
At this point the extension manager may install any signed extension. This is restricted in a later test

Actions

Download and deploy test extension

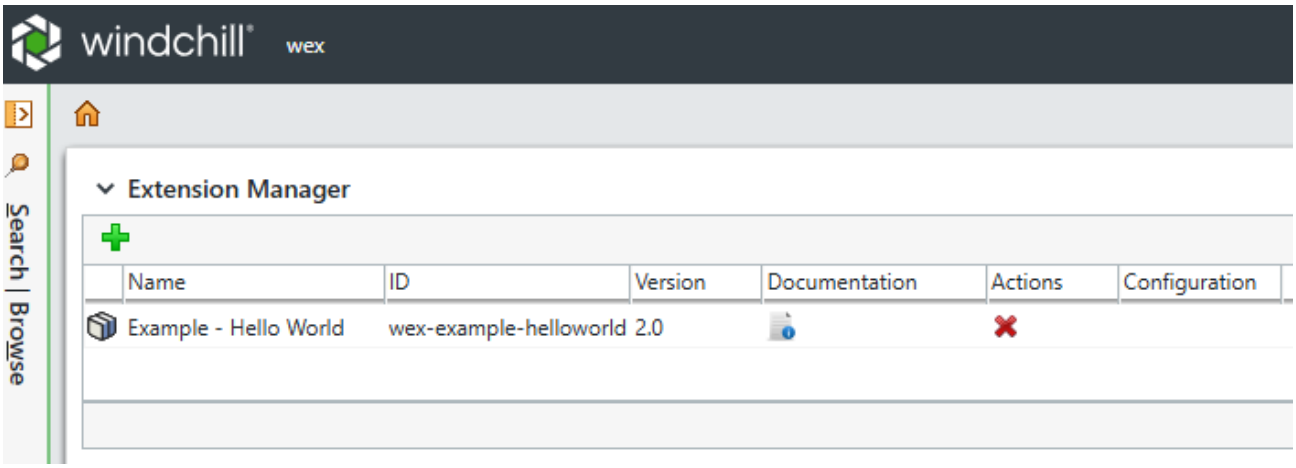
Click the link below to download the test extension

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-helloworld-2.0-13.1.wex



Result

Installation is successfull



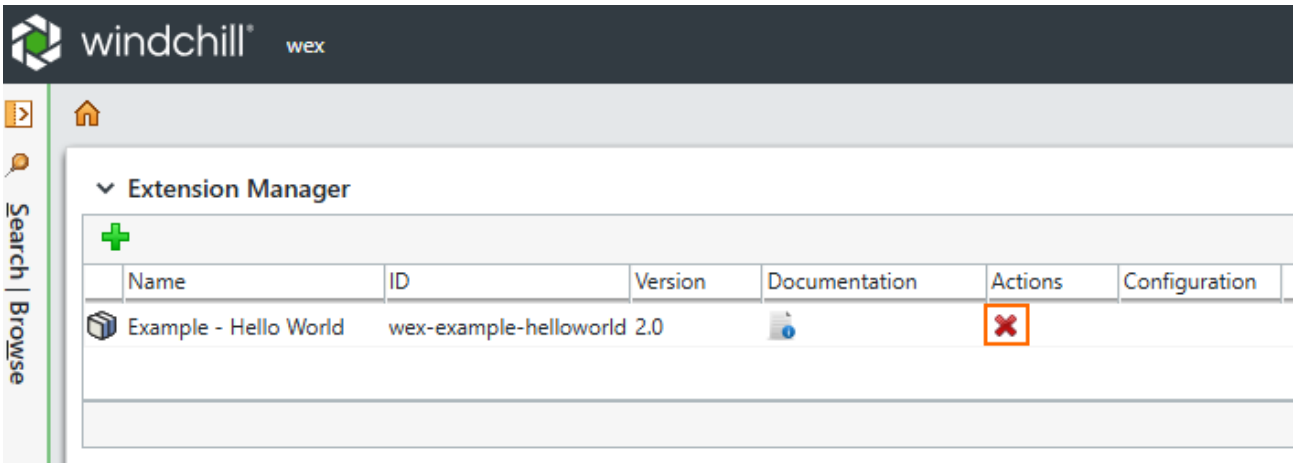
Undeploy an extension

ID	M5	Category	Functional	Security	NA	Execution	Manual	Reference	

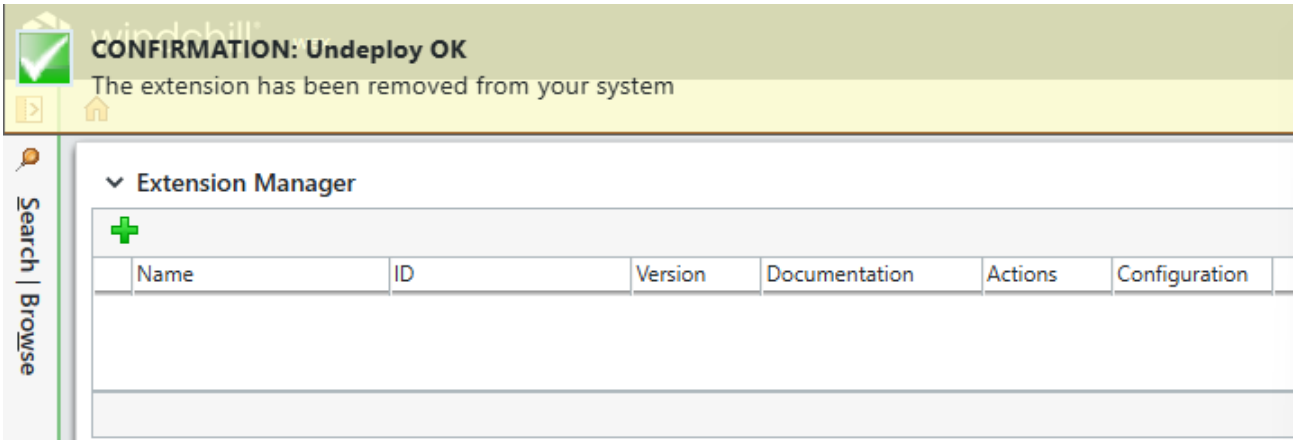
Description

Undeploy the extension deployed in previous step

Actions



Result



Check extension manager user cannot do an install of a snapshot, beta or trial

ID	M6	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

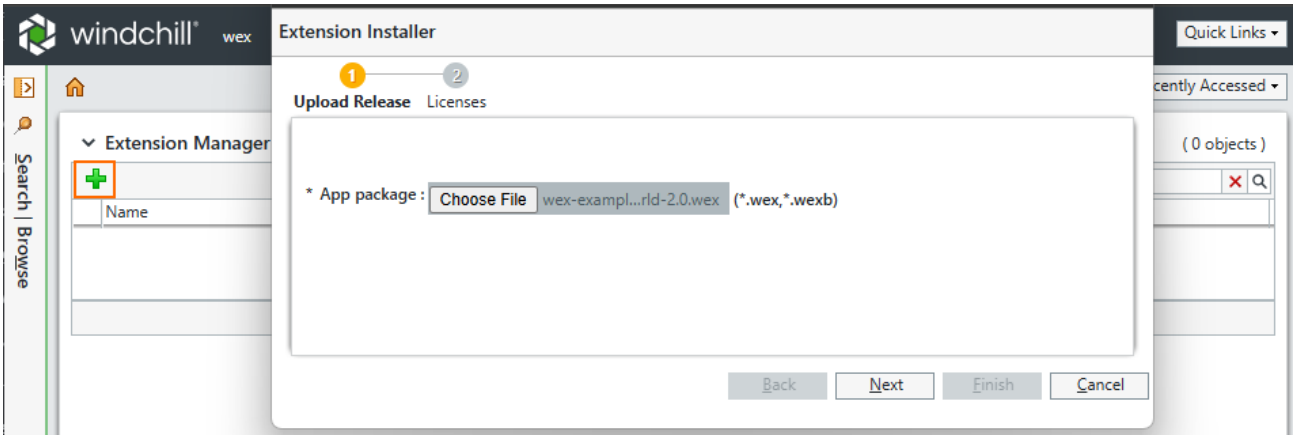
These are only allowed to be installed by a site admin

Actions

Download and deploy snapshot test extension

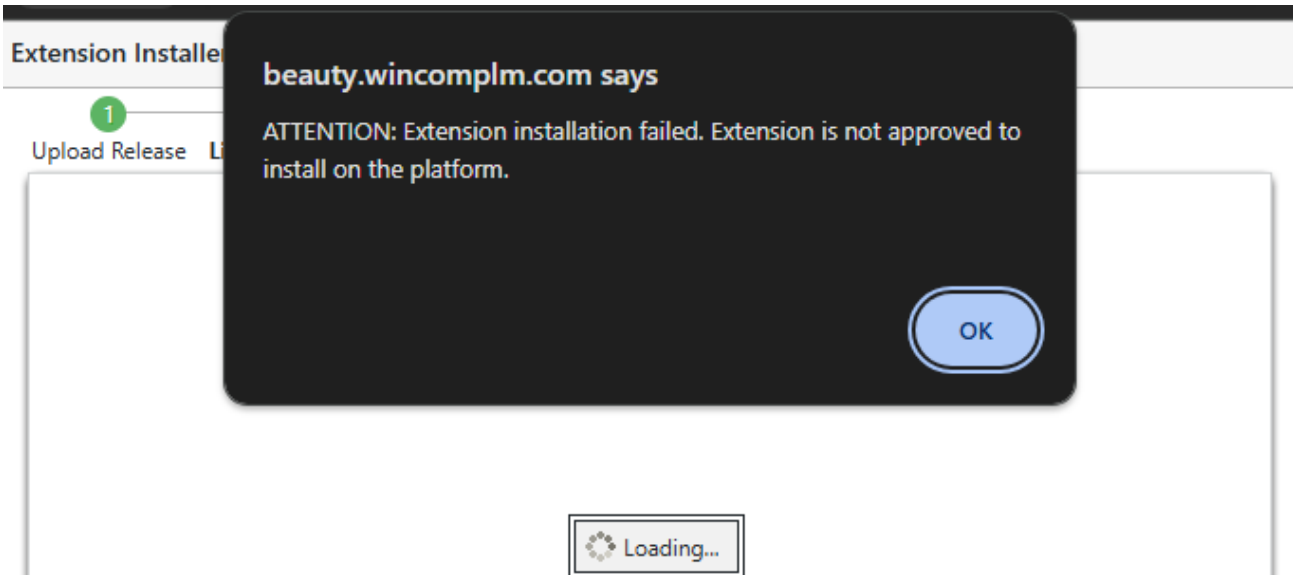
Click the link below to download the test extension

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-helloworld-2.0-13.1-SNAPSHOT.wex



Result

Installation is unsuccessfull



Check extension manager user cannot install unsigned

ID	M7	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

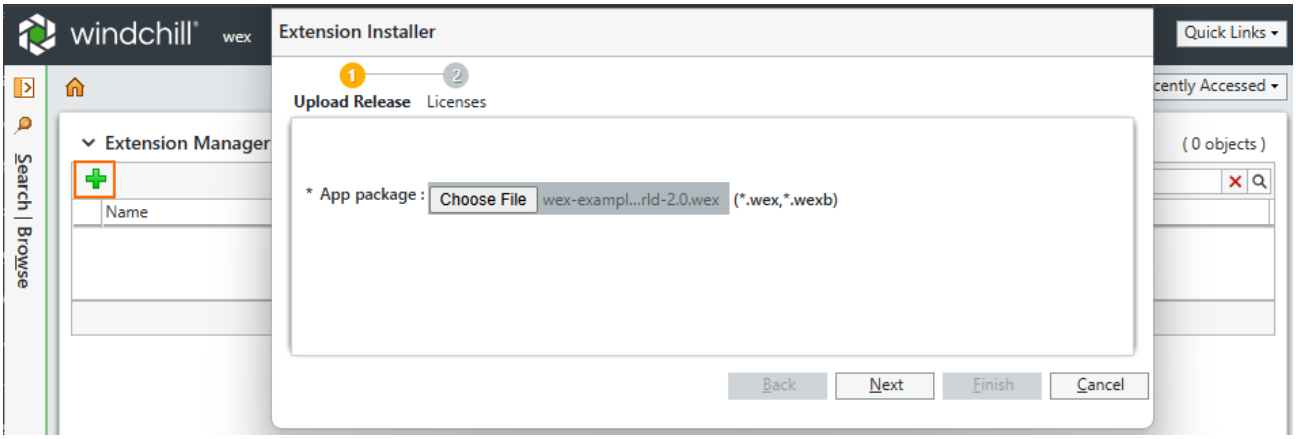
This test is a user trying to install a wex with a tampered definition file

Actions

Download and deploy test extension

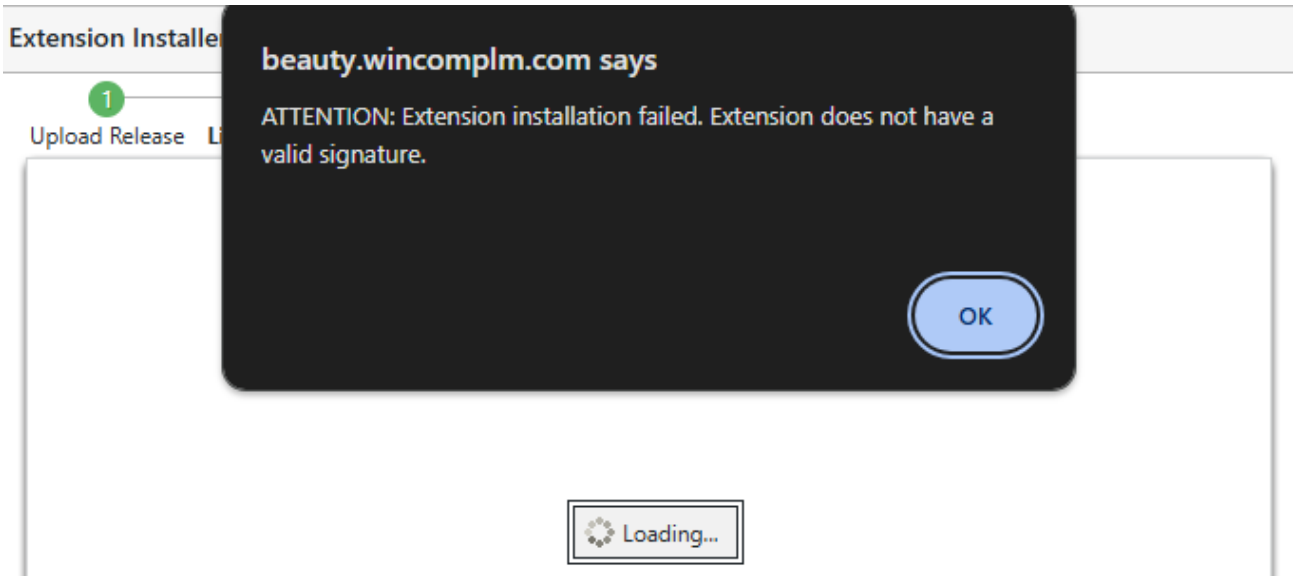
Click the link below to download the test extension

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-helloworld-2.0-13.1-badsignature.wex



Result

Installation is unsuccessfull



Enable only Windchill+ are allowed to be installed

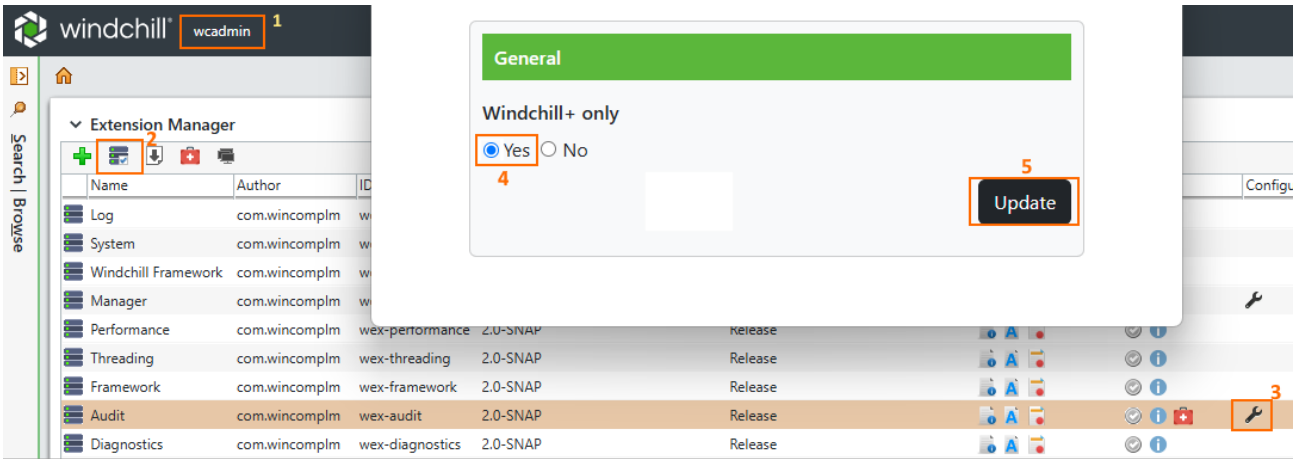
ID	M8	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

To restrict the system to only allow extension managers to install Winchill+ approved extensions.
Must be done as a site admin

Actions

Login as site admin and access the Extension Manager (1)
Access system extensions (2)
Access wex-audit configuration (3)
Change to Windchill+ (4)
Update (5)



