



Updated 12th May 2020

User Guide

Introduction

This guide has been authored by experts at Nuvens in order to provide information and guidance on using WorkSpaces Manager.

Information in this document is subject to change without notice. No part of this publication may be reproduced in whole or in part, stored in a retrieval system, or transmitted in any form or any means electronic or mechanical, including photocopying and recording for any external use by any person or entity without the express prior written consent of Nuvens Consulting Ltd.

Contents

Introduction	1
1. WorkSpaces Manager Portal browser requirements	4
2. User Self-Service Portal.....	4
2.1 Actions on the user's Workspace	4
2.2 Adding and removing an application	4
3. Administration of the portal	7
3.1 Admin Dashboard	7
3.2 Users	7
3.2.1 Adding a single user	7
3.2.2 Bulk importing new users and creating them a Workspace.....	8
3.3 WorkSpaces.....	10
3.4 AppStream	13
3.5 TaskQueue	13
4. Resources.....	14
4.1 Bundles.....	14
4.2 Directories.....	14
4.3 Images.....	14
5. Update.....	15
6. Options.....	17
6.1 Settings.....	17
6.2 Administrators	20
6.2.1 Adding a new portal Administrator.....	20
6.2.2 Restricting users to Regions, Directories or Tags.....	21
6.3 Roles.....	22
6.4 Branding.....	23
6.5 Applications.....	24
7. Reports	25
7.1 Cost Estimator and Optimizer	25
7.2 Cost History	26
7.3 Unused	26
7.4 UnHealthy	26
7.5 Stopped.....	27
7.6 Orphaned	27

7.7	AppStream	28
8.	Adding 'Application Group' and 'Type' to the applications in the database.....	29
9.	Multi-Domain forest	30
10.	Troubleshooting.....	32

1. WorkSpaces Manager Portal browser requirements

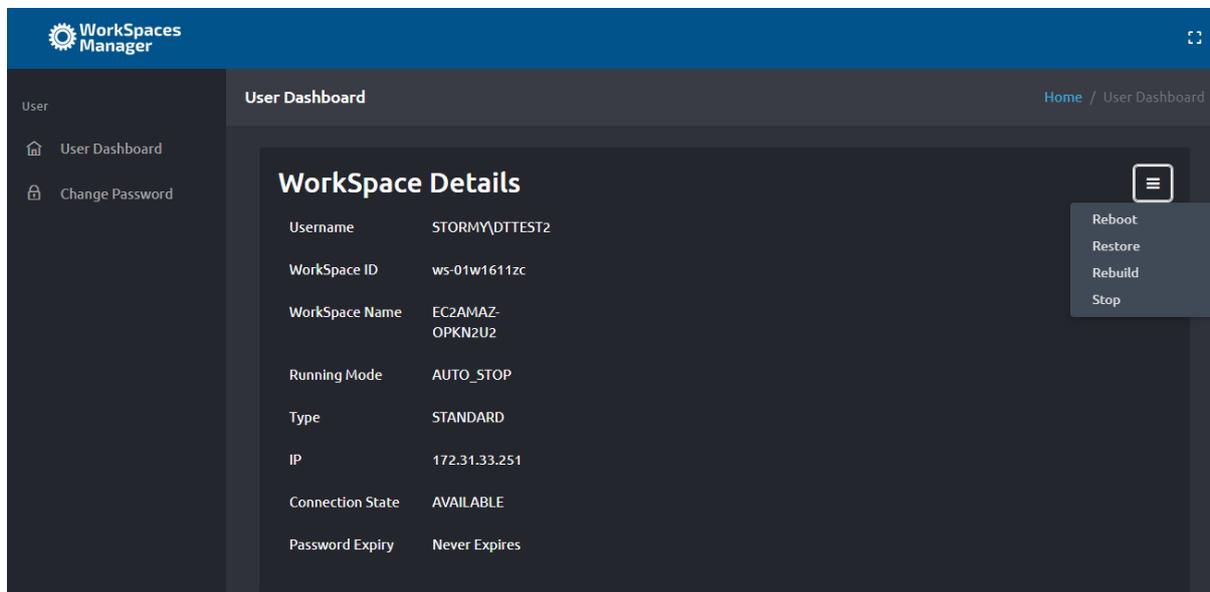
Component	Requirements
Browsers Supported	Chrome 22.x, Firefox 12.x, and Internet Explorer 9.x or higher versions of these browsers. If you are using Internet Explorer 9, disable enhanced security.

