

chawn
+44 (0)121 314 2253
info@chawn.com

AppVCloudSync

Build 1812

For

CITRIX®

Virtual Apps and Desktops Service

November 2018

Integrates Microsoft App-V with the Citrix Virtual Apps and Desktops Service

AppVCloudSync synchronises Microsoft App-V applications to Citrix published applications

Create Citrix published App-V applications that support http and UNC streaming sources

App-V packages may be streamed from (load balanced) URLs or SMB file paths

Synchronises Active Directory Groups

Synchronises Microsoft App-V package security groups to Citrix published App-V Applications

Creates customised virtual applications

Microsoft App-V applications can be synchronised with customised command line arguments

Single Instance Application Management

Associate published applications with multiple delivery groups

Reports

Microsoft App-V Inventory, Citrix published applications, Linked Citrix Applications / App-V Packages

The screenshot displays the AppVCloudSync application interface, which is divided into several sections:

- Virtual Apps and Desktops Service:**
 - Customer ID: chawnlimited
 - Tree view showing: cloudxdsite > Applications > App-V > Internet Explorer JRE 16
- Internet Explorer JRE 16 (Configuration):**
 - Enabled: True
 - UUid: f6cd7780-f6b0-4563-b1f4-bc8742
 - Published Name: Internet Explorer JRE 16
 - Add To StartMenu: False
 - StartMenu Folder:
 - Command Line: XDAppVLauncher.exe
 - Arguments: SW50ZXJuzXGgR.XhwbG9yZXIlgSUIFIDEuNg==
 - Working Directory:
 - Description:
 - App-V MetaData:
 - Application: [{ProgramFilesX86}]\Internet Explorer\iexplore.exe
 - Configuration ID:
 - Package ID: fe637354-5292-4088-9b04-fdf3b6e9fc76_13
 - Package Name: IExplore-JRE16
 - Package URL: N/A
 - Target in Package: N/A
 - Delivery Groups: XACC-DG01
 - Assigned Groups: CHAWN\Domain Users
- Microsoft App-V Packages:**
 - svr-appv01.chawn.local
 - Tree view showing: App-V Packages > IExplore-JRE16
- IExplore-JRE16 (Package Details):**
 - Enabled: True
 - Package GUID: fe637354-5292-4088-9b04-fdf3b6e9fc76
 - Version GUID: 34f38274-50a6-446a-bbb9-f02e754e939
 - Package URL: \\svr-appv01\appv\E-JRE.001\Explore-JRE16_10_5.appv
 - Package ID: 13
 - Version: 0.0.0.5
 - Assigned Groups: CHAWN\Domain Users
 - Citrix Applications: App-V\Internet Explorer JRE 16

System Requirements

Operating Systems

Windows 7 or higher (64-Bit), 2012R2, 2016

Supporting Software

Microsoft .Net Framework 4.5

Microsoft PowerShell 3.0

Citrix Remote PowerShell SDK

System Configuration

Required Components

Citrix Virtual Apps and Desktops Service subscription – Full Access permissions

Remote API Secure Client Profile (secureclient.csv)

Microsoft App-V 5.0 / 5.1 Infrastructure

Microsoft App-V 5.0 / 5.1 Client for RDS and [XDAppVLauncher](#) Agent installed (or enabled) on all Session Hosts

Microsoft App-V Group Policy Object to configure App-V Publishing Server location for Virtual Desktop Agents

System Permissions

Group Membership

Membership of Microsoft App-V administrators (Domain Group)

Membership of 'Remote Management Users' or 'Administrators' on Microsoft App-V Management Servers

Ports / Communications

Source	Destination	Port	Description
AppVCloudSync	App-V Management Server	5985	WSMan (Management)
AppVCloudSync	App-V Streaming Service	80 / 443	http / https (App-V Package Access)
AppVCloudSync	App-V File Share	445	SMB (App-V Package Access)
AppVCloudSync	localhost	5985	WSMan (Management)
AppVCloudSync	Citrix Cloud	443	Citrix Remote Powershell SDK

VDA Configuration

Session Hosts

The Microsoft App-V Client 5.0 / 5.1 for RDS must be installed (or enabled) on all Citrix Virtual Desktop Agents that will host App-V applications.

Additionally the [XDAppVLauncher](#) agent is required to synchronise App-V packages at user logon and to launch App-V applications. Download [XDAppVLauncher](#) and install on all Citrix Virtual Desktop Agents that will host App-V applications.

Synchronising....



Citrix Virtual Desktop Agents must be able to access the App-V publishing service and the App-V package store. The App-V package store may be a UNC file share or an http(s) streaming service.

VDA Configuration

App-V Publishing Server URL

A Microsoft Group Policy Object must be created and linked to the Active Directory Organisational Unit containing the Citrix Virtual Desktop Agents, to configure the App-V Publishing Server URL and App-V Client settings.

Computer Configuration (Enabled)

Policies

Administrative Templates

Policy definitions (ADMX files) retrieved from the local computer.

System/App-V

Policy	Setting
Enable App-V Client	Enabled

System/App-V/CEIP

Policy	Setting
Microsoft Customer Experience Improvement Program (CEIP)	Disabled

System/App-V/Publishing

Policy	Setting
Publishing Server 1 Settings	Enabled
Publishing Server Display Name	svr-appv01
Publishing Server URL	http://svr-appv01.chawn.local:54321
Global Publishing Refresh	False
Global Publishing Refresh On Logon	False
Global Publishing Refresh Interval	0
Global Publishing Refresh Interval Unit	Day
User Publishing Refresh	True
User Publishing Refresh On Logon	True
User Publishing Refresh Interval	0
User Publishing Refresh Interval Unit	Day

System/App-V/Scripting

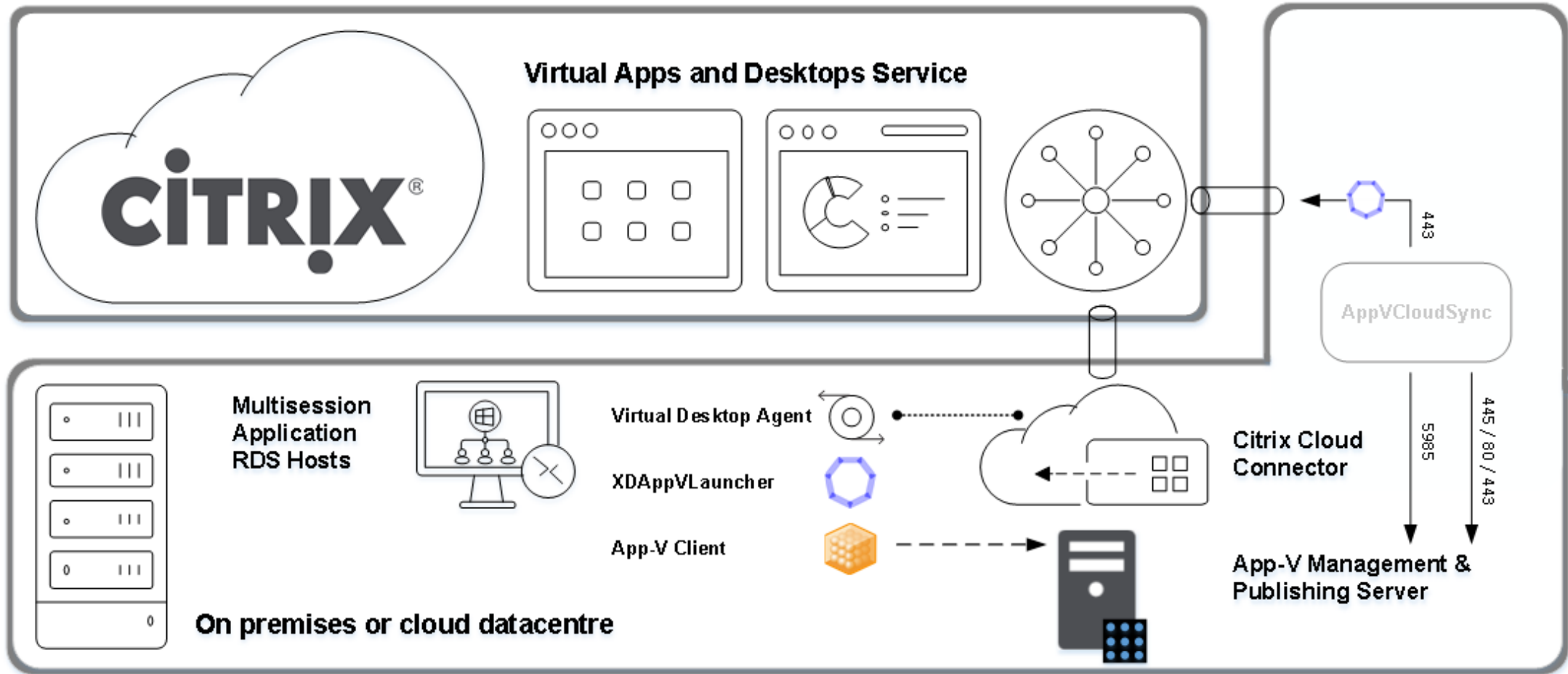
Policy	Setting
Enable Package Scripts	Enabled