Result

Configuration updated

Check extension manager user cannot do an install of a non Windchill+ extension

ID	M9	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

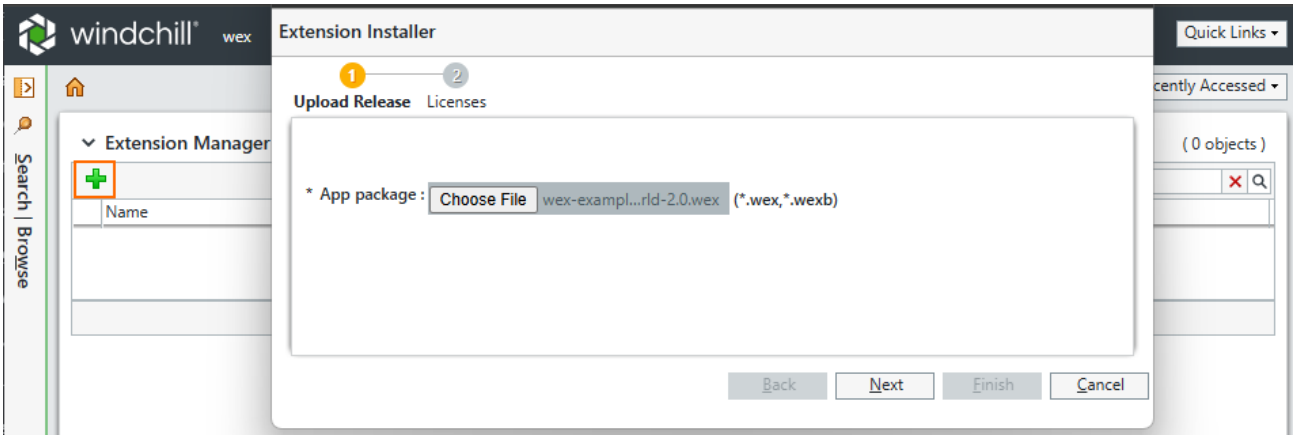
User may not install

Actions

Download and deploy test extension

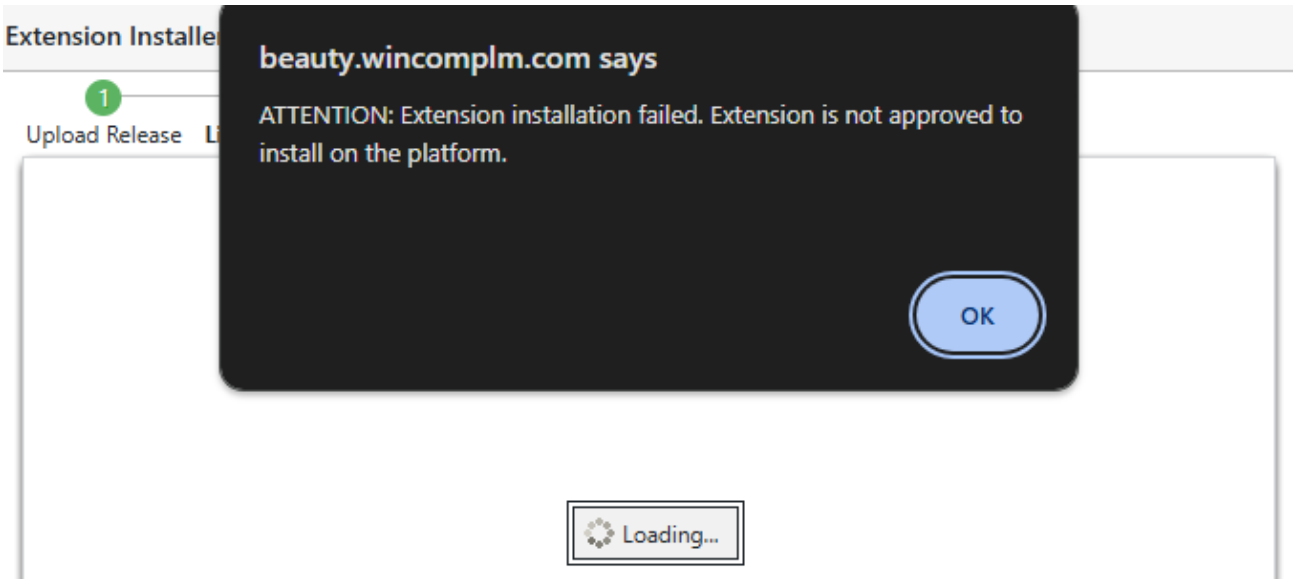
Click the link below to download the test extension.

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-helloworld-2.0-13.1.wex



Result

Installation is unsuccessfull



Check extension manager user can do an install of an approved Windchill+ extension

ID	M10	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

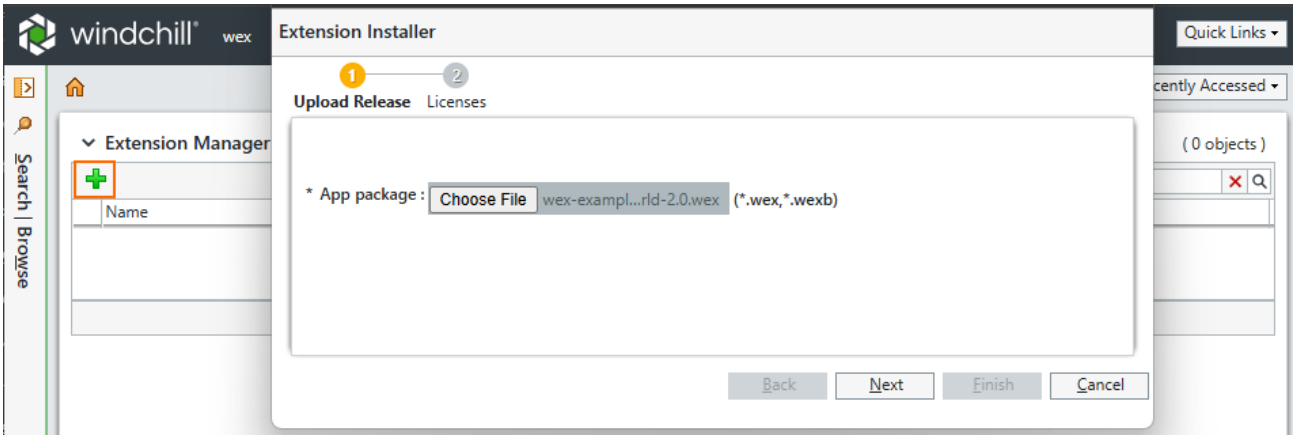
User may install approved extension

Actions

Download and deploy approved extension

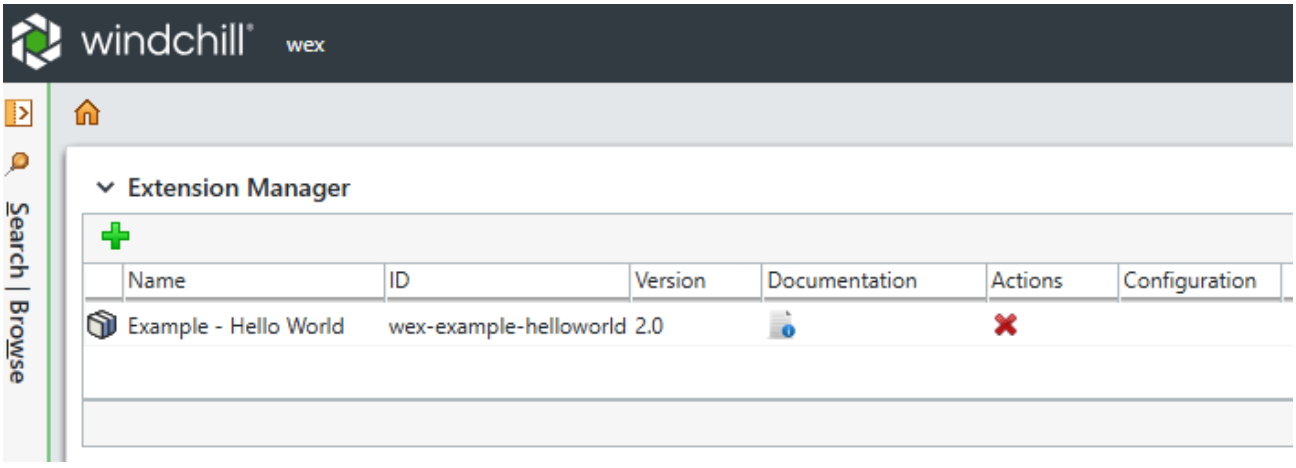
Click the link below to download the test extension

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-helloworld-2.0-13.1-wcplus.wex



Result

Installation is successfull



Check extension is registered in DB

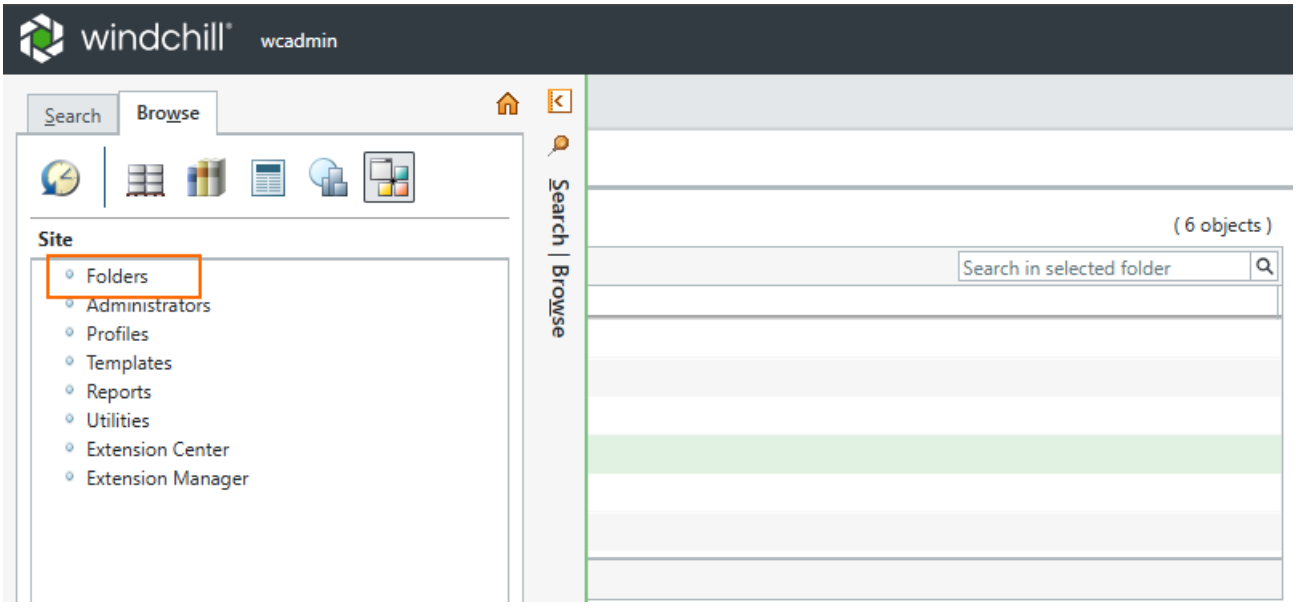
ID	M11	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

The extension should be in the DB as installed

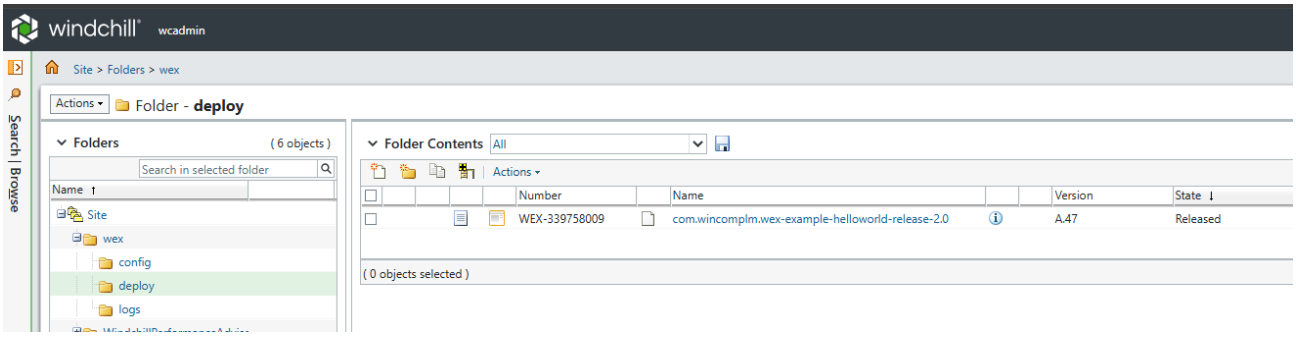
Actions

As site admin, check the wex folders area



Result

Record is visible as Released



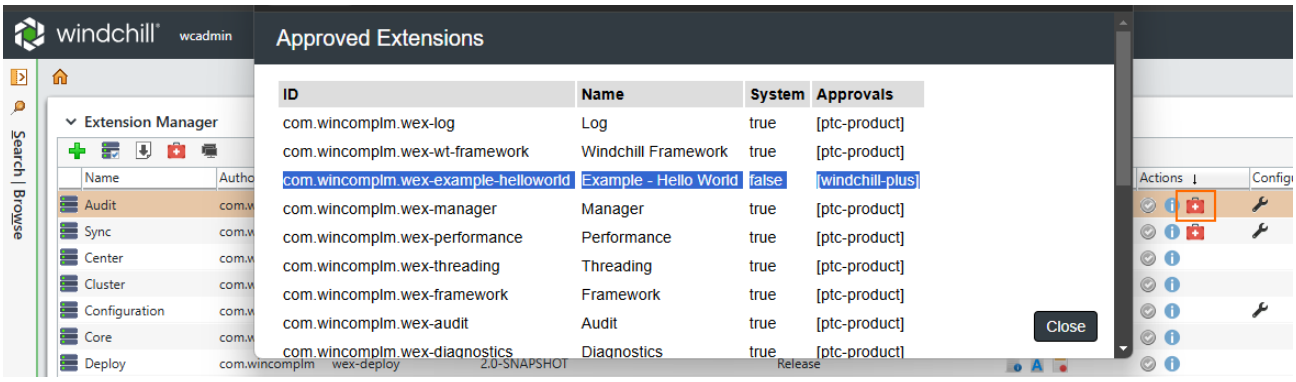
Check the audit show the new extensions

ID	M12	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

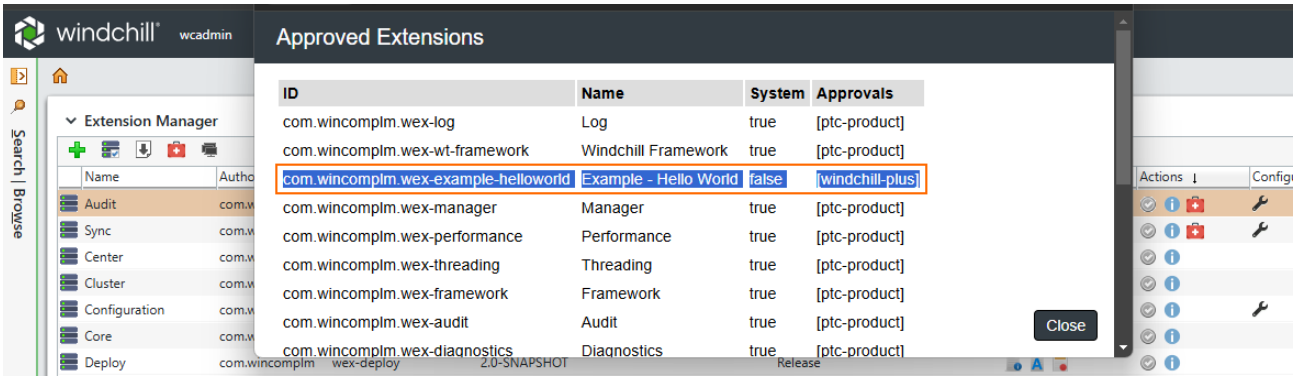
The extension should be seen as Winchill+ approved in the diags, must be done as a site admin

Actions



Result

Record is visible



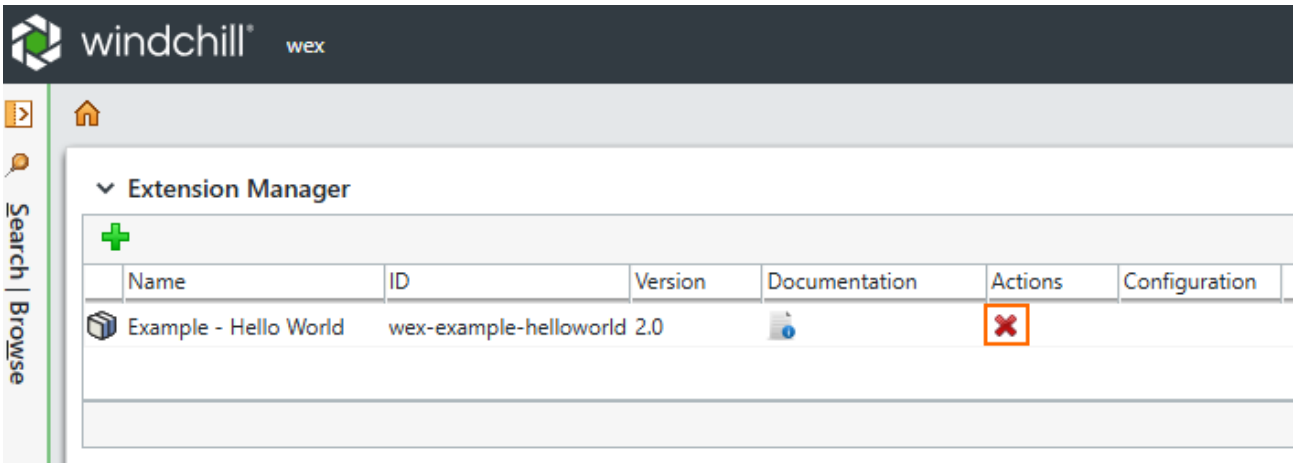
Undeploy and check unregistered in DB

ID	M13	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

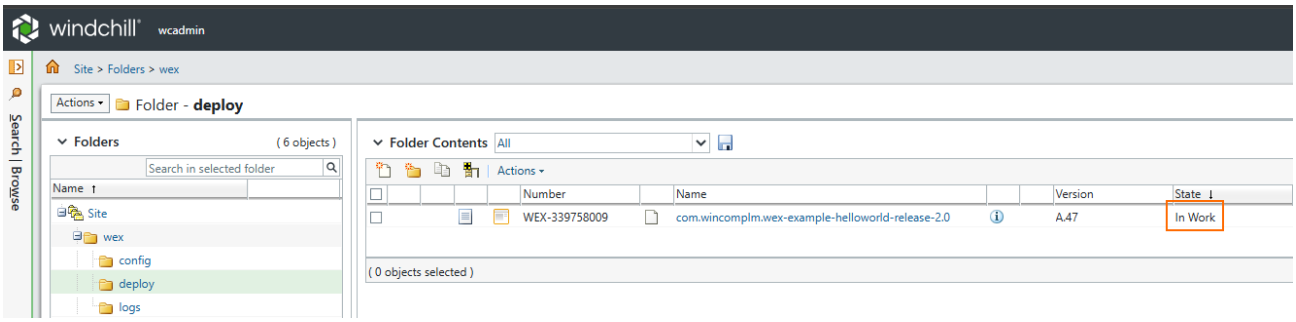
The extension should be in the DB but as Inwork, must be done as a site admin