2. User Self-Service Portal

2.1 Actions on the user's WorkSpace

Users can save time by accessing the WorkSpaces Manager website by using the same URL as WorkSpace Administrators use. If they are not members of your WorkSpaces Admin group specified in the 'License/Settings' sections of the WorkSpaces Manager portal, they will get a limited Portal which is specific to their WorkSpace(s) that use the logon that they are logged on with.

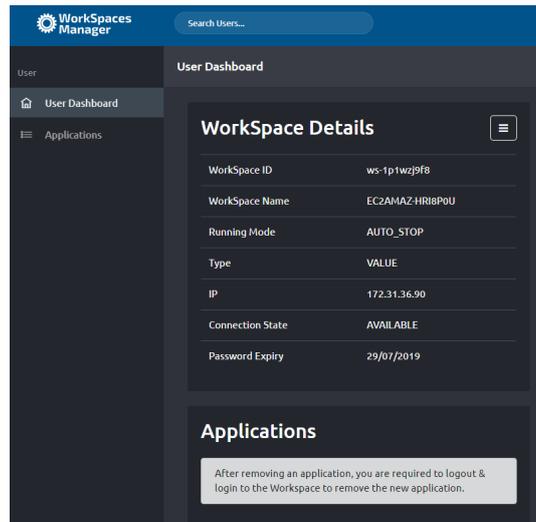
This saves a user calling the Service Desk if they cannot connect to their WorkSpace (for example, if the status is UNHEALTHY and they cannot connect to their WorkSpace) or they can stop it without any intervention from support. If the 'User Restore' and/or 'User Rebuild' options are checked in the License\Settings section of the WorkSpaces Manager admin portal, then these will appear too in the list.



2.2 Adding and removing an application

If your company uses products such as Liquidware FlexApp to deploy their applications to their users within your WorkSpace (as well as other devices such as PCs) then users can add and remove the applications themselves within constraints on licensing with some applications.

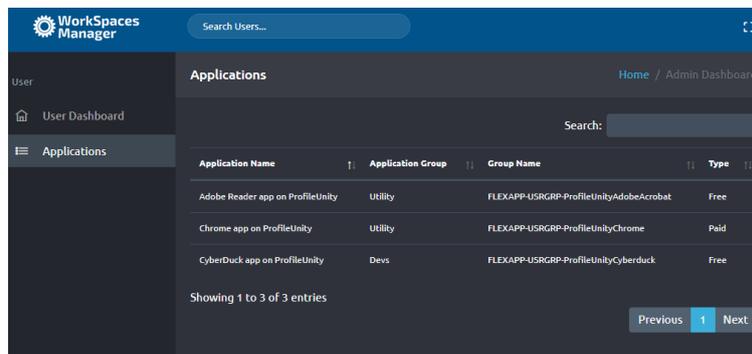
This is an example user who has gone to the portal and can see that they currently have no applications assigned to them.



To add an application, they go to the Applications section on the left. Here they can see all of the applications that are available. However, they may not all be accessible to them. The ones marked 'Type' of Free can be added by the user with no administrative intervention.