System/App-V/Streaming

Policy	Setting
Shared Content Store (SCS) mode	Enabled
Verify certificate revocation list	Disabled

Solution Overview

AppVCloudSync synchronises Microsoft App-V Applications to the Citrix Virtual Apps and Desktops Service



Installation

Overview

AppVCloudSync communicates with the Citrix Virtual Apps and Desktops Service using the [Citrix Remote PowerShell SDK](#).

The Citrix Remote PowerShell SDK requires direct or proxy access to the Citrix Virtual Apps and Desktops Service using port 443.

AppVCloudSync communicates with on-premises App-V servers to enumerate App-V packages and App-V Management information. Please ensure that your device has access to the App-V Management server on port 5985, and the App-V package share on port 445 or the App-V streaming service (IIS) on ports 80 / 443.

AppVCloudSync may be installed on Citrix Cloud Connectors however it is recommended to install AppVCloudSync on a separate device so that Citrix Cloud Connectors remain dedicated to their primary role.

Before installing AppVCloudSync, please [download](#) and install the Citrix Remote PowerShell SDK

Note: The Citrix Remote PowerShell SDK is already installed on Cloud Connectors. Do **NOT** install the Citrix Remote PowerShell SDK on Cloud Connectors.

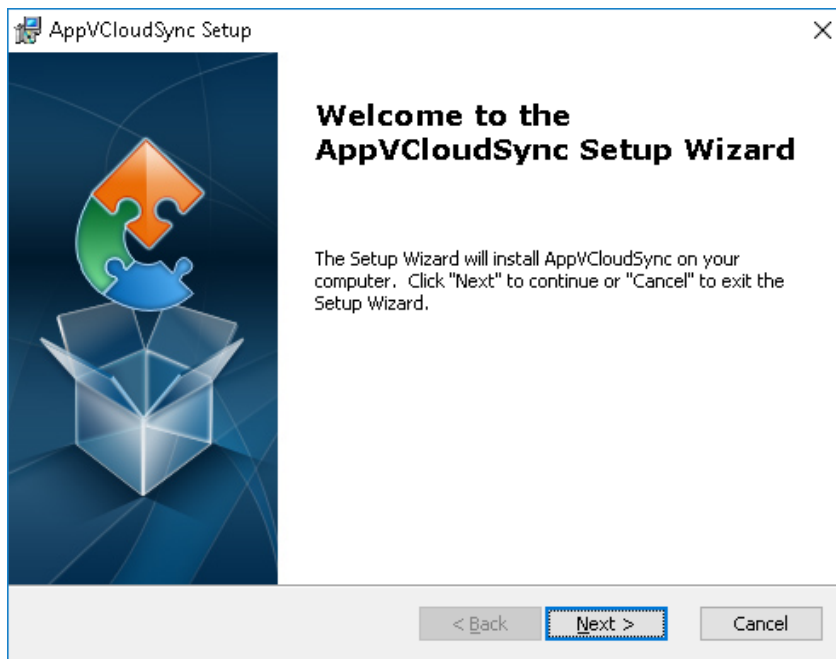
Installation

Manual Installation

AppVCloudSync may be installed on any Windows device that meets the system requirements.

Download AppVCloudSync from <http://www.chawn.com/downloads/AppVCloudSync1812.zip> and extract the contents.

Run **AppVCloudSync1812.msi** and follow the prompts.



Installation

Silent Installation

The following installation parameters are available.

Parameter	Value
CUSTID	Name of Citrix subscription Customer ID
APPVMGMTSVR	Name of a Microsoft App-V 5.0 / 5.1 Management Server
LICENSE	License Serial Number

Example silent installation.

```
msiexec /i AppVCloudSync1812.msi CUSTID=acmelimited APPVMGMTSVR=SVR-APPV01 LICENSE=12345678-87654321 /qb
```

Note: Administrative permissions are required for installation.

Installation

Configure Authentication

AppVCloudSync authenticates to the Citrix Virtual Apps and Desktops Service using a Secure Client API Profile (secureclient.csv).

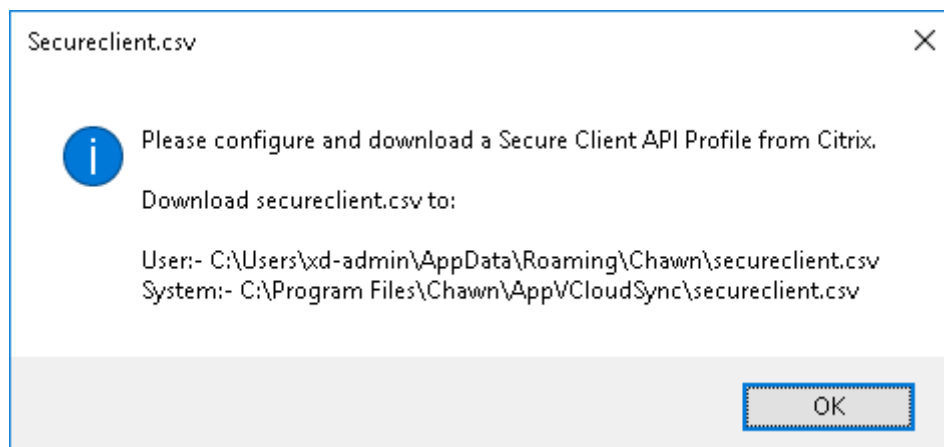
A Cloud API Secure Client Profile must exist in either:

- **%USERNAME%\AppData\Roaming\Chawn** (Recommended)
- or
- **C:\Program Files\Chawn\AppVCloudSync**

A Secure Client API Profile is user specific therefore it is recommended that each user creates and downloads their own secureclient.csv to **%USERNAME%\AppData\Roaming\Chawn**.