Actions



Result

Record is visible as Inwork



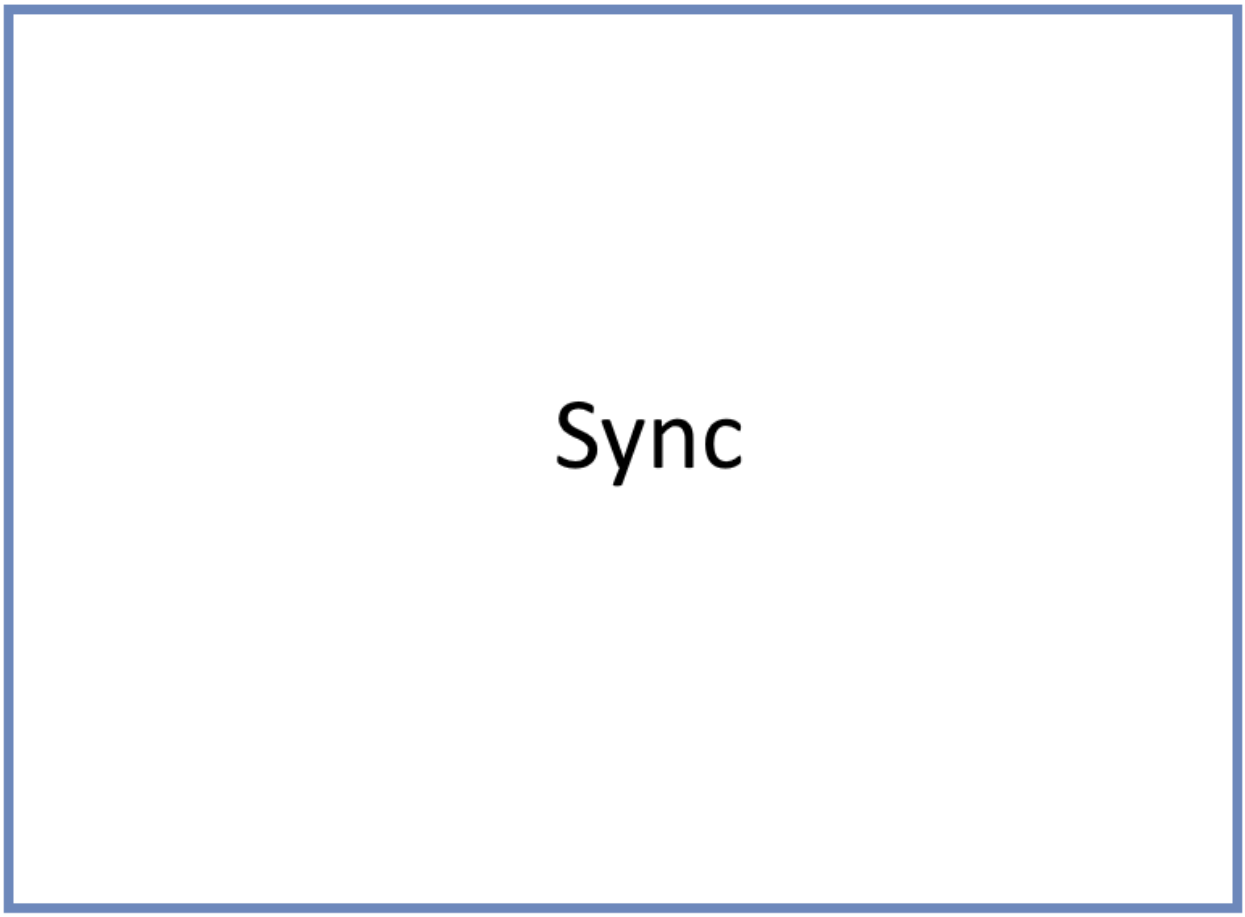
Sync

ID	SN1	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

Testing the way the platform syncs to the DB and new updates.

All testing must be done as Site Admin.



Turn off Windchill+ only

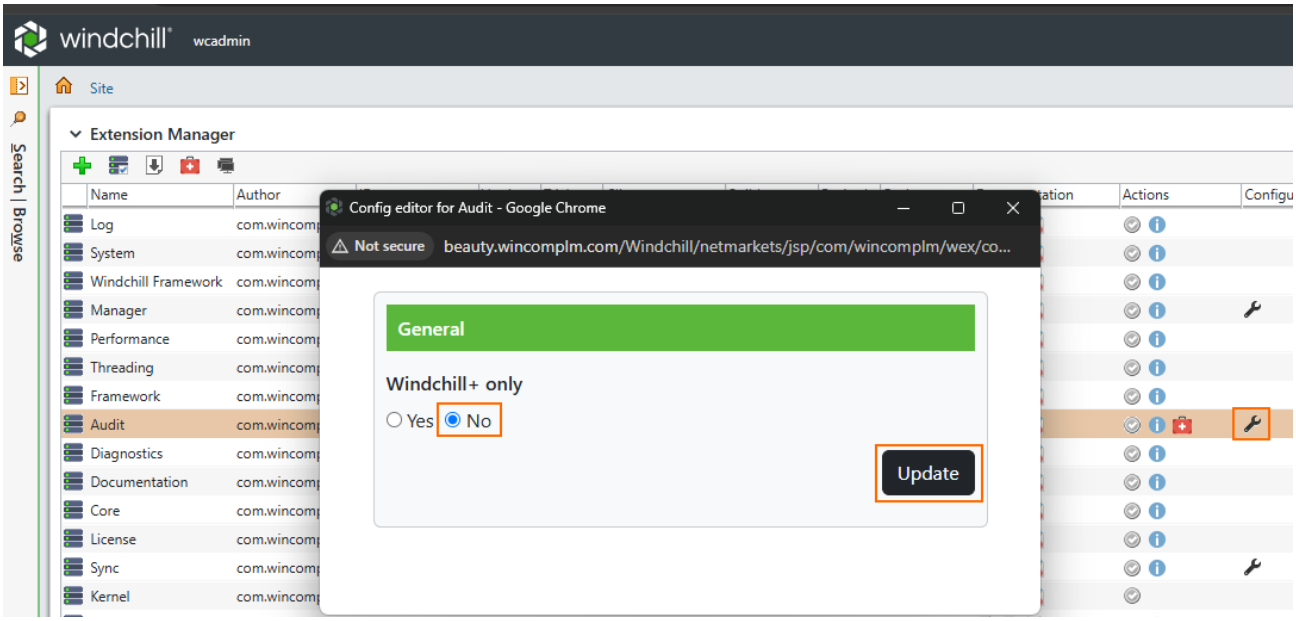
ID	SN2	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

To ensure valid testing, allow all installs

Actions

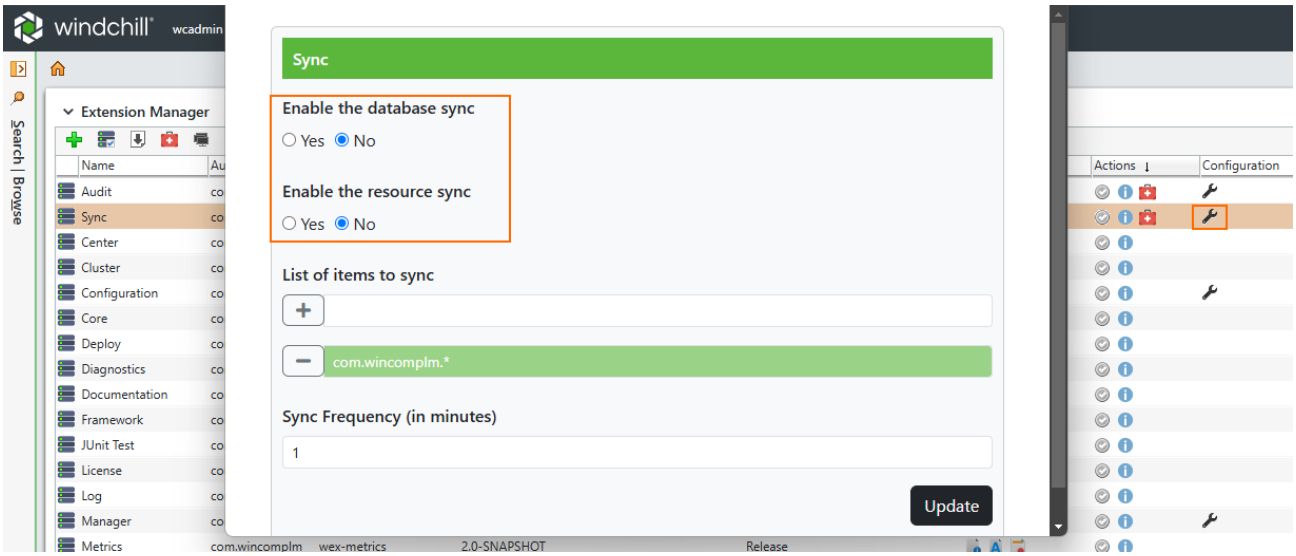
Set Windchill+ only to false



Result

The audit config is updated

Turn of all syncs									
ID	SN3	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	
Description									
As site admin turn off sync									
Actions									



Deploy test extension

ID	SN3.1	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

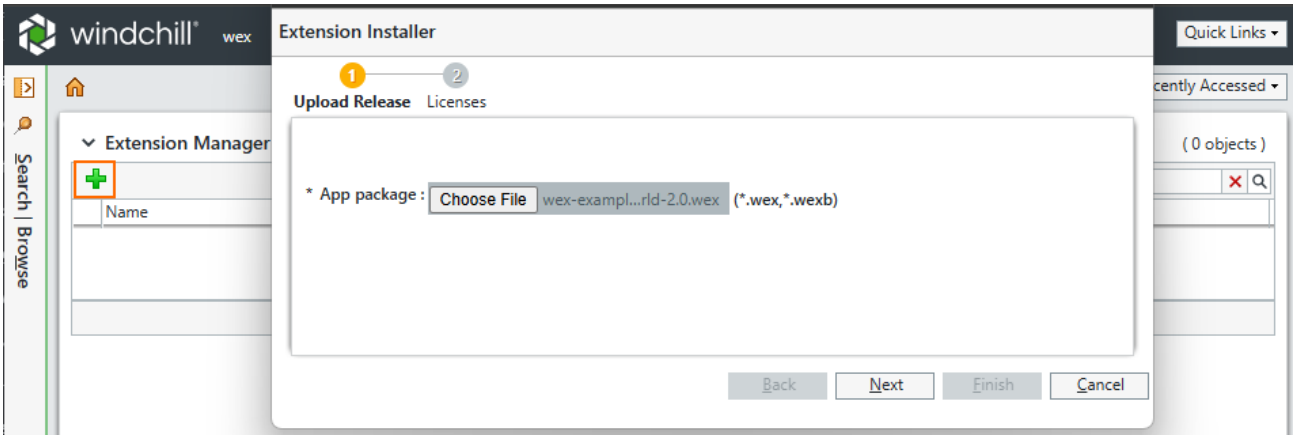
Deploy an extension that will be present in the history

Actions

Download and deploy test extension

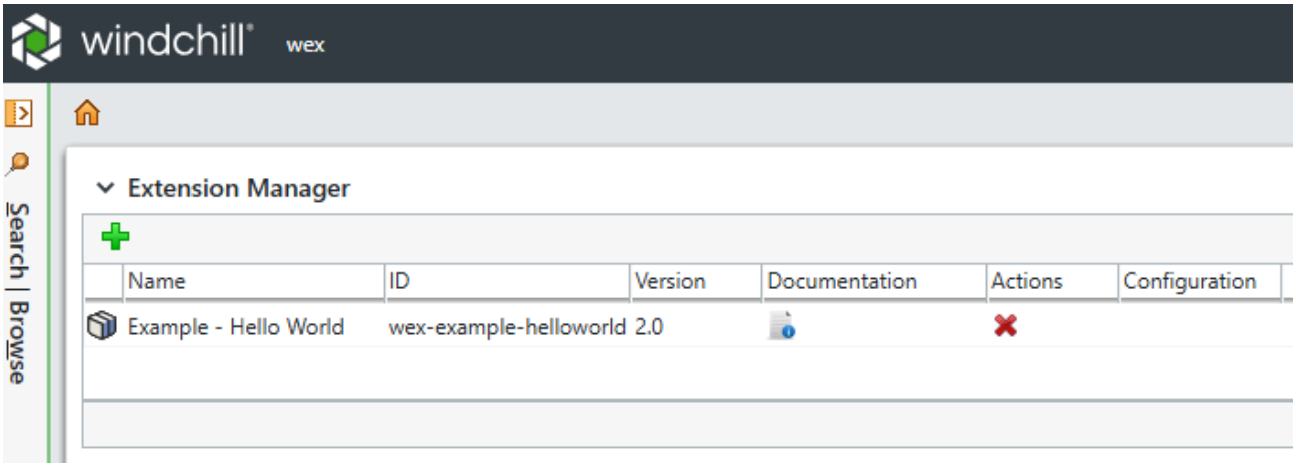
Click the link below to download the test extension

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-helloworld-2.0-13.1.wex



Result

Installation is successfull



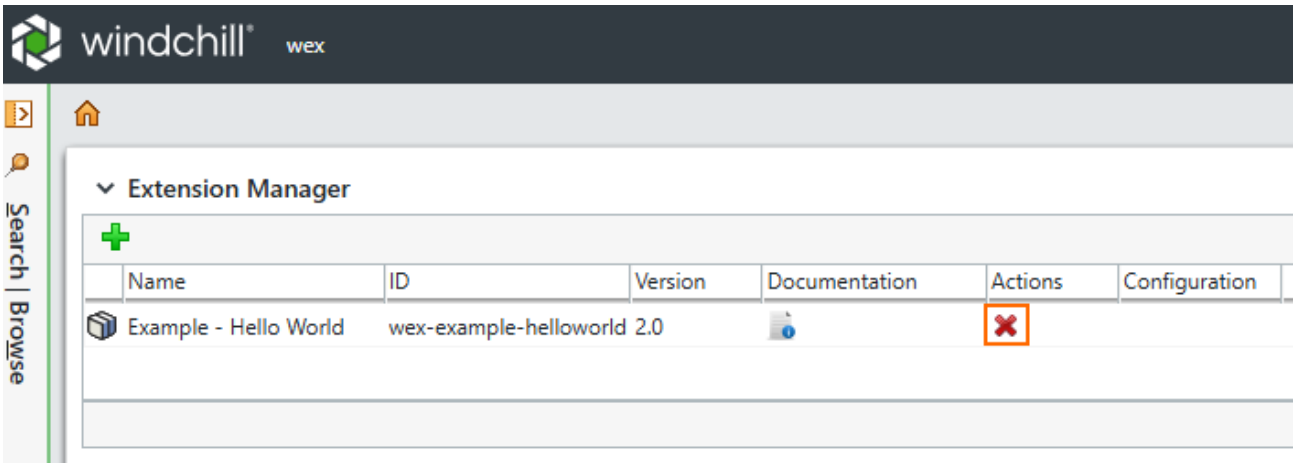
Undeploy the extension

ID	SN3.2	Category	Functional	Security	NA	Execution	Manual	Reference	

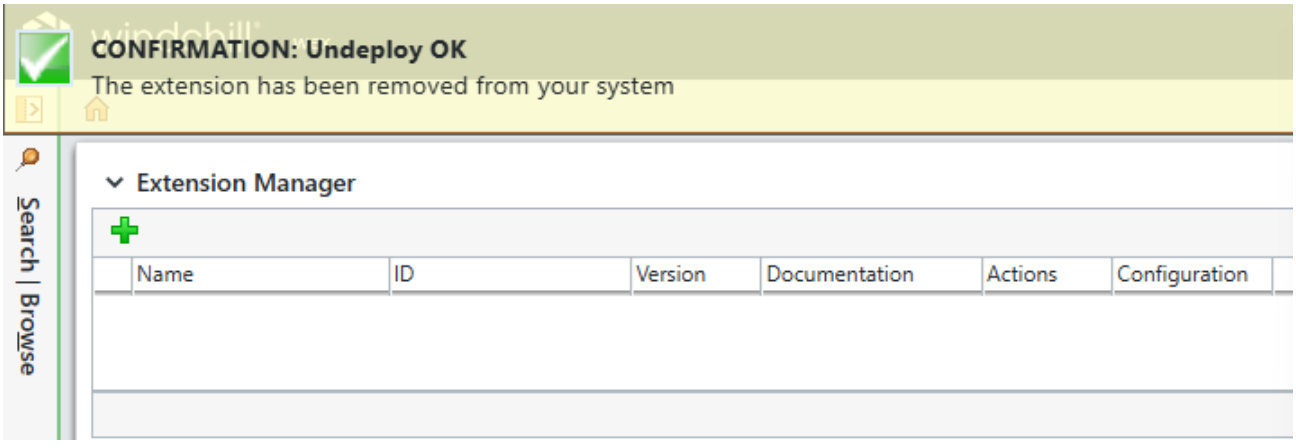
Description

Undeploy the extension deployed in previous step

Actions



Result



Enable an extension to be installed from the DB

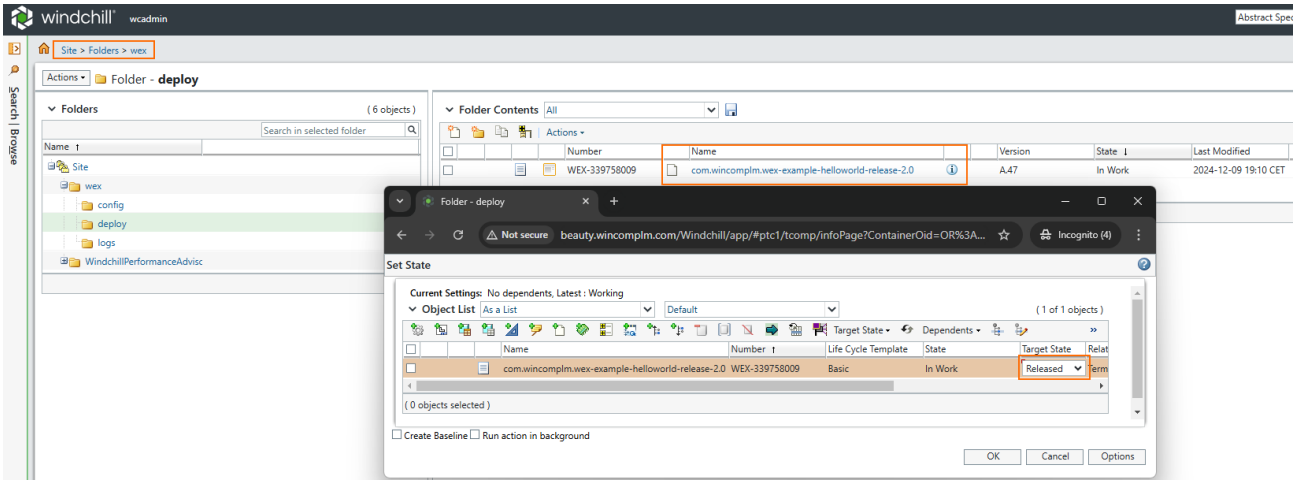
ID	SN4	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