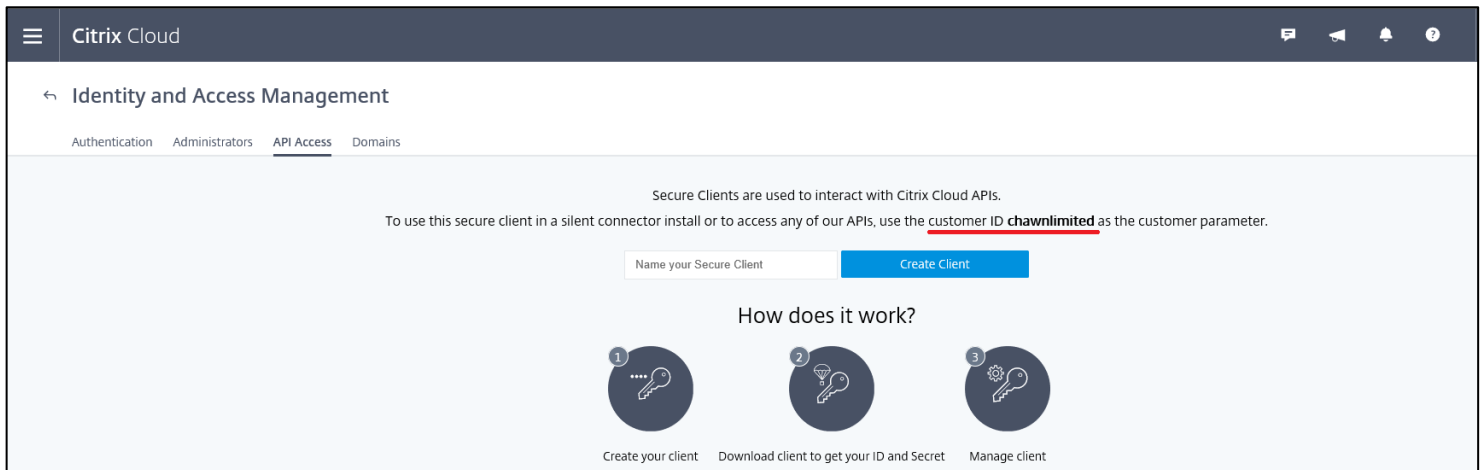
If the Secure Client API Profile is downloaded to **C:\Program Files\Chawn\AppVCloudSync**, then all users will share the same Secure Client API Profile and authenticate to the Citrix Virtual Apps and Desktops Service as the same user. This will be reflected in configuration logging events.

If you launch AppVCloudSync before configuring a Secure Client API Profile, you will receive the following message.



To create a Secure Client API Profile, logon to <https://cloud.citrix.com> as an Administrator with Full Access.

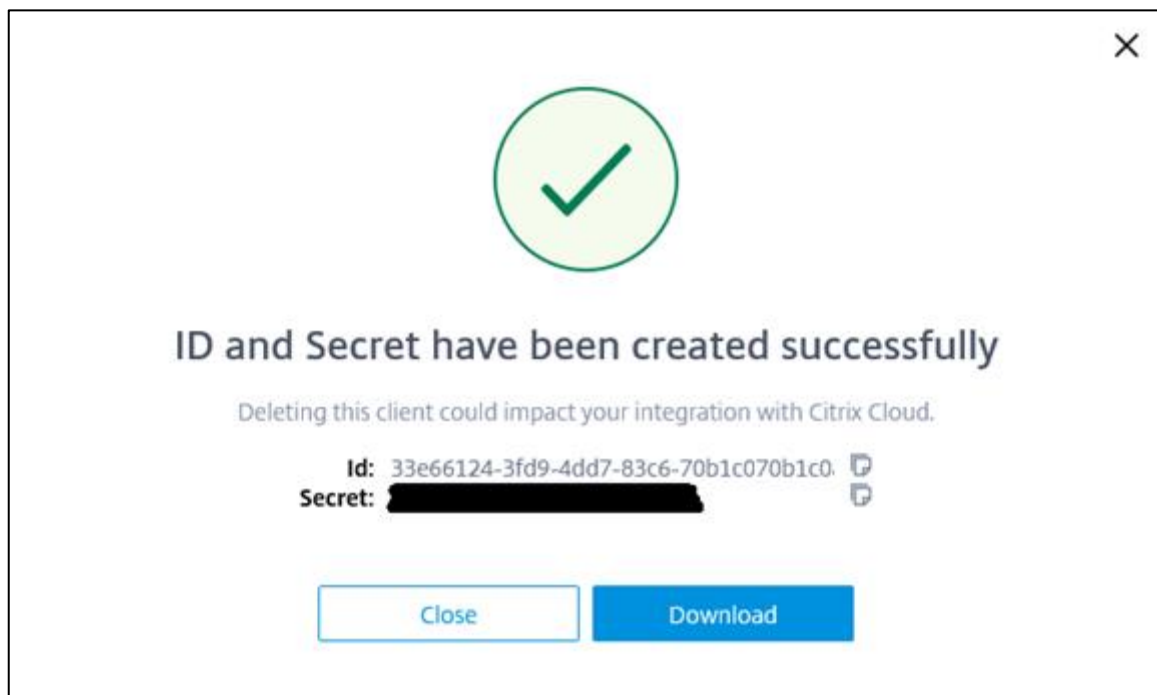
- From the Burger menu, click on 'Identity and Access Management'.
- Click on API Access.



- Make a note of your Customer ID.
- Enter a suitable name for the Secure Client.



- Click Create Client.



- Click Download.

It is recommended that you save secureclient.csv in %USERNAME%\AppData\Roaming\Chawn.

Start AppVCloudSync

First Launch

Click Start – AppVCloudSync - AppVCloudSync

The screenshot displays the AppVCloudSync application window. It is divided into two main sections, each representing a different service. Both sections are currently in a 'Disconnected' state.

Virtual Apps and Desktops Service:

- Customer ID:** A text field containing 'Citrix Cloud Customer ID' with a refresh icon to its right.
- Disconnected Status:** Shows 'Applications: 0', 'AppV Apps: 0', and 'Worker Groups: 0'.
- Reports:** Includes radio buttons for 'All Citrix Hosted Applications' and 'Citrix Hosted App-V Applications', with a 'Report' button.
- Info Icon:** A small blue information icon is located at the bottom left of this panel.

Microsoft App-V Packages:

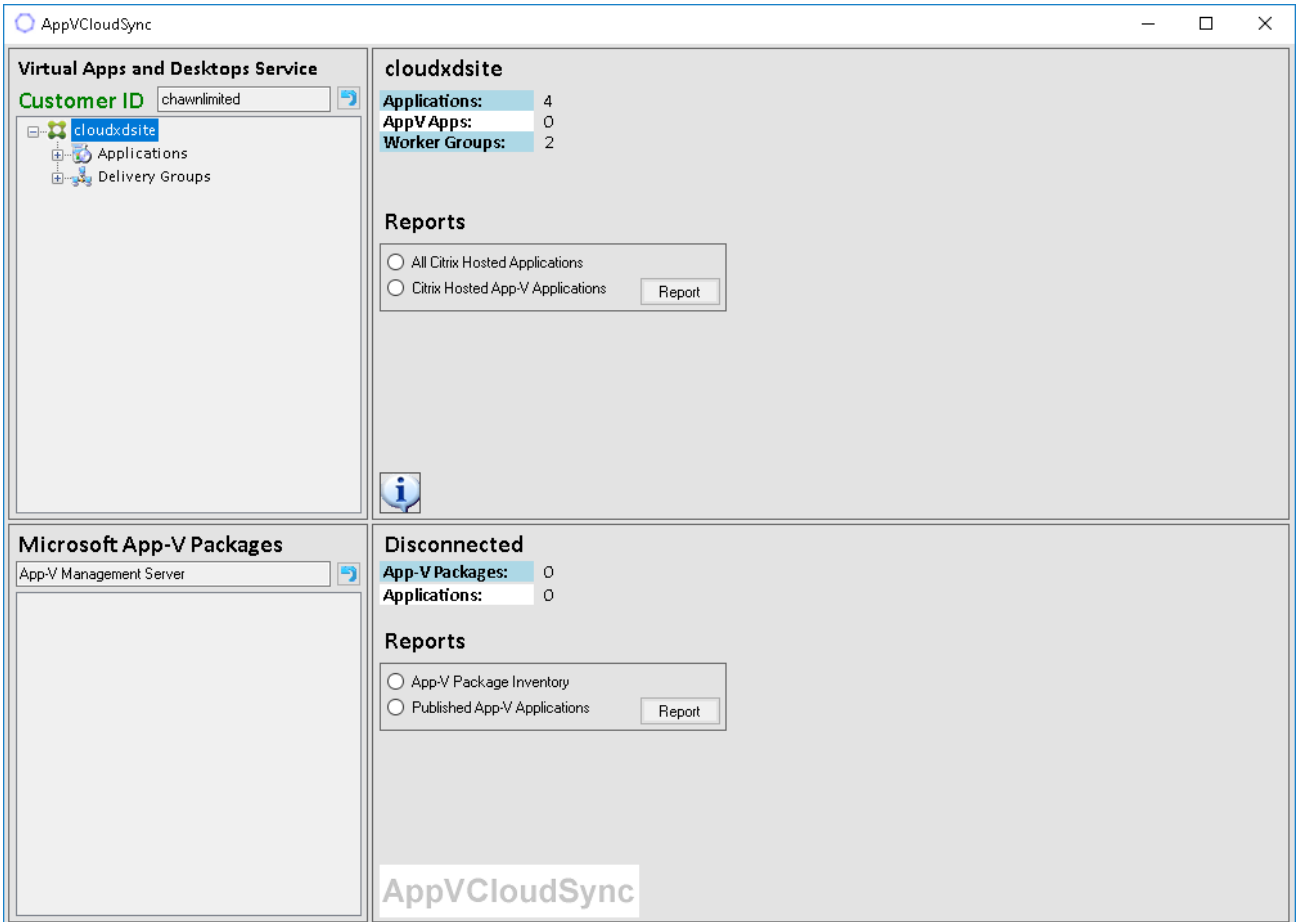
- App-V Management Server:** A text field containing 'App-V Management Server' with a refresh icon to its right.
- Disconnected Status:** Shows 'App-V Packages: 0' and 'Applications: 0'.
- Reports:** Includes radio buttons for 'App-V Package Inventory' and 'Published App-V Applications', with a 'Report' button.

The AppVCloudSync logo is visible at the bottom center of the application window.

Customer ID

Enter your customer ID as specified on the API Access page when you created your secureclient.csv.

- Click **Connect.** 

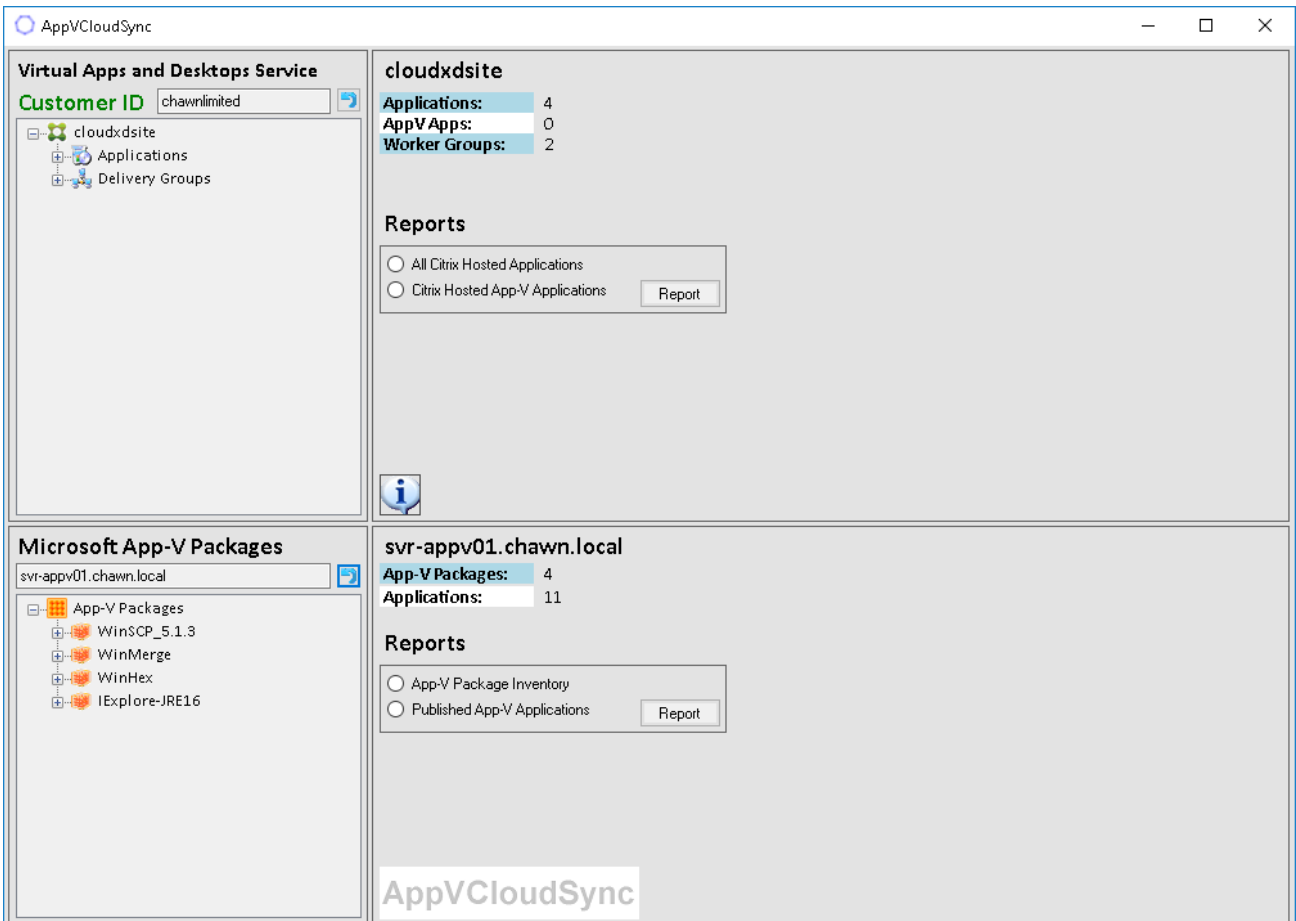


The screenshot shows the AppVCloudSync interface with the following details:

- Virtual Apps and Desktops Service:** Customer ID is `chawnlimited`. The tree view shows `cloudxdsite` expanded with sub-items `Applications` and `Delivery Groups`.
- cloudxdsite Summary:**
 - Applications: 4
 - AppV Apps: 0
 - Worker Groups: 2
- Reports:**
 - All Citrix Hosted Applications
 - Citrix Hosted App-V Applications Report
- Microsoft App-V Packages:** App-V Management Server is empty.
- Disconnected:**
 - App-V Packages: 0
 - Applications: 0
- Reports (Disconnected):**
 - App-V Package Inventory
 - Published App-V Applications Report

Enter the name of your App-V Management Server.

- Click **Connect.** 





The screenshot shows the AppVCloudSync interface after connecting to a management server. The details are as follows:

- Virtual Apps and Desktops Service:** Customer ID is `chawnlimited`. The tree view shows `cloudxdsite` expanded with sub-items `Applications` and `Delivery Groups`.
- cloudxdsite Summary:**
 - Applications: 4
 - AppV Apps: 0
 - Worker Groups: 2
- Reports:**
 - All Citrix Hosted Applications
 - Citrix Hosted App-V Applications Report
- Microsoft App-V Packages:** App-V Management Server is `svr-appv01.chawn.local`. The tree view shows `App-V Packages` expanded with sub-items `WinSCP_5.1.3`, `WinMerge`, `WinHex`, and `IExplore-JRE16`.
- svr-appv01.chawn.local Summary:**
 - App-V Packages: 4
 - Applications: 11
- Reports (svr-appv01.chawn.local):**
 - App-V Package Inventory
 - Published App-V Applications Report



Applications

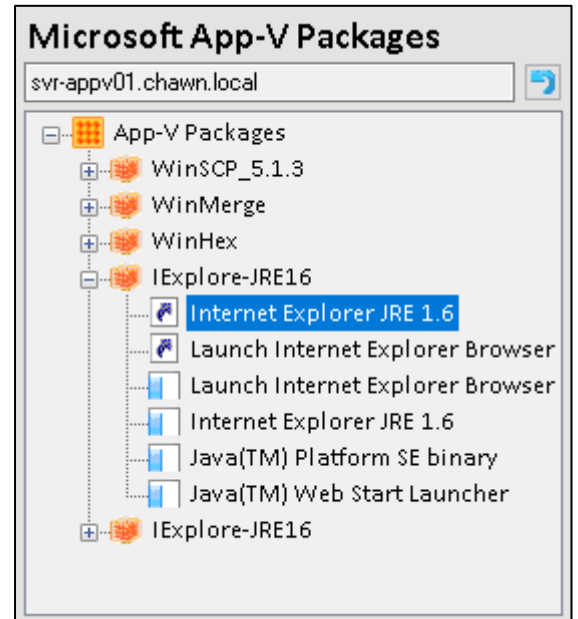
Create Citrix published App-V applications

Expand an App-V package. 

The App-V Package contains Shortcuts  and Applications. 

AppVCloudSync can publish Shortcuts and Applications to the Citrix Virtual Apps and Desktops Service.

-  **Shortcuts** provide a simple pointer to the App-V target application.
-  **Applications** may be modified to include command line arguments such as a URL or database connection parameters.



Select an App-V Shortcut or Application and click **Publish**.

Microsoft App-V Packages


svr-appv01.chawn.local

- App-V Packages
 - WinSCP_5.1.3
 - WinMerge
 - WinHex
 - IExplore-JRE16
 - Internet Explorer JRE 1.6**
 - Launch Internet Explorer Browser
 - Launch Internet Explorer Browser
 - Internet Explorer JRE 1.6
 - Java(TM) Platform SE binary
 - Java(TM) Web Start Launcher
 - IExplore-JRE16

IExplore-JRE16

Enabled:	True	Package ID:	8	View
Package GUID:	fe637354-5292-4088-9b04-fdf3b6e9fc76	Version:	0.0.0.4	
Version GUID:	0500c880-d38e-4b62-99f6-63865ff4472e			
Package URL:	\\svr-appv01\appv\E-JRE.001\Explore-JRE16_2_3_4.appv			

Assigned Groups	Citrix Applications
CHAWN\Domain Users	

Internet Explorer JRE 1.6  [Publish](#)

Enabled:	True
Arguments:	
Working Directory:	[[ProgramFilesX86]]\internet Explorer
Target:	[[ProgramFilesX86]]\internet Explorer\explore.exe
Description:	

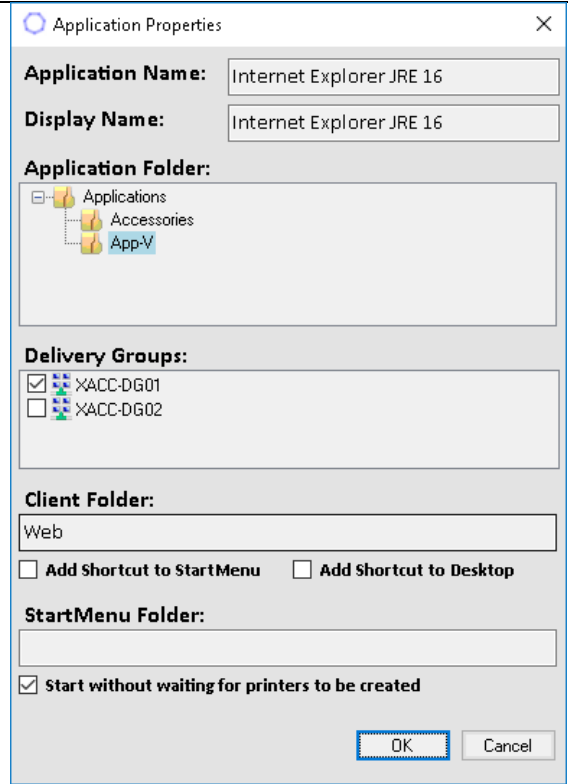
The Application and Display Names are completed automatically.
Application and Display Names must be unique within each Application folder.

Select the Application Folder where the new application will be published.

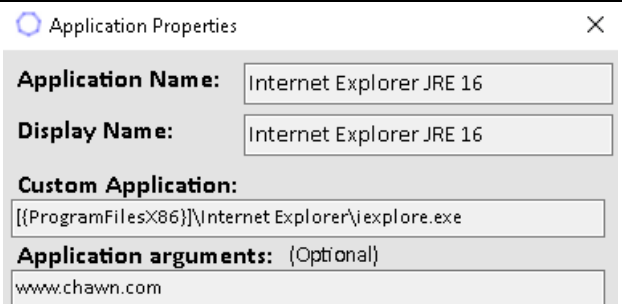
Select a Delivery Group.
The Citrix published application may be assigned to more Delivery Groups after it has been created.

Configure client presentation settings.