By setting the record to released the extension will be installed by sync

Actions

As site admin set a previously installed extension to Released



Result

The document is set to released

Check the system detects the record is valid

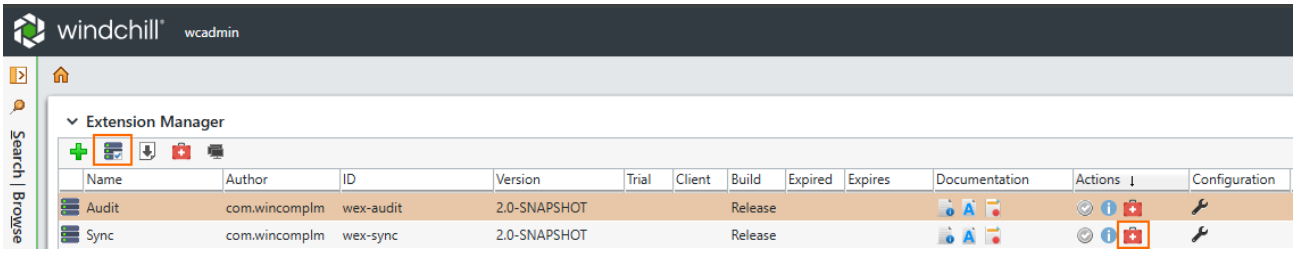
ID	SN5	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

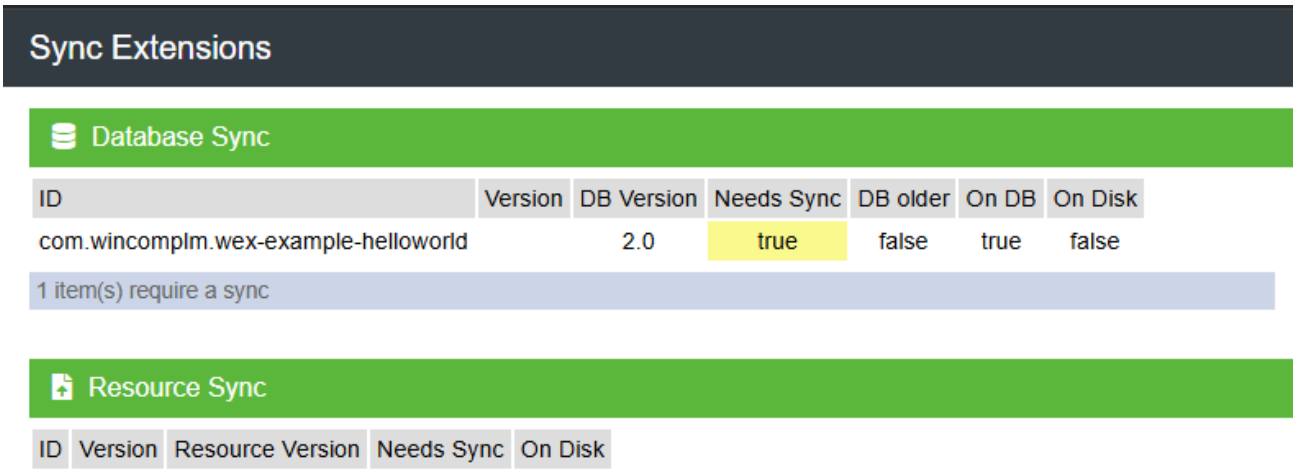
The diags will show that this extension is ready to deploy.

This features allows this system to maintain the DB as as the single source of truth for clusters and containerized systems.

Actions



Result



Setup sync from the DB

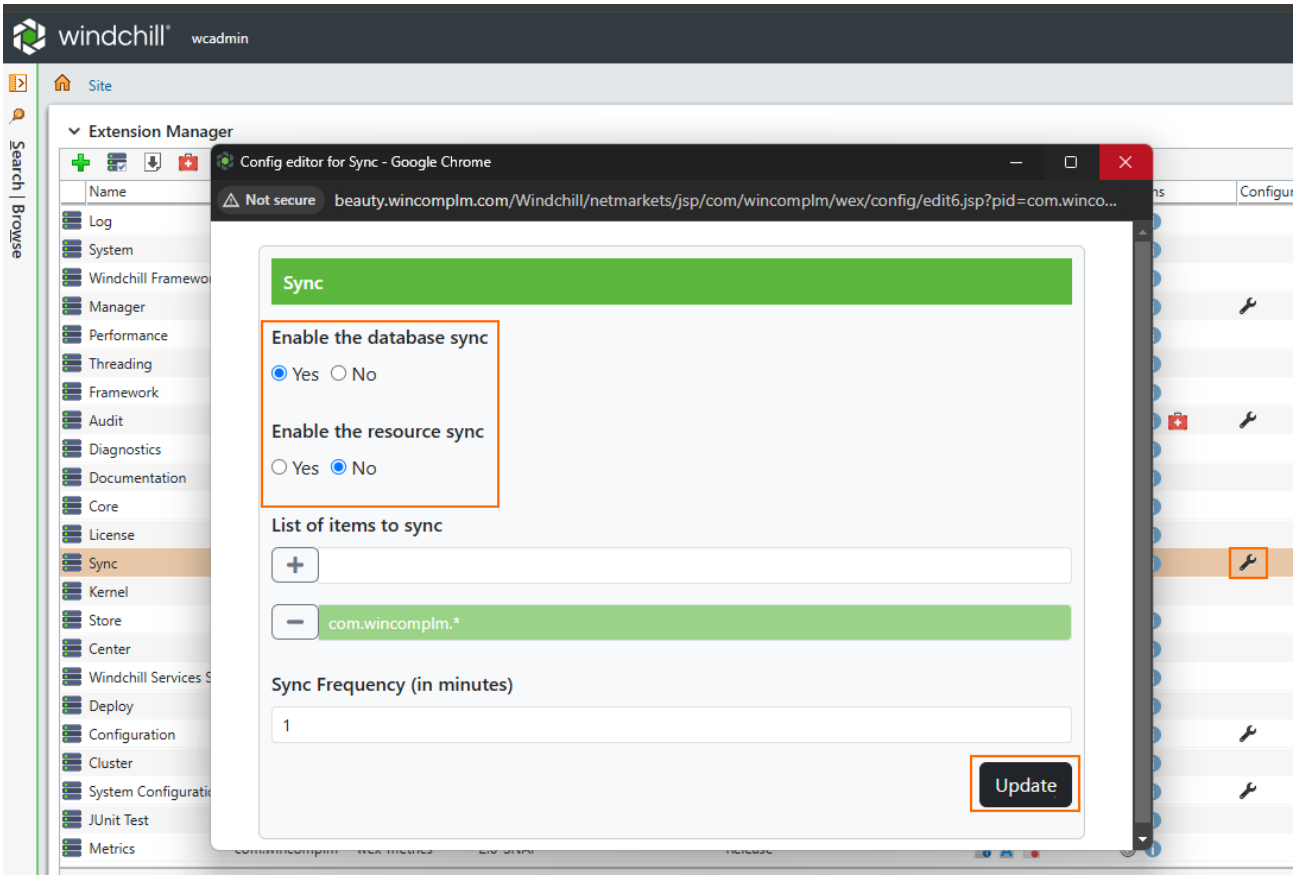
ID	SN6	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

Set the sync to read the DB and update the system if required

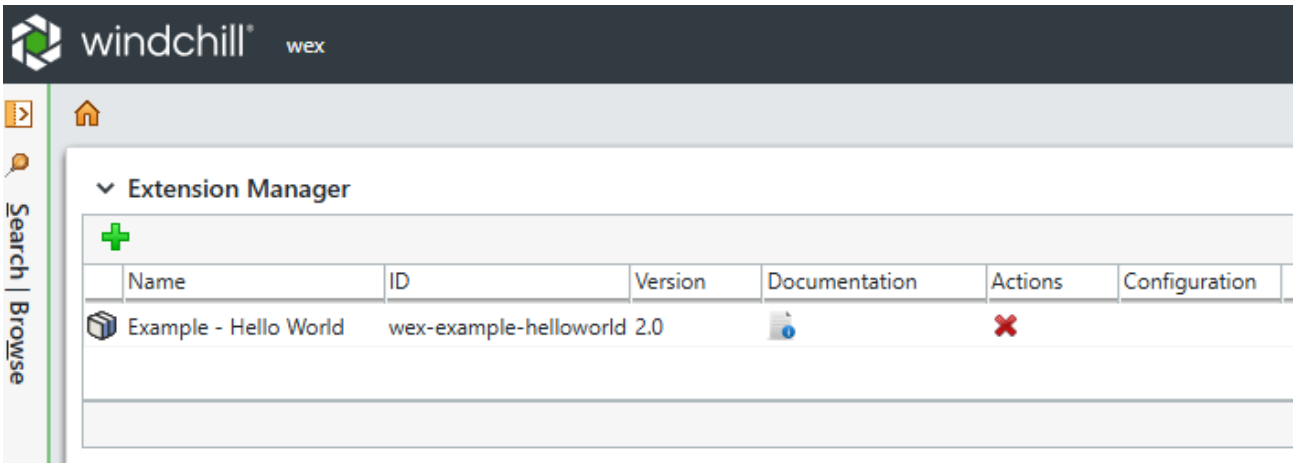
Actions

Set sync so that the DB sync is enabled but the resource is not



Result

After a few minutes the extension appears as installed. This may take up to 5 minutes.



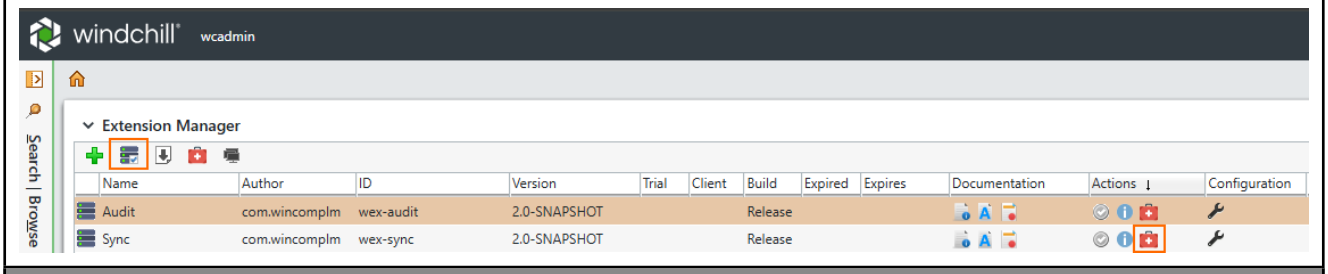
Check the sync diags shows a valid update

ID	SN7	Category	Functional	Security	NA	Execution	Manual	Reference	

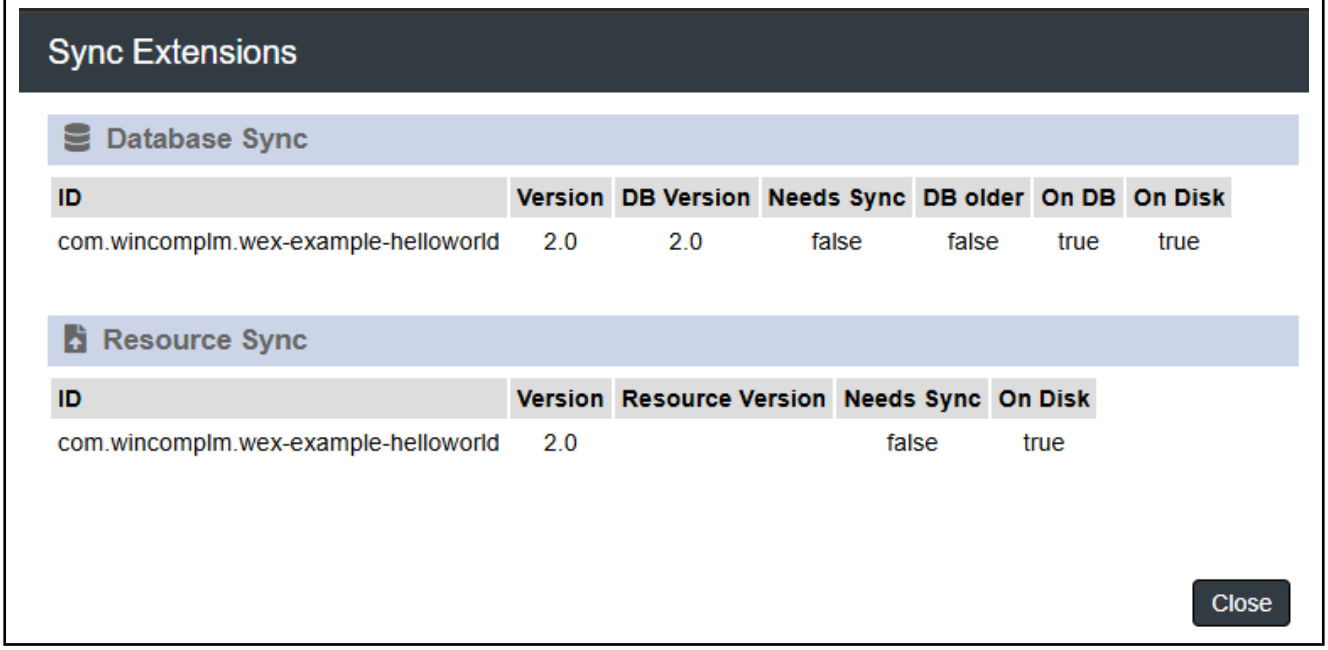
Description

The systems will after some minutes detect the disparity and install the extension automatically.
The diags will now show the update was complete

Actions



Result



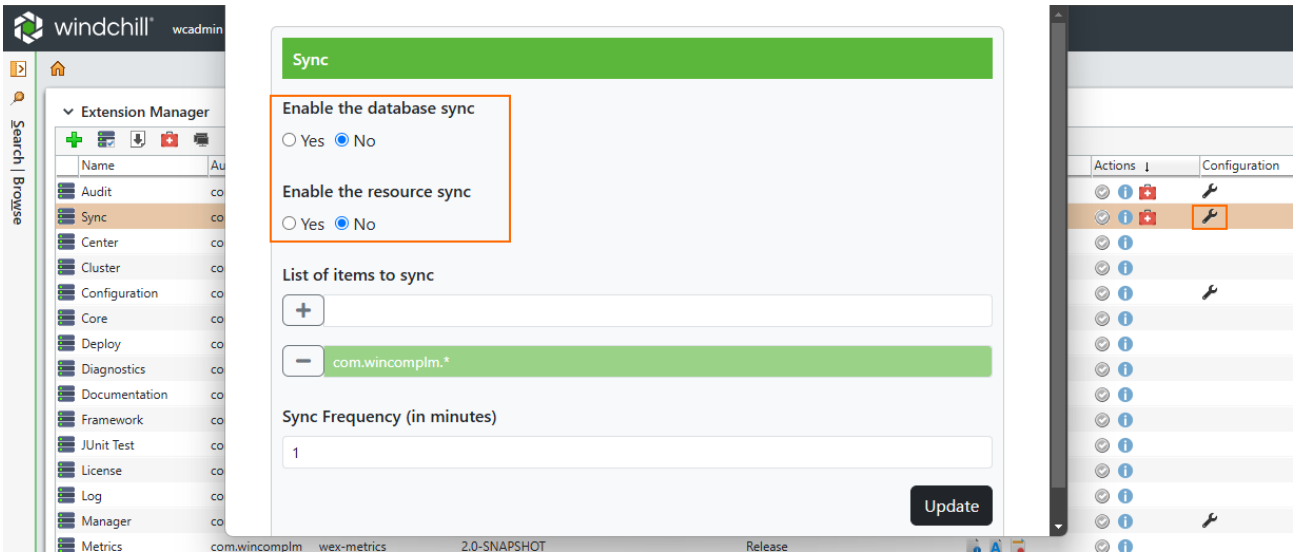
Turn of all syncs

ID	SN8	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

As site admin turn off sync so that the system does not synchronize with the DB or resource folder

Actions



Install the test wex-example-sync

ID	SN9	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

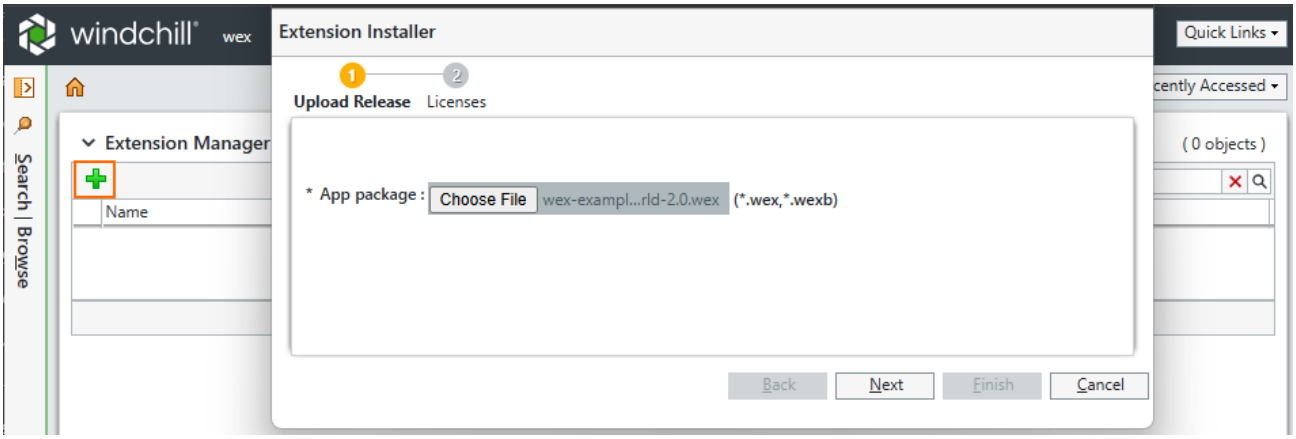
This 2.0 example delivers a new version (2.1) vesion of the Hello World extension which it will add to the resource area that is checked by the system Sync extension.

Actions

Download and deploy test extension

Click the link below to download the test extension

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-sync-2.0-13.1.wex



Result

Extension deployed

Check the sync diags show valid update

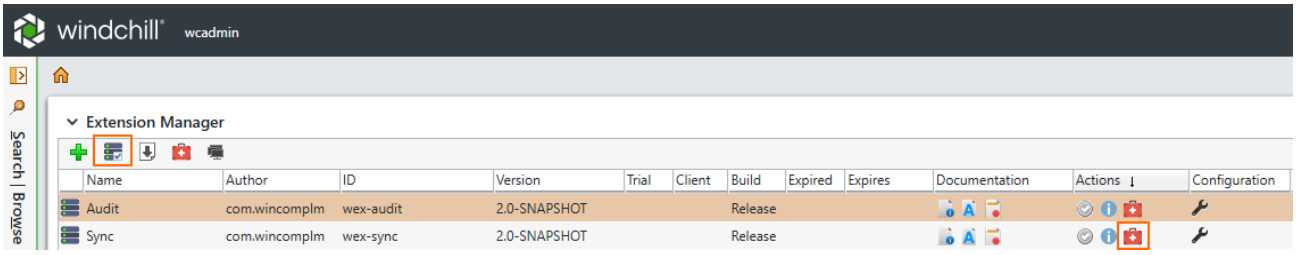
ID	SN10	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

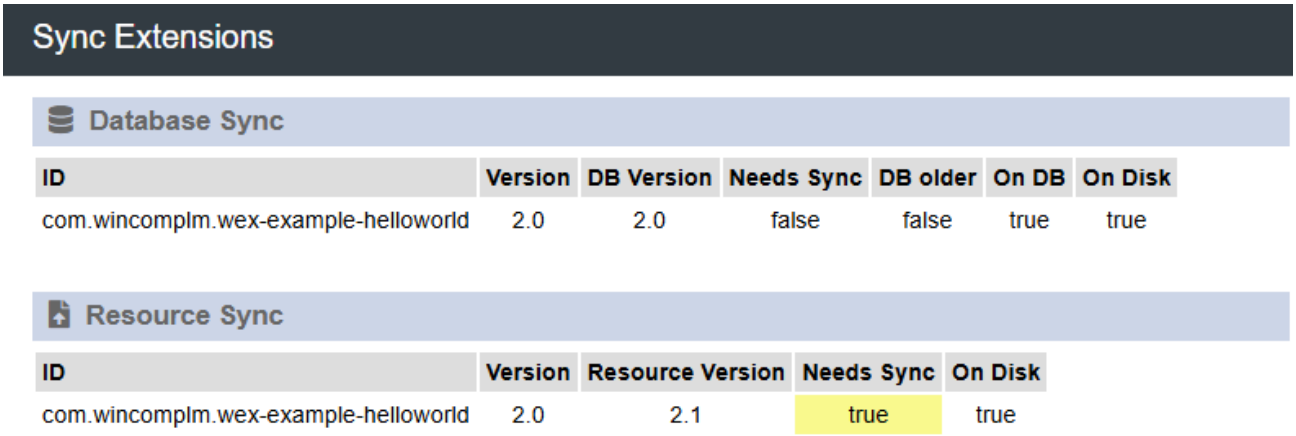
The diags will now show the sync is required.

Note that Hello World 2.0 must already be installed.

Actions



Result



Setup sync from the resources

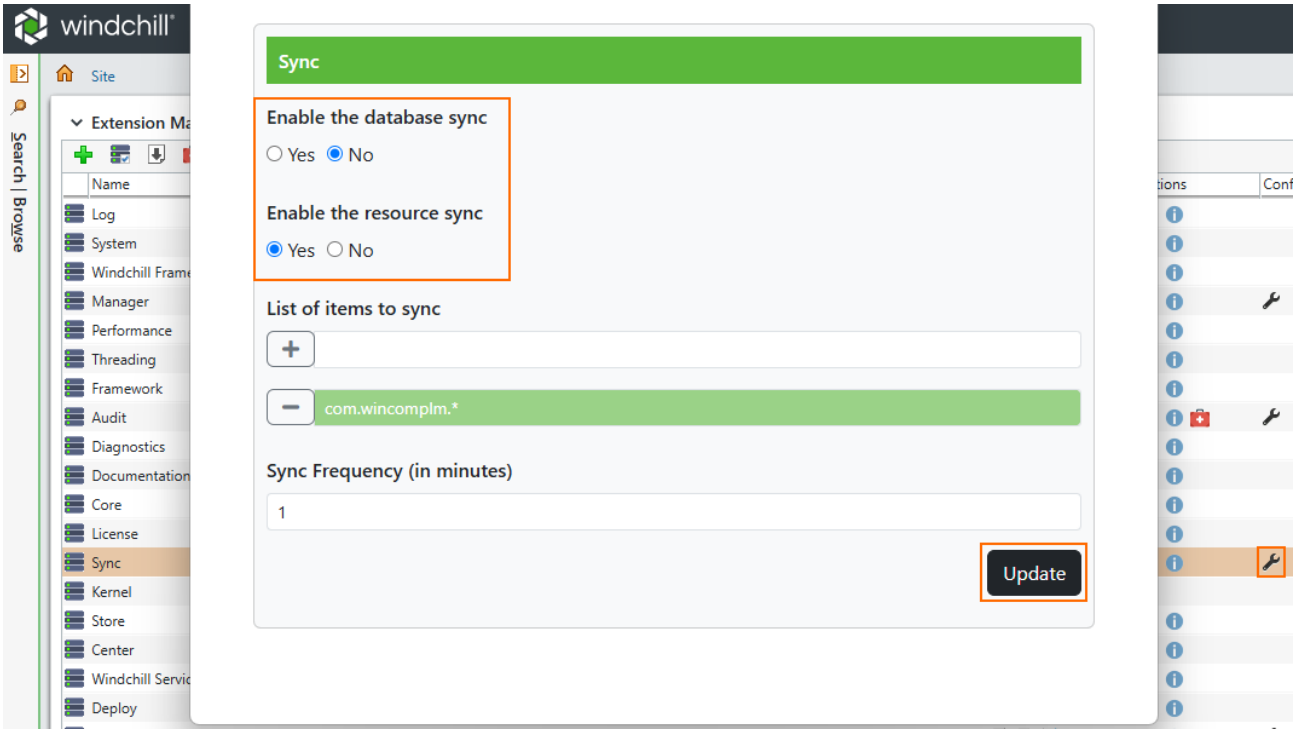
ID	SN11	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

Set the sync to read from the resource area and update the system if required

Actions

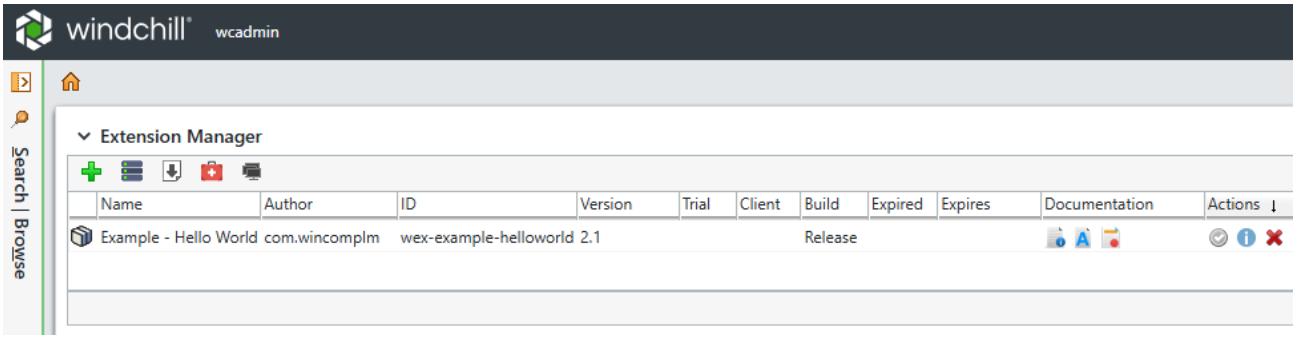
Set sync so that the resource sync is enabled but the DB is not



Result

The sync config is updated

New resource extension deployed									
ID	SN12	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	
Description									
The 2.1 Hello World extension will be deployed									
Actions									
Wait + or - 5 minutes for sync to trigger the automatic deployment of the extension									
Result									



Turn off Resource Sync									
ID	SN13	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	
Description									
Turn off the Sync that reads from resource area									
Actions									
Set the sync so that the resource sync is disabled and the DB is also disabled									
Result									
The sync config is updated									

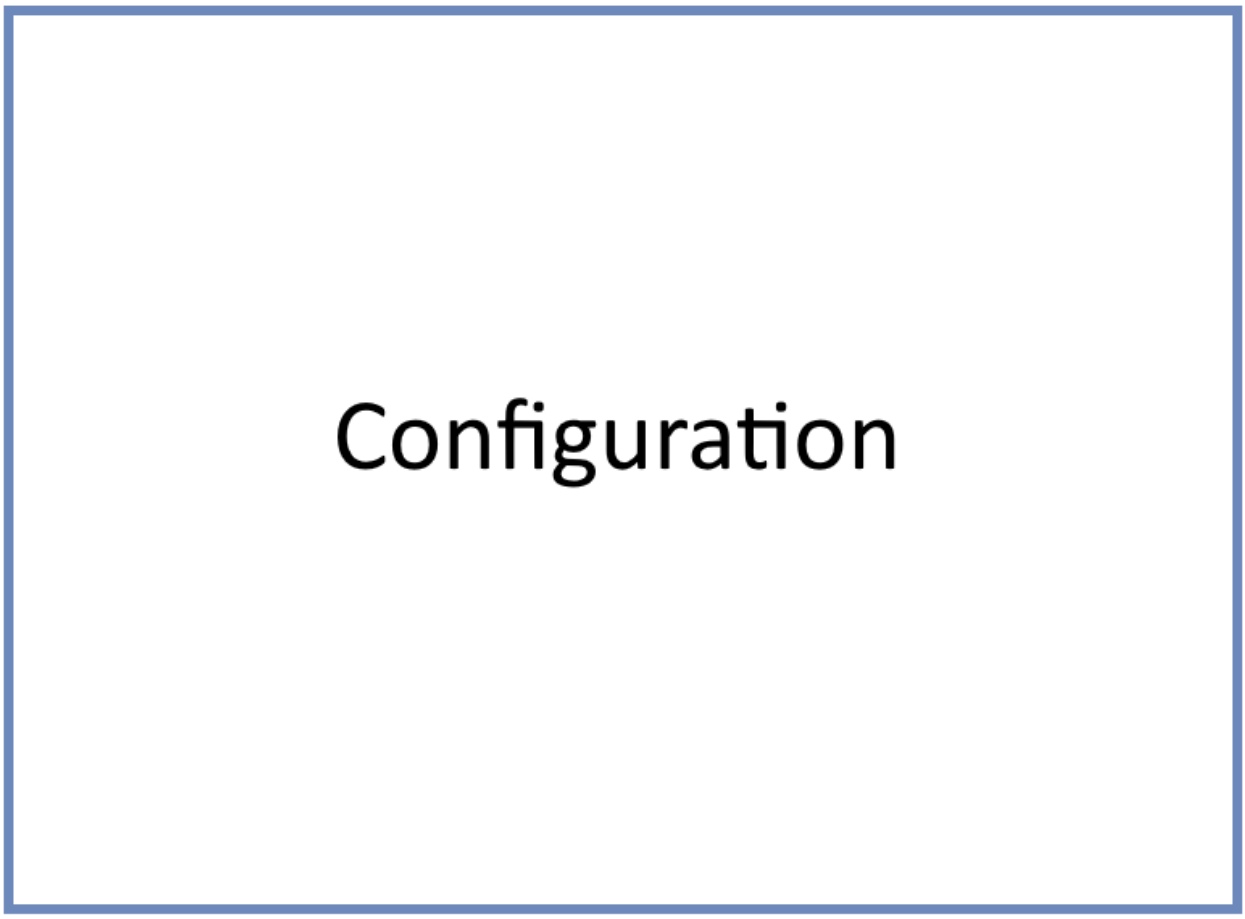
Undeploy all test Extensions									
ID	SN14	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	
Description									
Ensuring that all extensions used for Sync testing are removed									
Actions									
Undeploy Hello World Example and Sync Example									
Result									
Extensions are undeployed									

Configuration

ID	C1	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

Testing the way the platform manages configurations



Install the configuration example

ID	C2	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

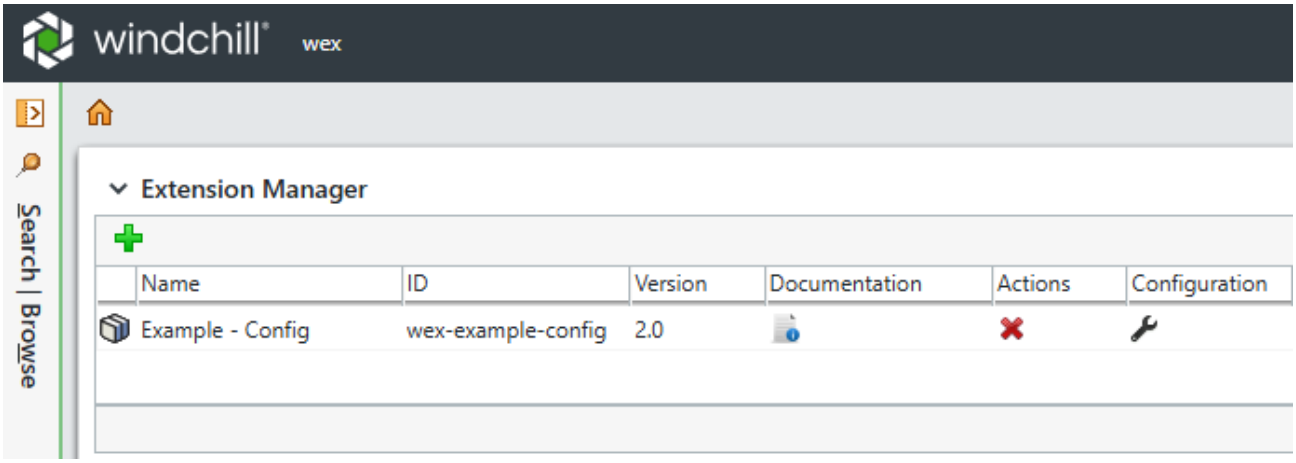
The configuration options include ones that are available to the extension admin

Actions

Download and install the configuration example extension

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-config-2.0-13.1.wex

Result



Check the security report of the example shows the correct information									
ID	C3	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	

Description

The security reports will show which options are made visible to the Extension Admins

Actions

No action, this is for information only

Result

Configuration

The configuration options for both Site Admin and Extension Business Configuration

Business Manager Options

Category	Name	Type	Description	Required
Business Admin	businessString	String	An option visible to the business admins	false

Admin Options

Category	Name	Type	Description	Required
Basic	exampleString	String	Simple string	false
Basic	exampleBoolean	boolean	Boolean	false
Collections	exampleList	List	String list	false
Collections	exampleMap	Map	String map	false
Collections	exampleStateList	List	String list with handler	false
Security	examplePassword	String	Password	false

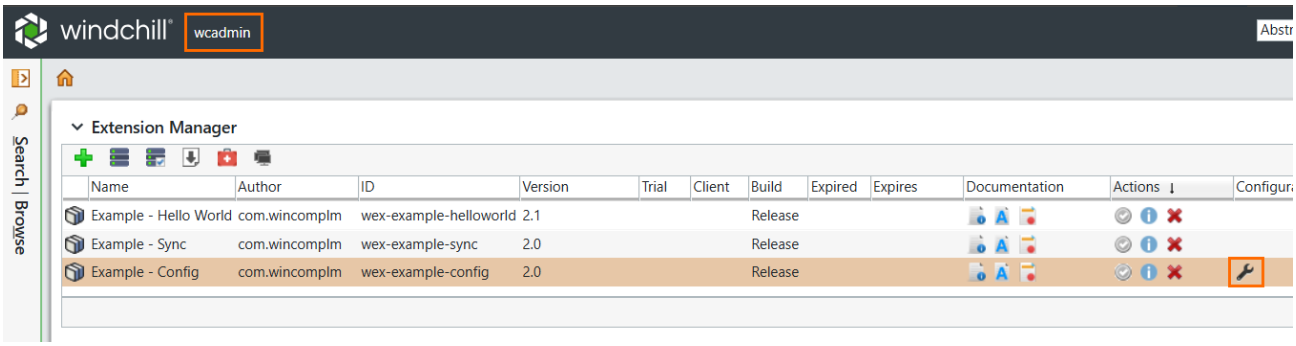
Check site admin has full access to the configuration