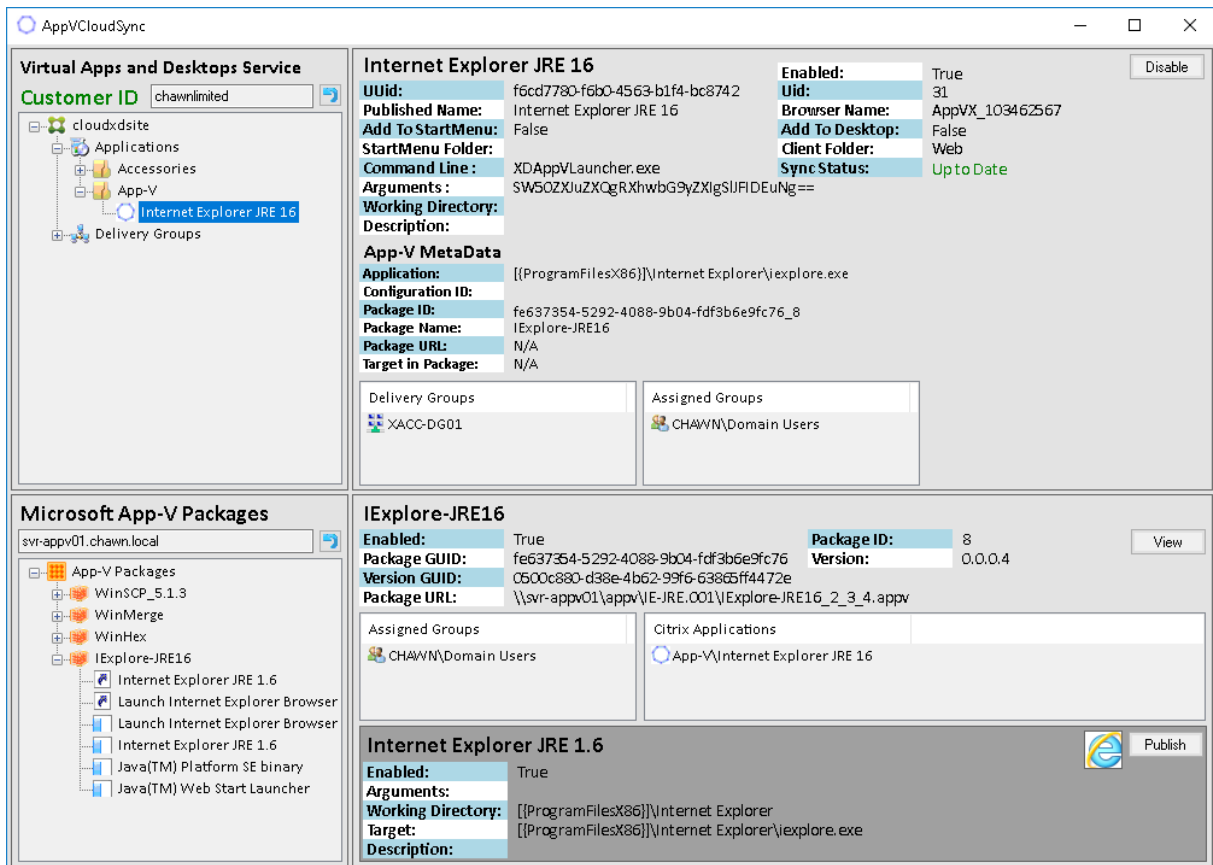
Select whether to start the application without waiting for printers to be created.



If publishing from an App-V Application , you can specify arguments to be passed to the virtual application.




Click **OK**. The new Citrix published application is displayed in the Citrix tree and is available for launching by users.

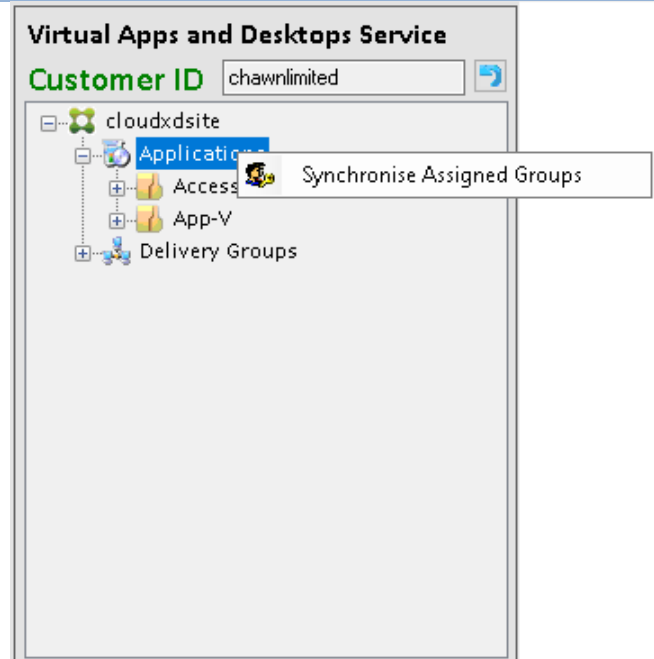


Synchronise Application Security Groups

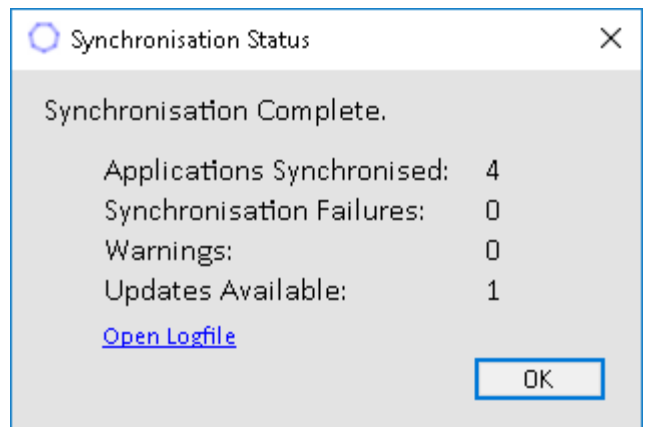
Manually

To synchronise application security groups from App-V Packages to Citrix published applications, right click on either the Applications node  or any subfolder and click **Synchronise Assigned Groups**.

All applications in the selected folder and subfolders will be synchronised with the associated App-V package.



The following dialog is displayed when synchronisation has completed. Click [Open Logfile](#) to view further details



Logfile location: %temp%\Chawn\AppVCloudSync\AppVCloudSync.txt

Synchronise Application Security Groups

Silently

Before running a silent synchronisation, the following registry values must be configured to provide connection information to AppVCloudSync.

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Chawn\AppVCloudSync\Settings]
"AppVMgmtSvr"="Name of App-V Management Server"
"CustID" = "Citrix Cloud Customer ID"
```

The user running a silent synchronisation must be a Citrix Administrator (Full Access) and a Microsoft App-V Administrator.

Run the following command

```
"C:\Program Files\Chawn\AppVCloudSync\appvcloudsync.exe" /sync
```

The following command creates a scheduled task that synchronises applications at 2am every day.