ID	C4	Category	Functional	Security	NA	Execution	Manual	Reference	

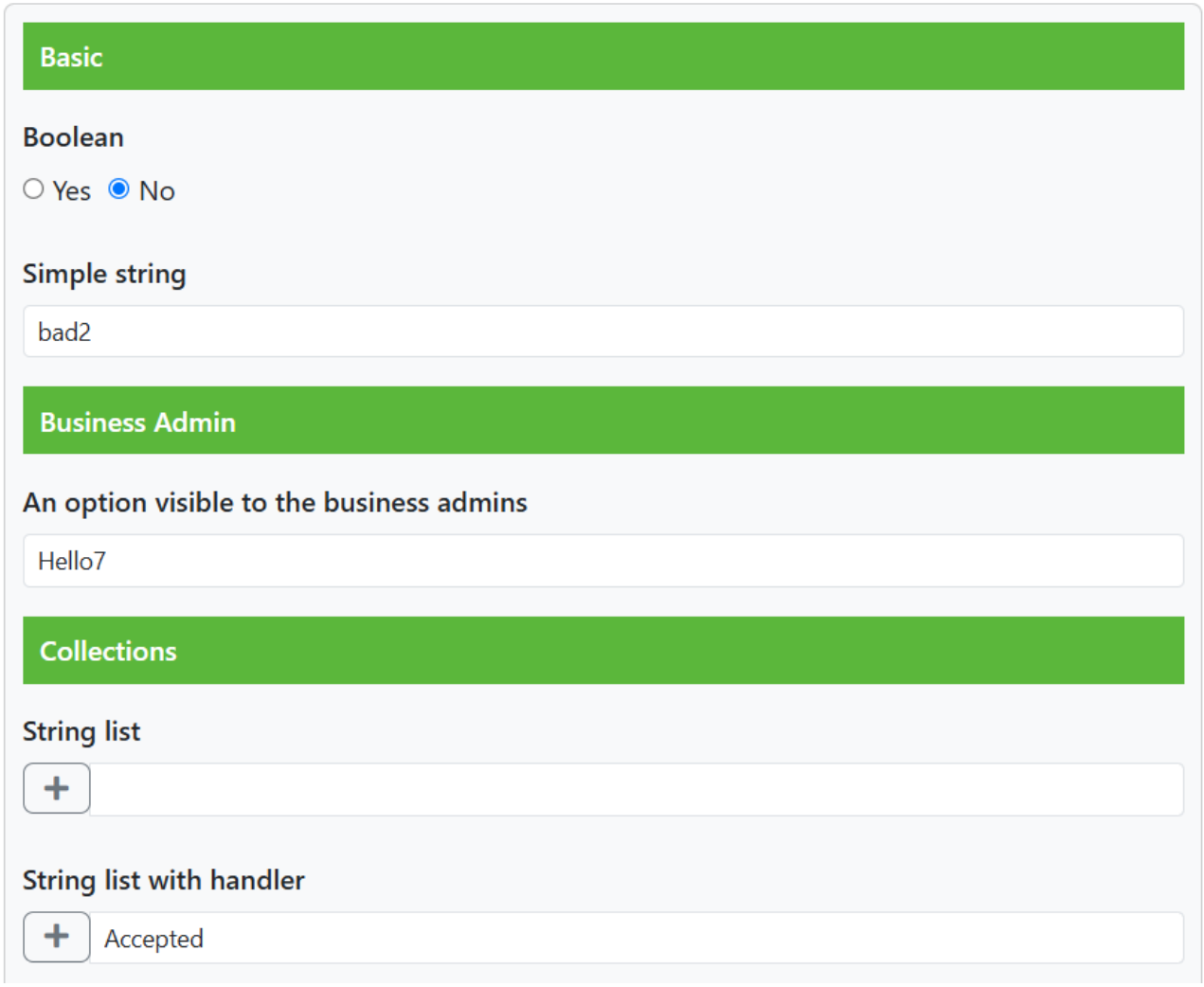
Description

All configurations items are visible

Actions



Result



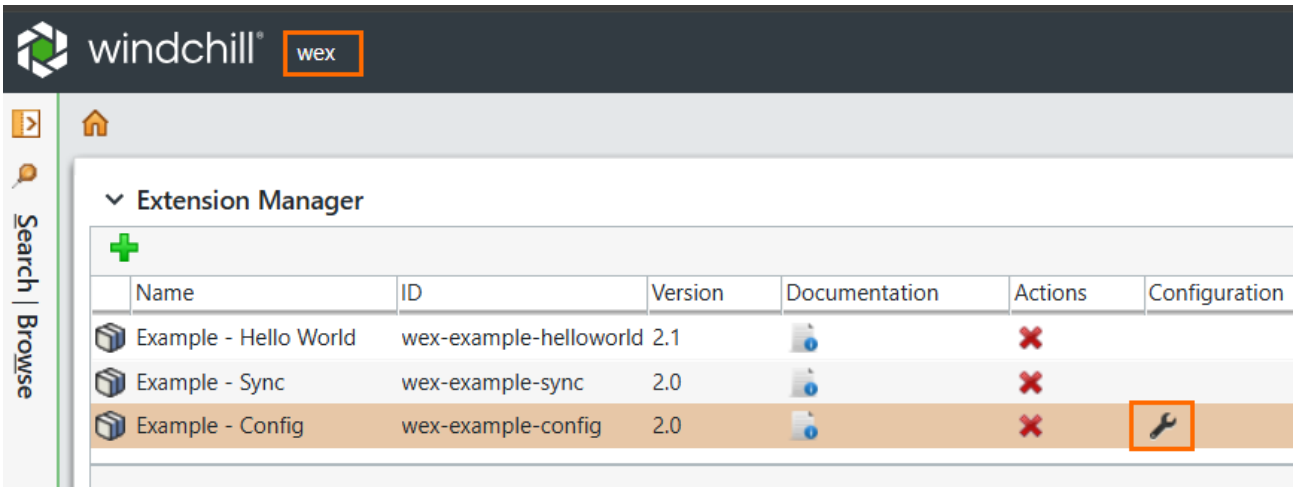
Check extension admin has limited access to the configuration

ID	C5	Category	Functional	Security	NA	Execution	Manual	Reference	

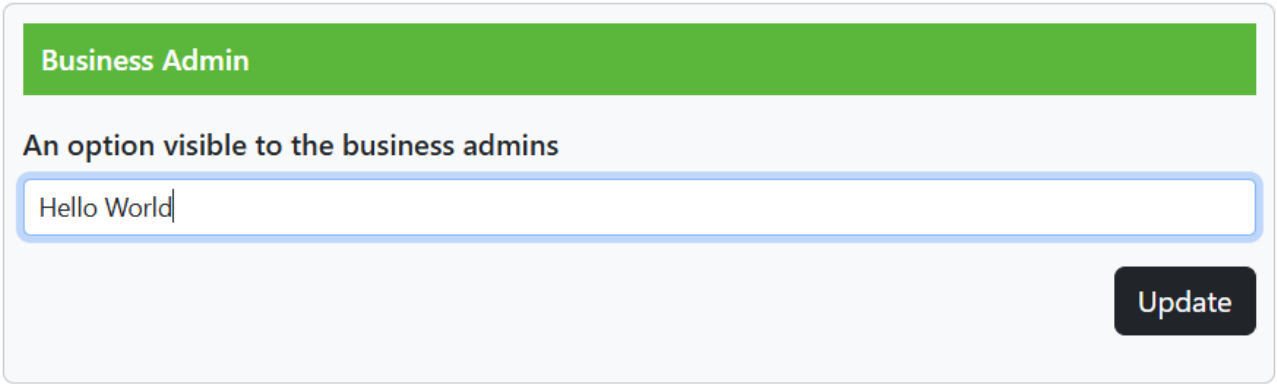
Description

Only items annotations as business are visible

Actions

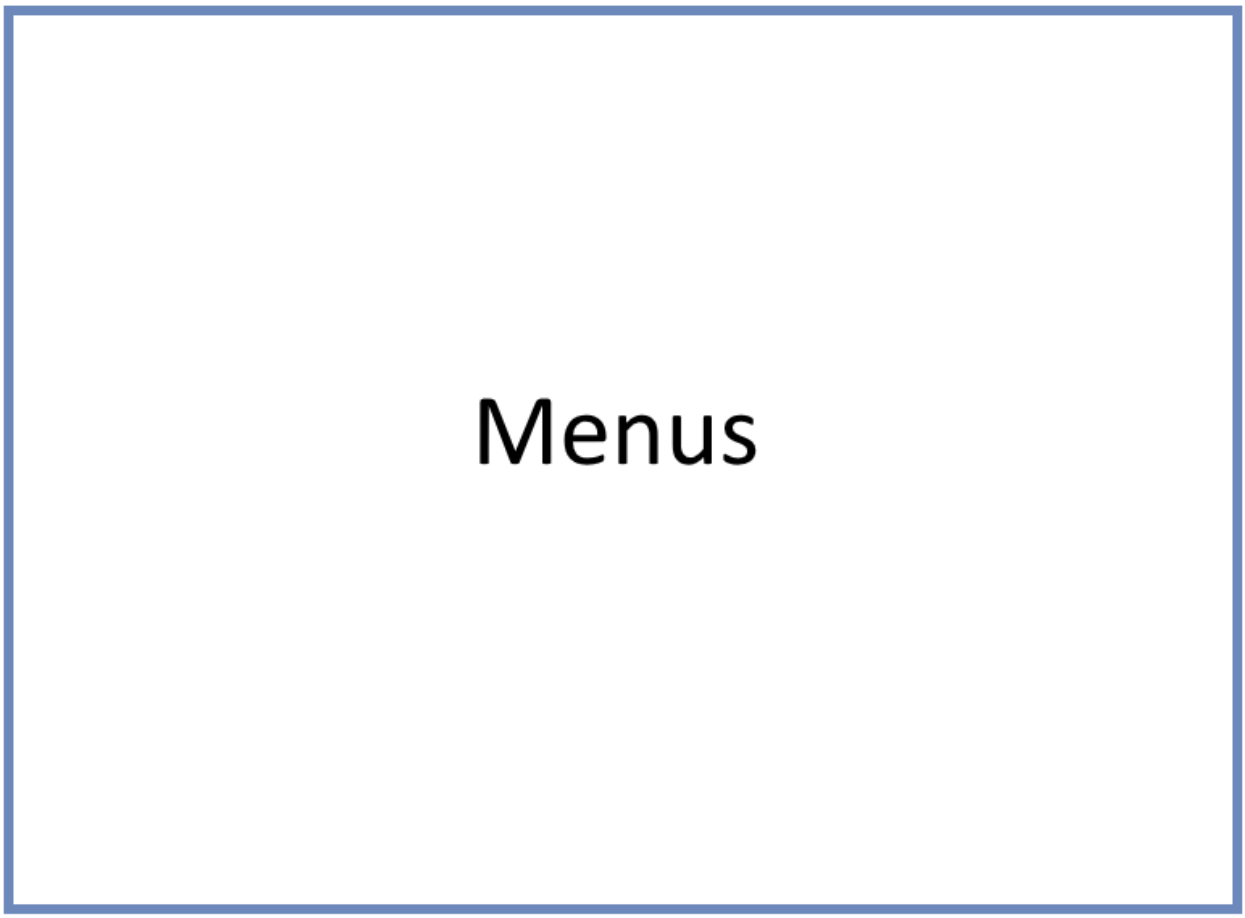


Result



Check configuration can be changed									
ID	C6	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	
Description									
Ensure configuration is updated for an Extension									
Actions									
Show System Extensions, go to Audit and change the configurationAfter updating check Method Server for any errors									
Result									
Configuration for Audit should be changed and saved									

Menus									
ID	MN1	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	
Description									
Testing the extension menu options									



Check menu is added on deploy

ID	MN2	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

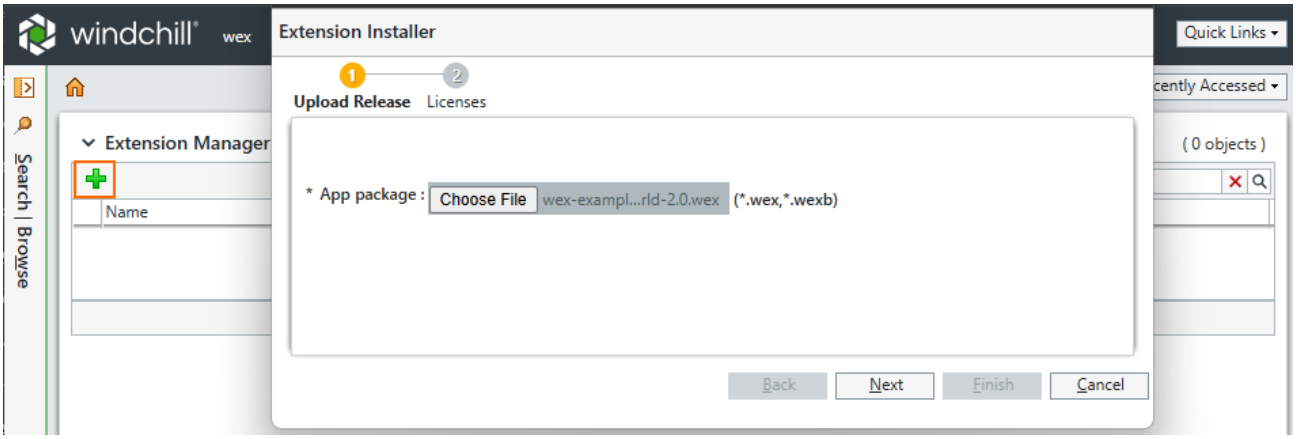
This extension will add a menu in the Quick Links

Actions

Download and deploy test extension

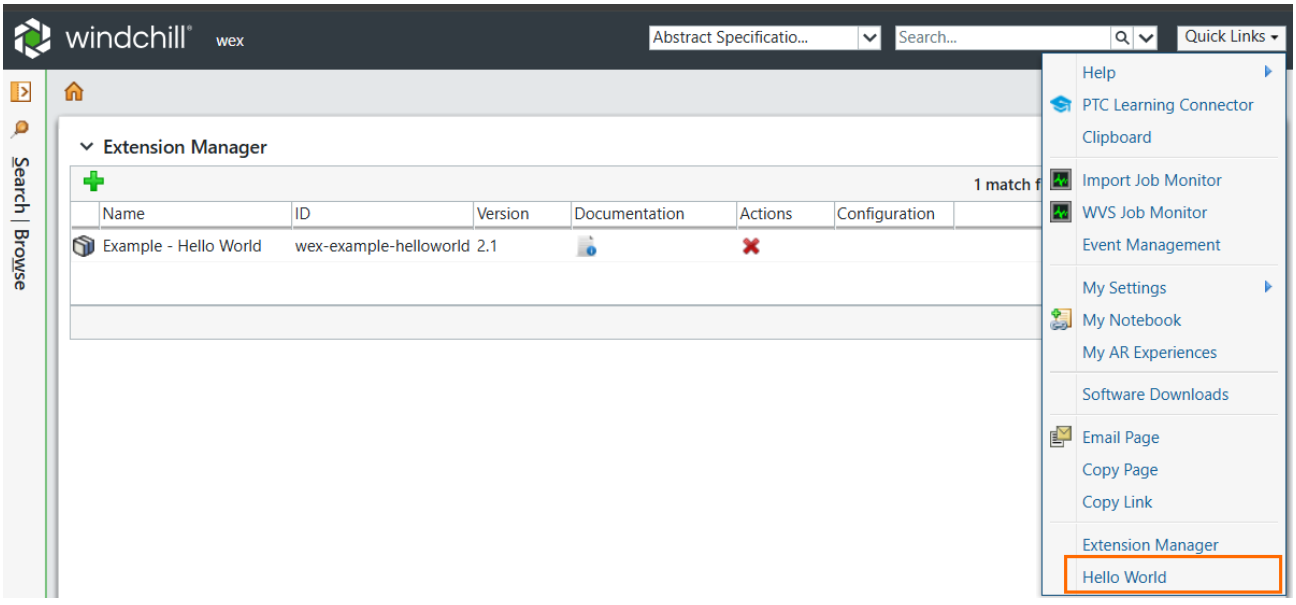
Click the link below to download the test extension and deploy

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-helloworld-2.0-13.1.wex



Result

Check the menus are visible
Will require a browser refresh



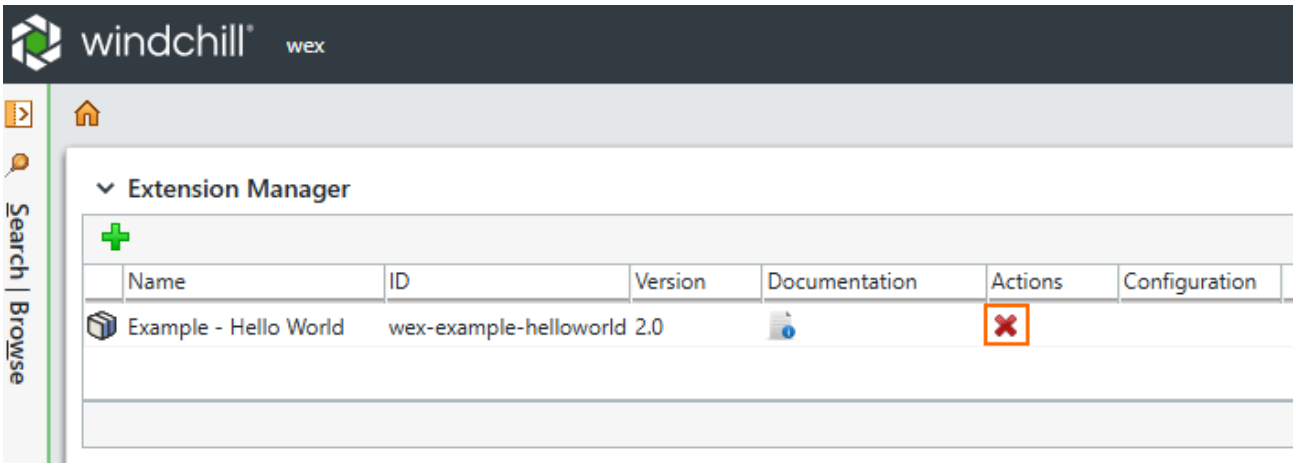
Check menu is removed on undeploy

ID	MN3	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

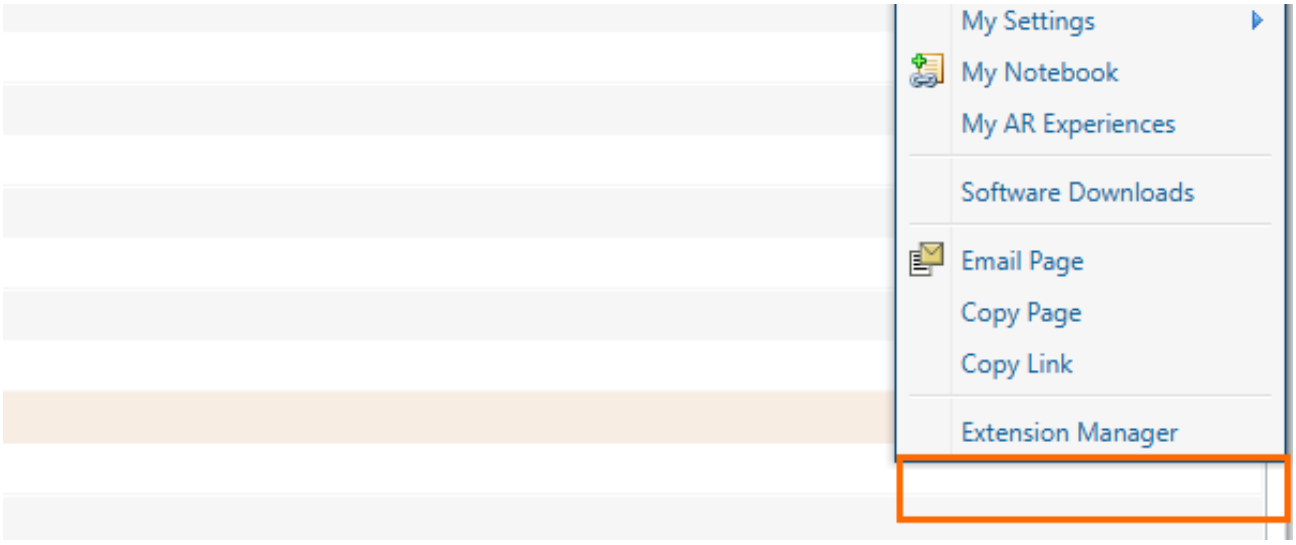
This undeploy removes the menu from the Quick Links

Actions



Result

Check the menus are not visible
Will require a browser refresh



Listeners									
ID	L1	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	
Description									
Testing the extension listener options									

Install a test listener extension

ID	L2	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

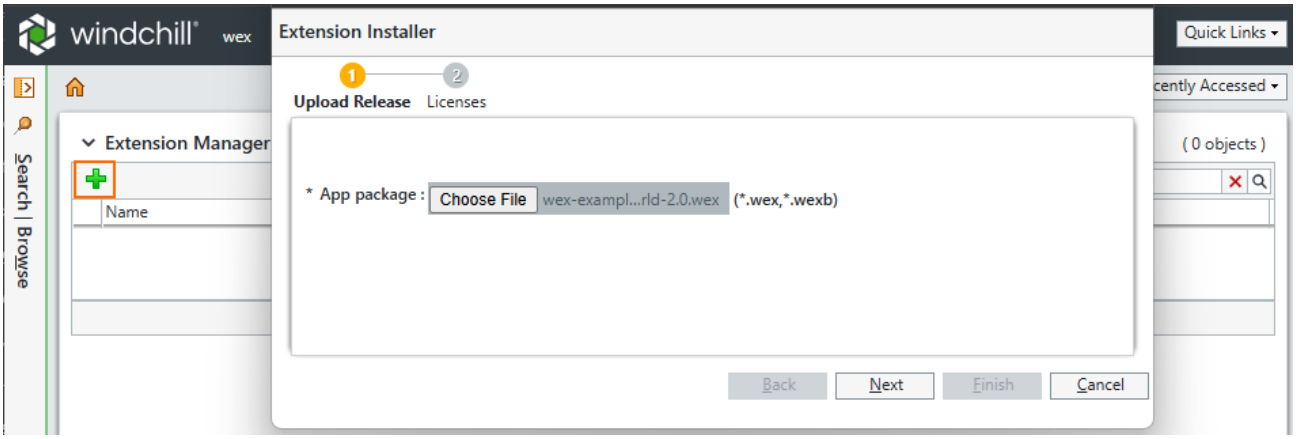
This example has two listeners that can be used for testing

Actions

Download and deploy test extension

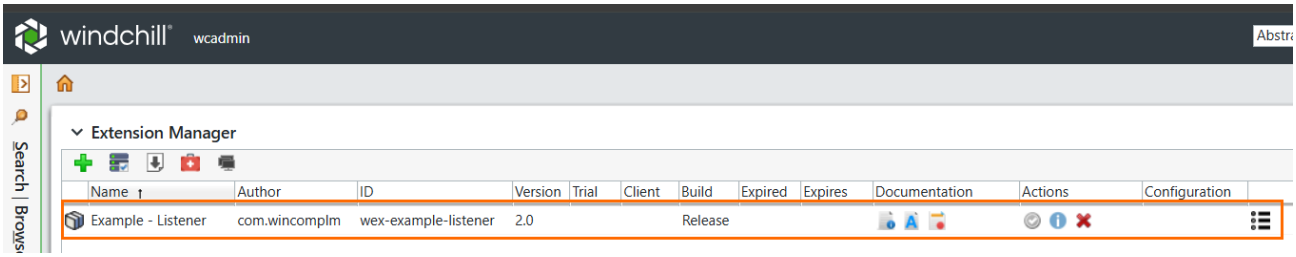
Click the link below to download the test extension

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-listener-2.0-13.1.wex



Result

Installation is successfull



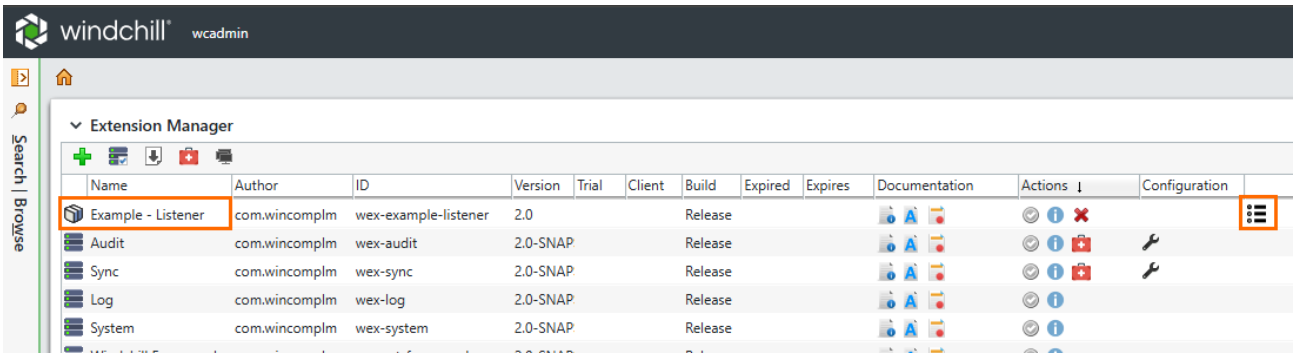
Check the extension shows the configurable interface

ID	L3	Category	Functional	Security	NA	Execution	Manual	Reference	

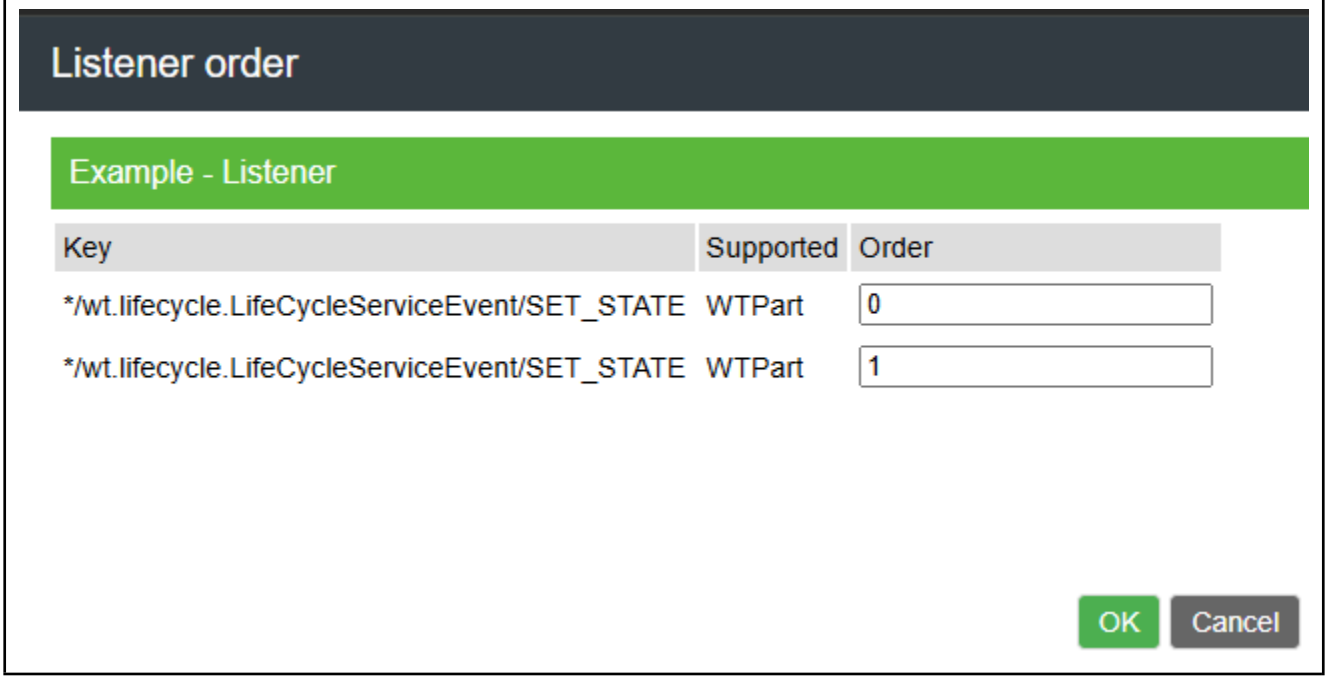
Description

The system config extension will generate a UI to control the order the listener execution

Actions



Result



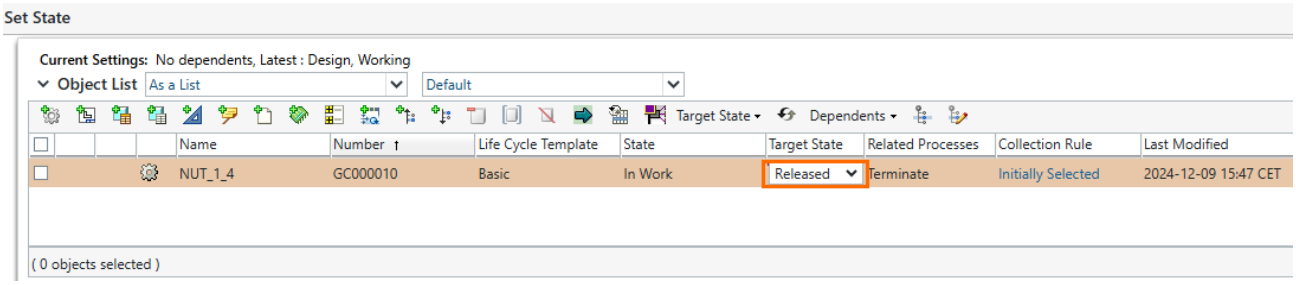
Fire the listener

ID	L4	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

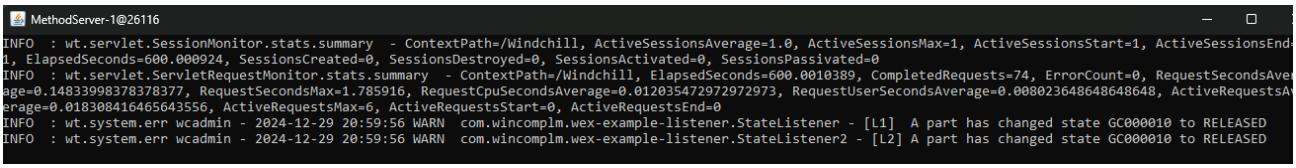
Set the state of one part in the system to trigger the listener

Actions



Result

Check the MS logs



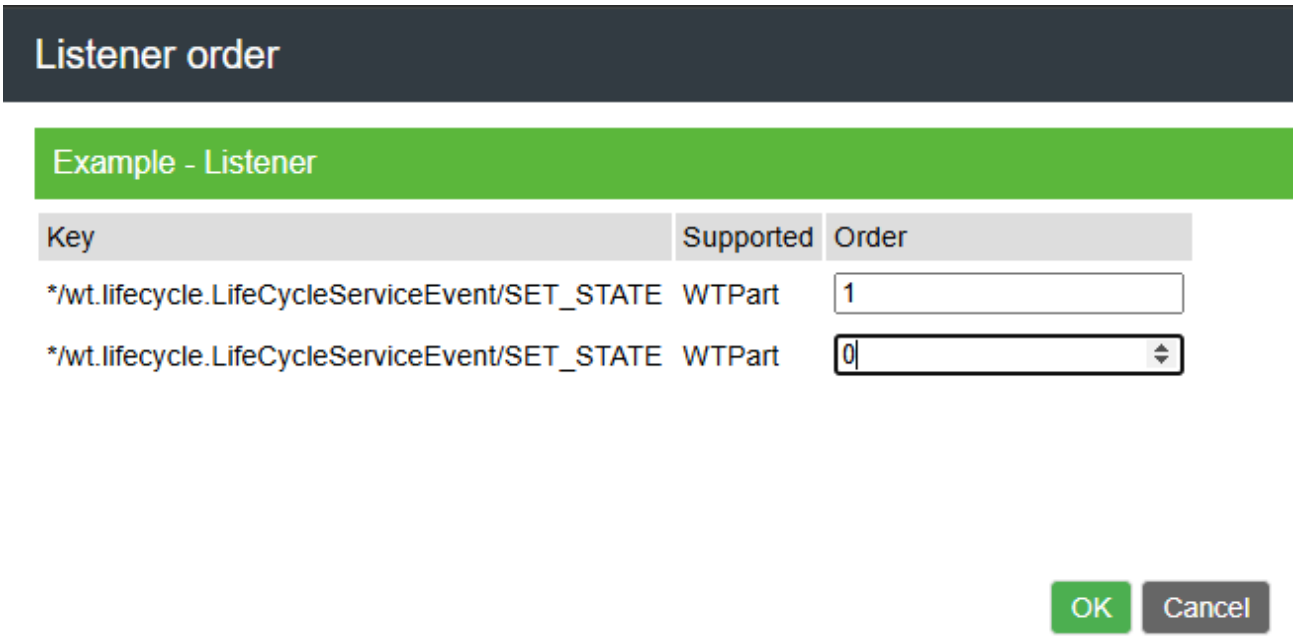
Alter the execution order

ID	L5	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

Make the L2 listener file after the L1

Actions



Result

Listener order is updated

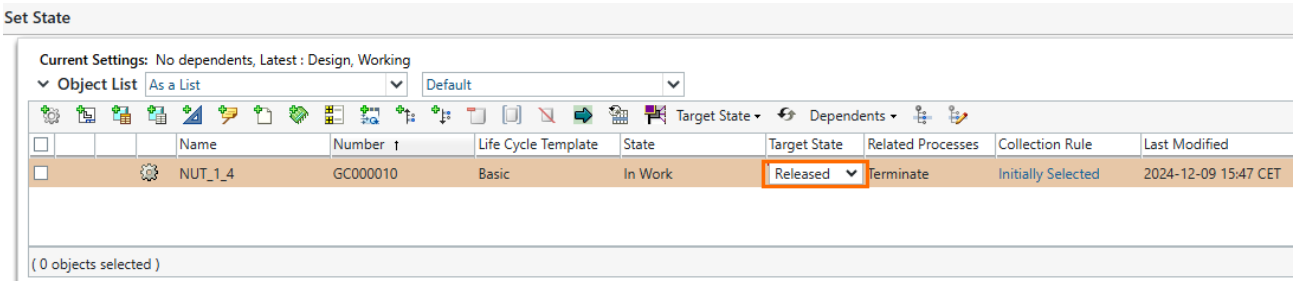
Fire the listener

ID	L6	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

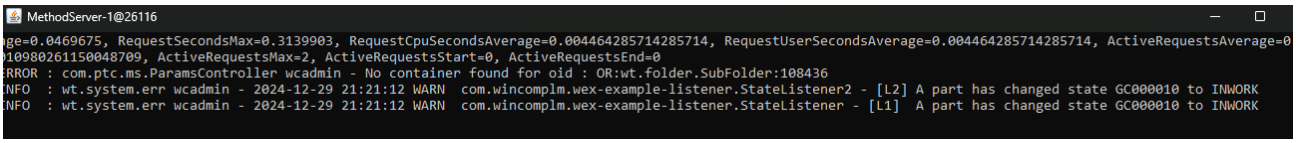
Set the state of one part in the system to trigger the listener

Actions



Result

Check the MS logs



Methods									
ID	G1	**Category**	Functional	**Security**	NA	**Execution**	Manual	**Reference**	
Description									