```
schtasks.exe /create /RU domain\username /RP Password /SC DAILY /TN "Sync AppV Security" /TR "C:\Program Files\Chawn\AppVCloudSync\appvcloudsync.exe /sync" /ST 02:00
```

The scheduled task user must be a Citrix Administrator (Full Access) and a Microsoft App-V Administrator.

App-V Packages Updates

Sync Application

An updated App-V package will have the same **PackageGUID** as the original App-V package however the **VersionGUID** and **Id** properties will change.

Original App-V Package	Updated App-V Package
Id : 8 Name : IExplore-JRE16 PackageGUID: fe637354-5292-4088-9b04-fdf3b6e9fc76 VersionGuid : 0500c880-d38e-4b62-99f6-63865ff4472e Version : 0.0.0.4 Enabled : True PackageUrl : \\svr-appv01\appv\IE-JRE.001\IExplore-JRE16_2_3_4.appv TimeChanged: 22/11/2018 18:21:45	Id : 13 Name : IExplore-JRE16 PackageGUID: fe637354-5292-4088-9b04-fdf3b6e9fc76 VersionGuid : 34f38274-50a6-446a-bbb9-f02e754e939e Version : 0.0.0.5 Enabled : False PackageUrl : \\svr-appv01\appv\IE-JRE.001\IExplore-JRE16_10_5.appv TimeChanged: 25/11/2018 18:20:58

AppVCloudSync maintains the link between an App-V package and a published application using the **PackageGUID** and **ID** properties. These properties are combined and stored as App-V Metadata.

App-V MetaData	
Application:	[[ProgramFilesX86]]\Internet Explorer\iexplore.exe
Configuration ID:	
Package ID:	fe637354-5292-4088-9b04-fdf3b6e9fc76_8
Package Name:	IExplore-JRE16
Package URL:	N/A
Target in Package:	N/A

If the updated App-V package is published and enabled using the App-V management console, the updated App-V package will be immediately available to Citrix users. (Subject to identical security group assignments)

To maintain the link between an App-V package and a Citrix published App-V application, the App-V metadata must be updated to reflect the new App-V Package **PackageGUID** and **ID**. This ensures that associated security groups are synchronised correctly from the newest enabled version of the App-V Package.

Following an App-V package update, click on the original App-V package. Right click the associated Citrix application and click **Properties**.

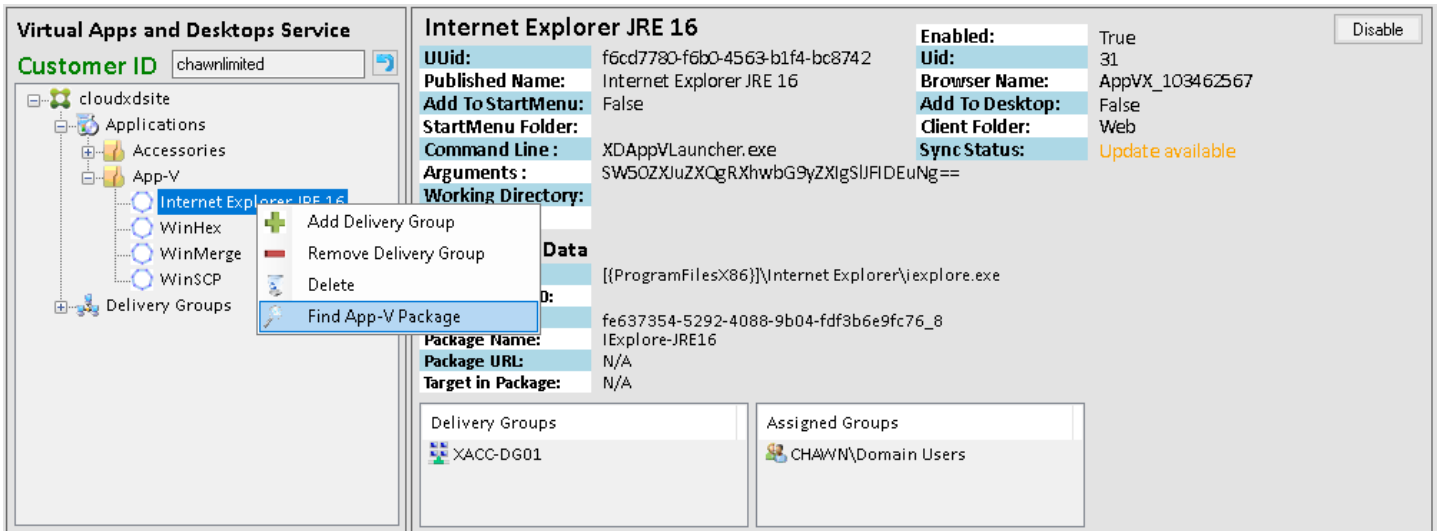
The screenshot shows the Microsoft App-V Packages console. On the left, a tree view shows 'App-V Packages' expanded to 'IExplore-JRE16'. The main pane displays the details for 'IExplore-JRE16':

- Enabled:** True
- Package GUID:** fe637354-5292-4088-9b04-fdf3b6e9fc76
- Version GUID:** 0500c880-d38e-4b62-99f6-63865ff4472e
- Package URL:** \\svr-appv01\appv\IE-JRE.001\IExplore-JRE16_2_3_4.appv

The 'Assigned Groups' pane shows 'CHAWN\Domain Users'. The 'Citrix Applications' pane shows 'App-V\Internet Explorer JRE 16' selected, with a 'Properties' button.

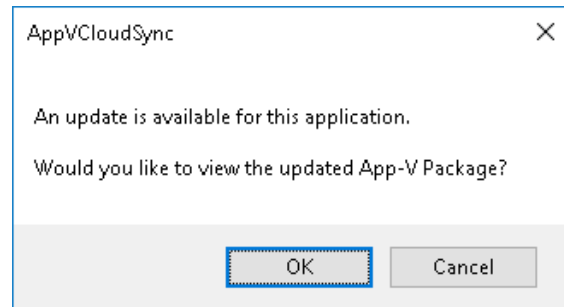
AppVCloudSync will select the currently associated Citrix published App-V application.

The Sync Status shows as **Update Available**. Right click the Citrix application and click **Find App-V Package**.

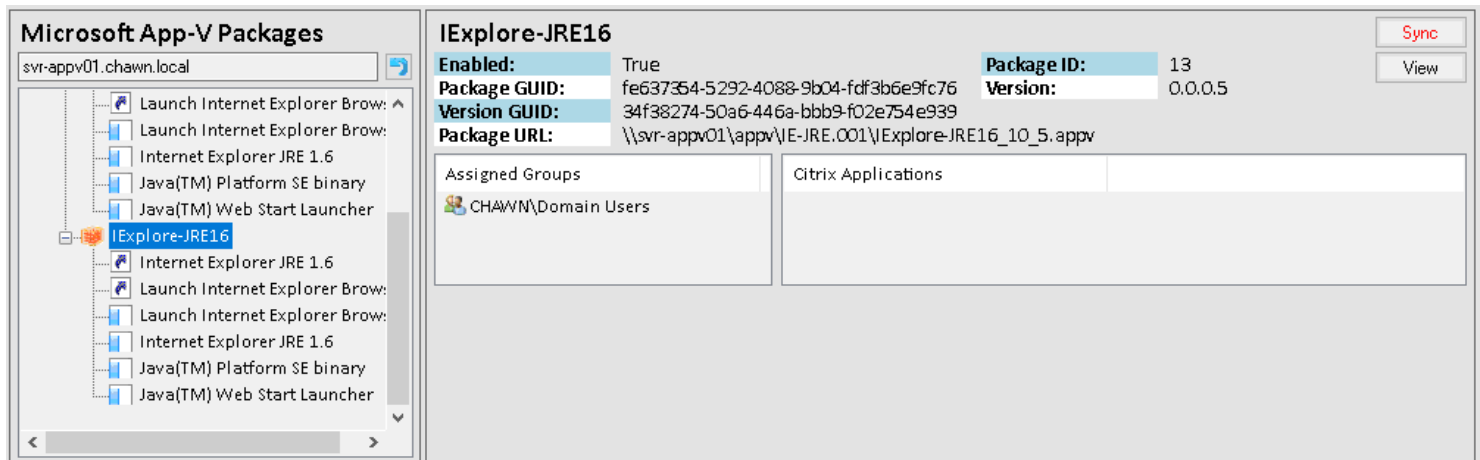


The following message is displayed.

Click **OK**.



AppVCloudSync selects the updated App-V package and displays the **Sync** button. Click **Sync** to update the Citrix published App-V application.



The **Sync** button also updates assigned security groups and may be clicked at any time after finding a package.

The Citrix application metadata is updated to reflect the new App-V package ID.

App-V MetaData	
Application:	[[ProgramFilesX86]]\Internet Explorer\iexplore.exe
Configuration ID:	
Package ID:	fe637354-5292-4088-9b04-fdf3b6e9fc76_13
Package Name:	IExplore-JRE16
Package URL:	N/A
Target in Package:	N/A

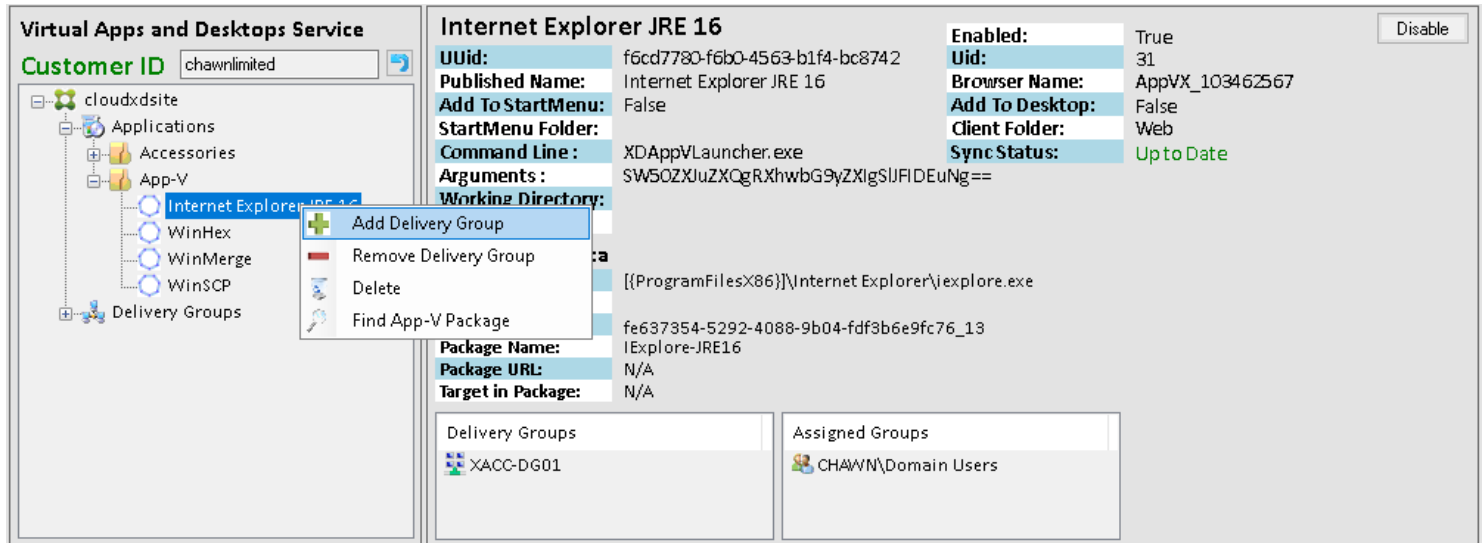
You can identify Citrix applications that require updating by reviewing the synchronisation logfile and looking for the following events.