Testing the extension methods, for example invoking a method from a workflow

Install a test method extension

ID	G2	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

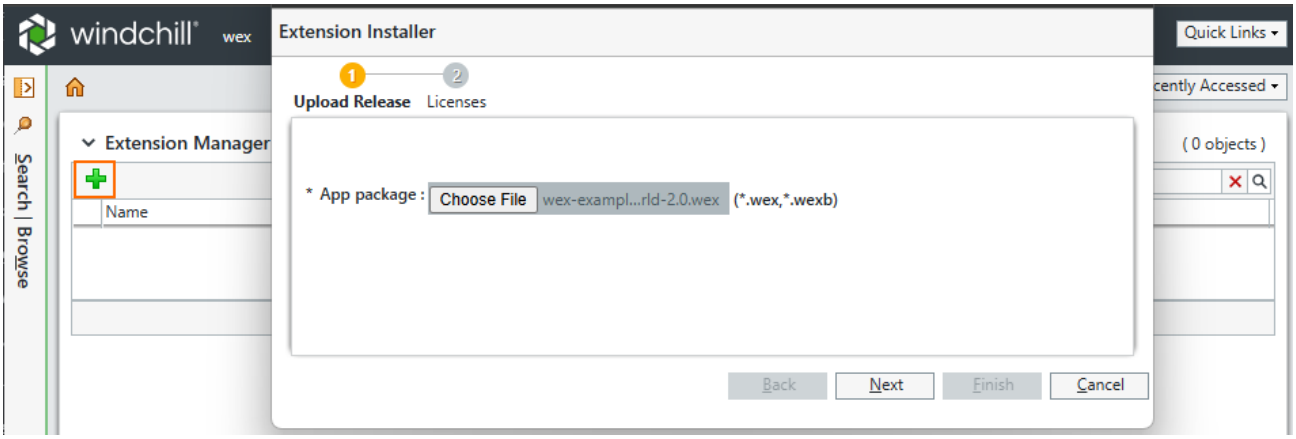
This example has various methods that can be invoked

Actions

Download and deploy test extension

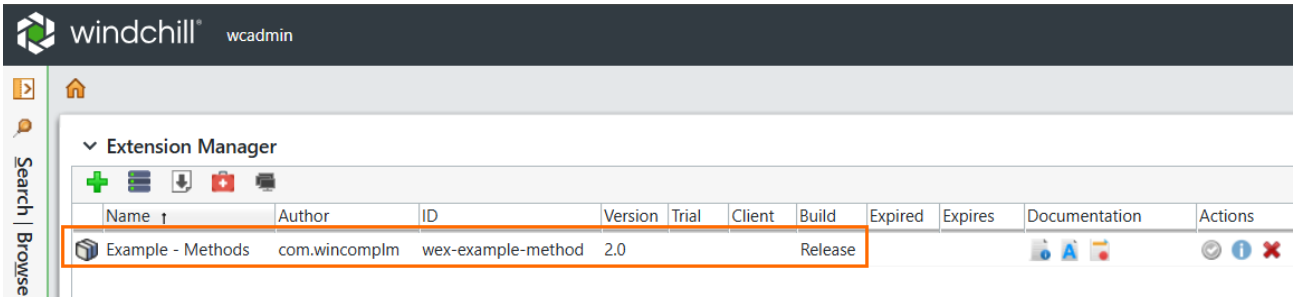
Click the link below to download the test extension

https://github.com/wincomplm/edk/raw/refs/heads/main/access/test-wexes/13.1/wex-example-method-2.0-13.1.wex



Result

Installation is successfull



Test method execute via JSP

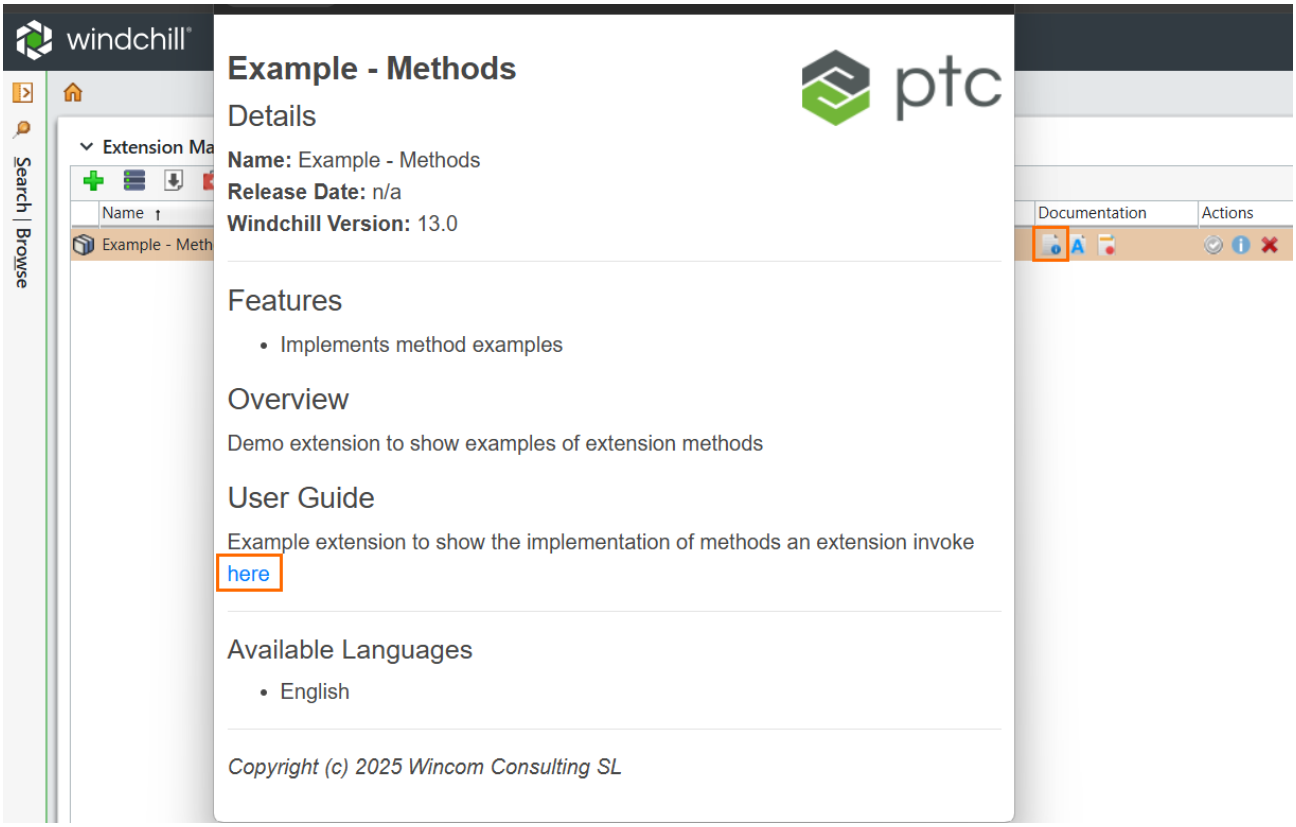
ID	G3	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

The extension code is isolated and so for any code running in the Windchill codebase to access it (e.g. with JSP) the WexInvoke API must be used.
The extension page has a test JSP

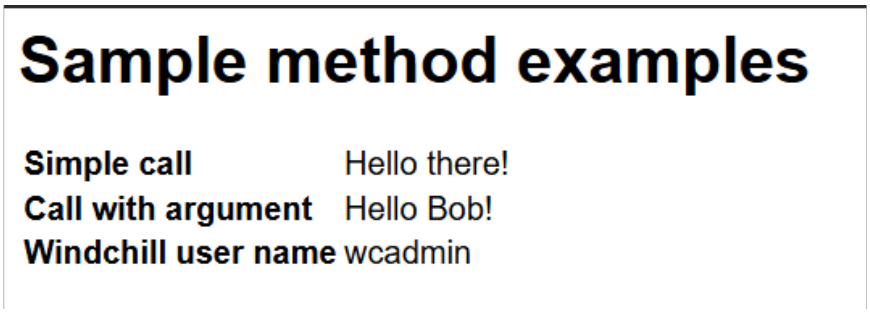
Actions

Access the documentation page and access the test page



Result

Page loads successfully



Create a workflow to execute a WexInvoke

ID	G4	Category	Functional	Security	NA	Execution	Manual	Reference	

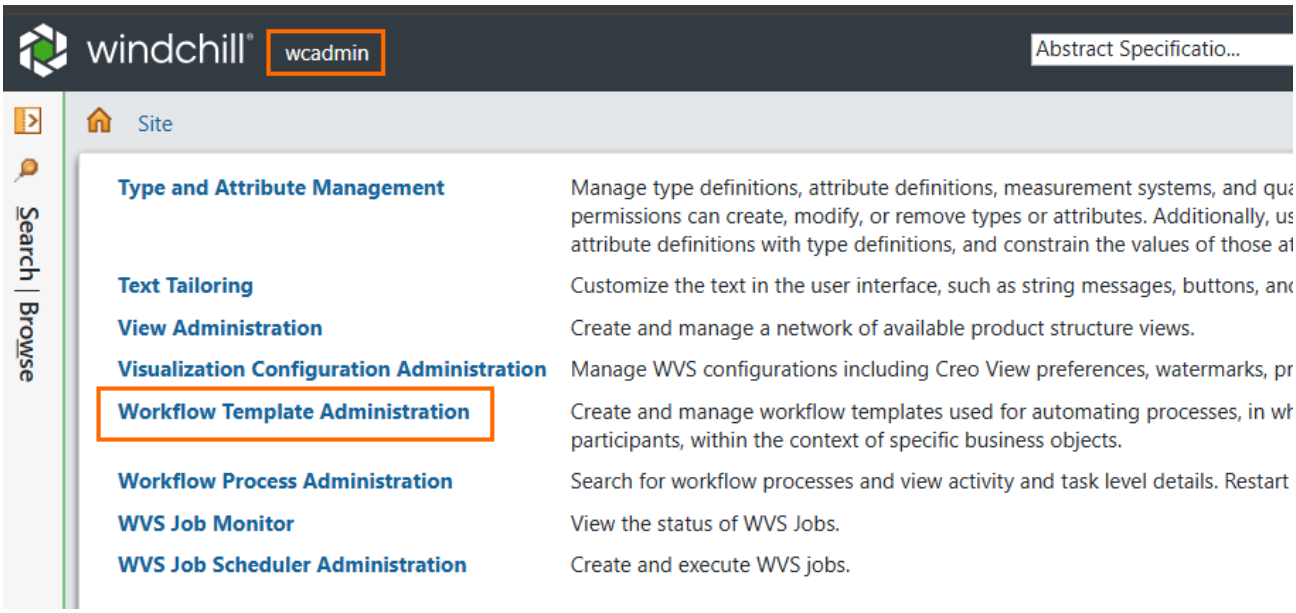
Description

Like a JSP the workflow code runs in the Windchill codebase and the wex code is hidden and must be accessed by an invoke

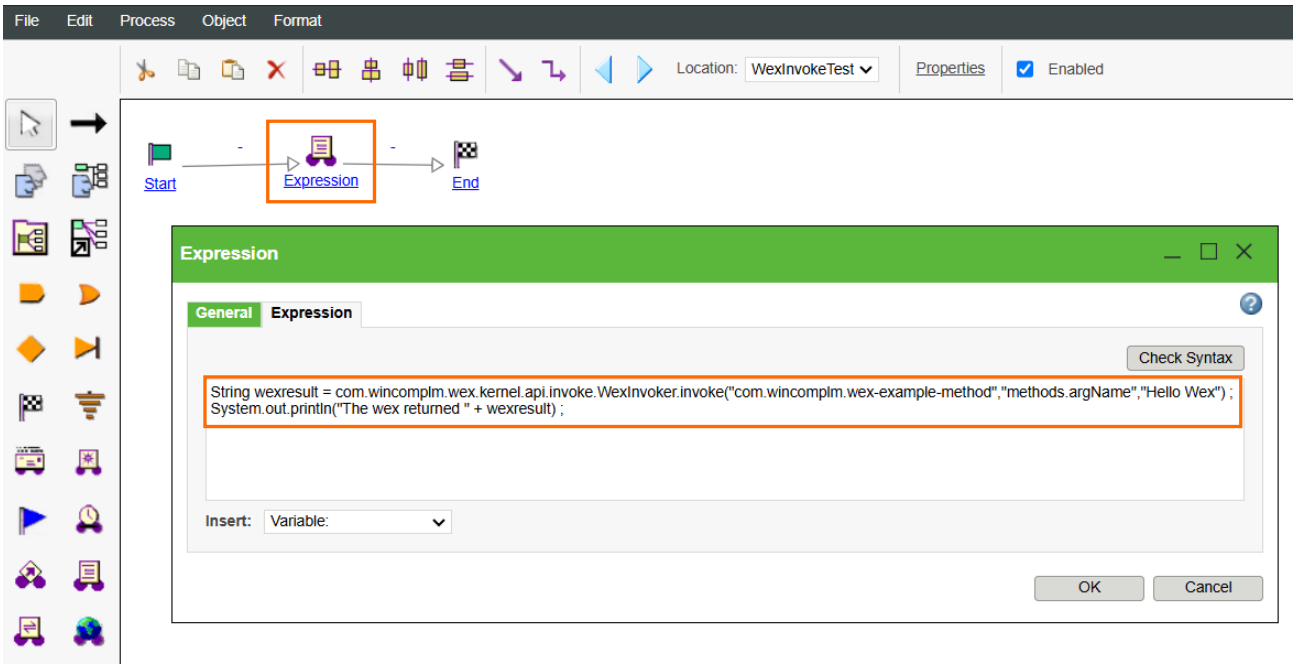
Actions

Create the new workflow as site admin using the Workflow Templates from the site.
The execution robot should have the following code

String wexresult = com.wincomplm.wex.kernel.api.invoke.WexInvoker.invoke("com.wincomplm.wex-example-method","methods.argName","Hello Wex") ;
System.out.println("The wex returned " + wexresult) ;



Result



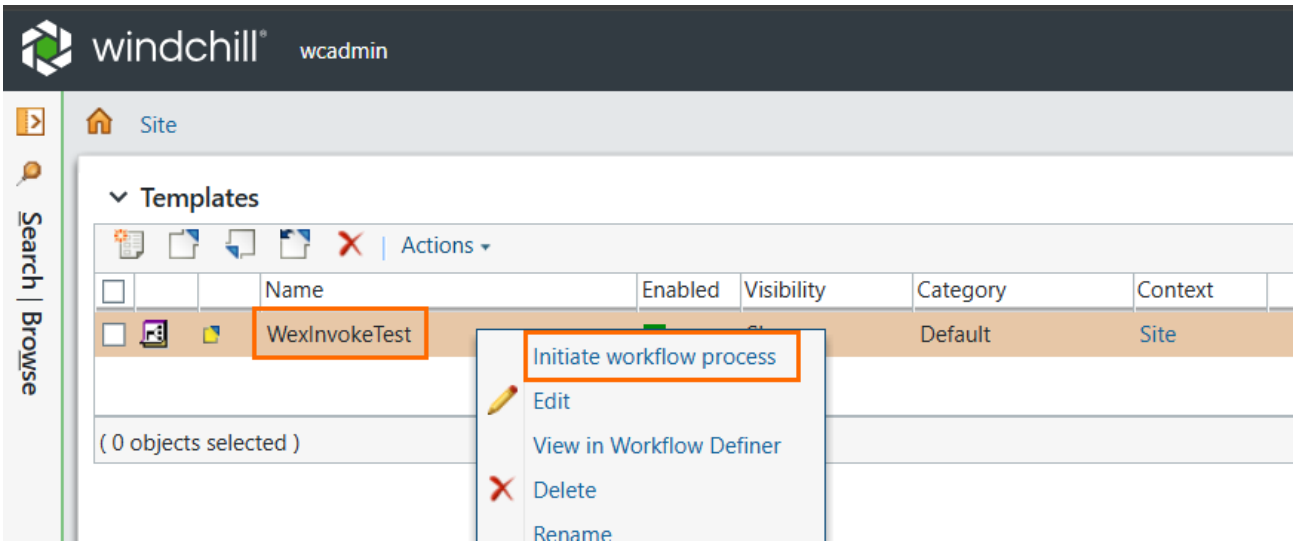
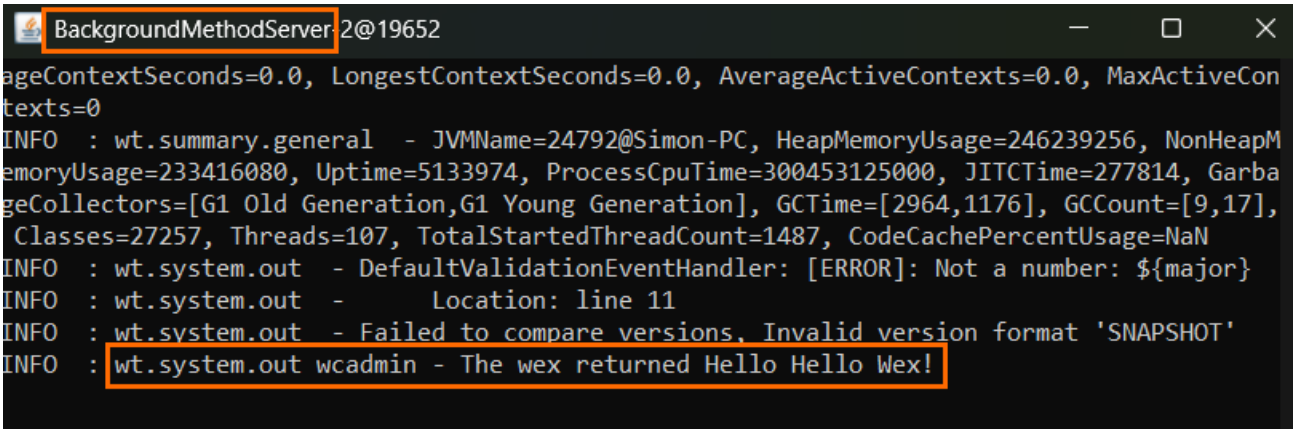
Initiate a workflow to execute a WexInvoke

ID	G5	Category	Functional	Security	NA	Execution	Manual	Reference	

Description

The workflow with display a String in the Background Method Server log

Actions



Result