```
Date/Time: 07/10/2018 03:55:42 --- Citrix Application Uid: 31 Application Name: App-VInternet Explorer JRE 16 Linked GUID: fe637354-5292-4088-9b04-fdf3b6e9fc76 Linked Id: 8
***** Update Available: App-V Package Name: IExplore-JRE16 App-V Package GUID: fe637354-5292-4088-9b04-fdf3b6e9fc76 App-V Version GUID: 34f38274-50a6-446a-bbb9-f02e754e939e App-V Package ID: 13 Enabled: 1
```

Single Instance Applications

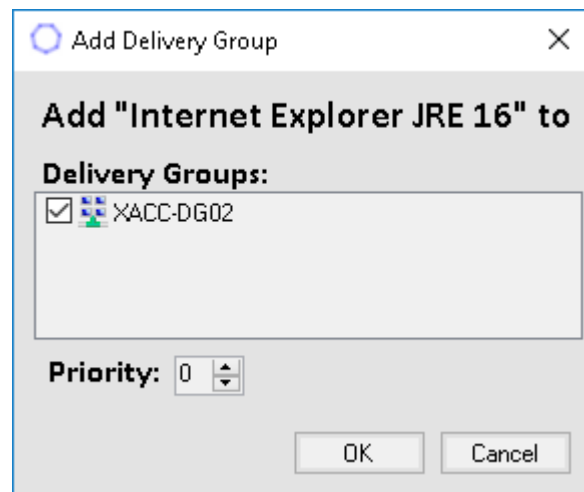
Add Published Applications to a Delivery Group

Right click a Citrix application and click **Add Delivery Group**.



Select a Delivery Group and click **OK**.

Optionally set a Priority.



Specifies the priority of the mapping between the application and desktop group where lower numbers imply higher priority with zero being highest.

If one association has a higher priority than the other, machines from that group will be selected for launching sessions until all machines are at maximum load, in maintenance mode, unregistered, or unavailable for any other reason. Only when all machines from the higher-priority group are unavailable will new connections be routed to the next lowest priority group.

If multiple associations have equal priority, load balancing does not occur among the desktop groups in these associations. Instead, the broker chooses one of these groups as the preferred group and machines from this group will be selected for launching sessions until all machines are at maximum load, in maintenance mode, unregistered, or unavailable for any other reason. Only when all machines from the preferred group are unavailable will new connections be routed to another one of these groups, which the broker chooses as next-most preferred.

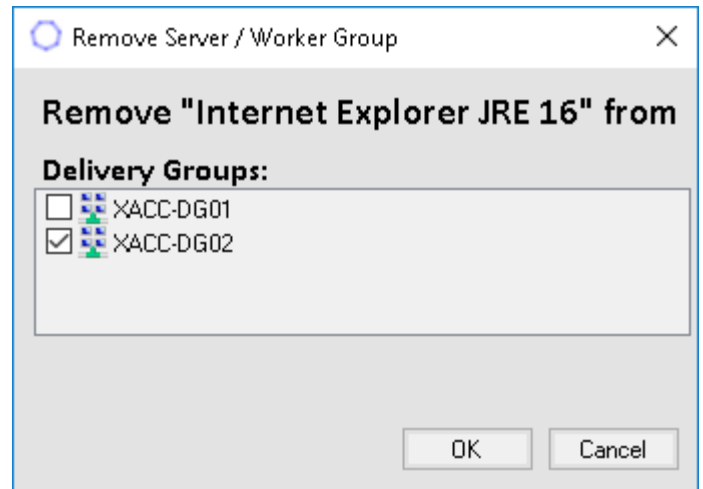
<http://docs.citrix.com/en-us/xenapp-and-xendesktop/7-6/cds-sdk-wrapper-rho/xad-commands/citrix-broker-admin-v2-wrapper-xd76/add-brokerapplication-xd76.html>

Single Instance Applications

Remove Published Applications from a Delivery Group

Right click a Citrix application and click **Remove Delivery Group**.

Select a Delivery Group and click **OK**.



A Citrix published application must always be associated with at least one Delivery Group.

Licensing

Evaluation Mode

Permits full functionality however the number of App-V application packages that may be enumerated is restricted to five.

Licensing

Activated Mode

Permits full functionality with a named customer site license.

After activation the serial number is stored in the registry.

HKEY_CURRENT_USER\Software\Chawn\AppVCloudSync\License

To license AppVCloudSync system wide, configure the serial number in the registry.

HKEY_LOCAL_MACHINE\Software\Chawn\AppVCloudSync\License

For all enquiries please contact Chawn Limited.

chawn
+44 (0)121 314 2253
info@chawn.com