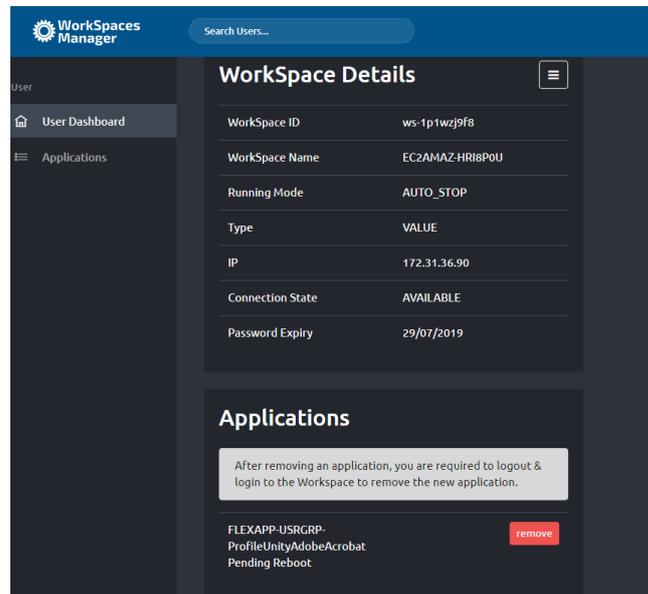
PLEASE NOTE : The administrator will need to go and set up the 'Application Group' and 'Type' manually within the local SQL database on the WorkSpaces Manager appliance for this to work correctly. Please refer to Section 3.6 of this document to see how this is done.

The ones marked 'Paid' have to be requested by whichever the method the user would normally use (for example, their corporate Service Desk). This is because it may have licensing constraints such as Microsoft Visio or 3rd party vendor user limits. This is to adhere to software compliance.



This user will now choose a 'Free' application from the list. In our instance, Adobe Reader. To do this, just click anywhere on the Adobe Reader line you will get asked if you want to add the application. Select 'Add Application'. This will then add the user to the Active Directory group (in this case 'FLEXAPP-USRGRP-ProfileUnityAdobeAcrobat').

To get the application, the user will need to log out of the WorkSpace and go back in. If the user then goes back to the User Dashboard, they will see a message of 'Pending Reboot'. A log off should suffice on most occasions, but some applications do require a reboot.



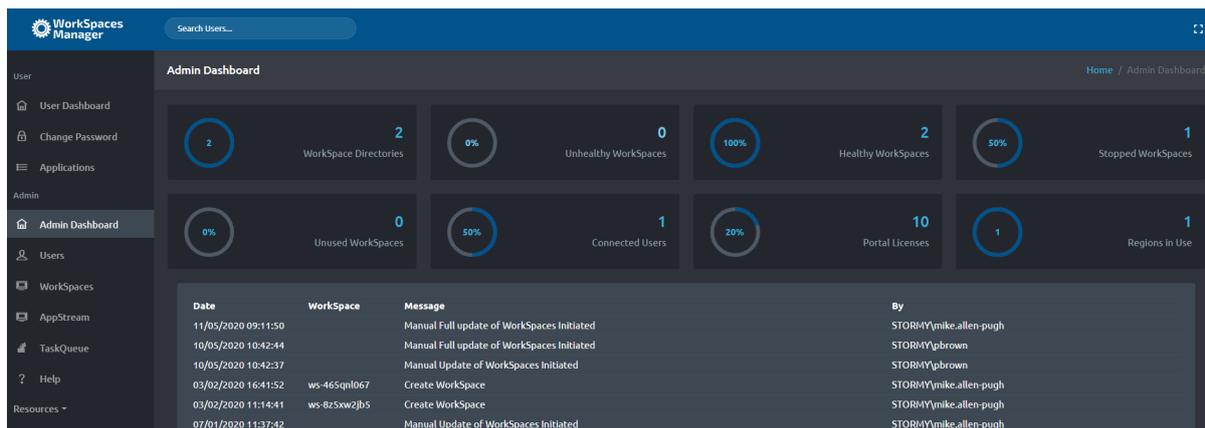
Similarly, a user can remove themselves from seeing the application by selecting 'remove' next to the application under 'Applications'. This will remove them from the Active Directory group for the application. Again, a logoff from the WorkSpace will be necessary to remove them from the group (or a reboot to make sure).

3. Administration of the portal

This covers the 'Admin' section of the portal.

3.1 Admin Dashboard

This gives an overview of your environment, along with the last 10 actions carried out by portal admins.



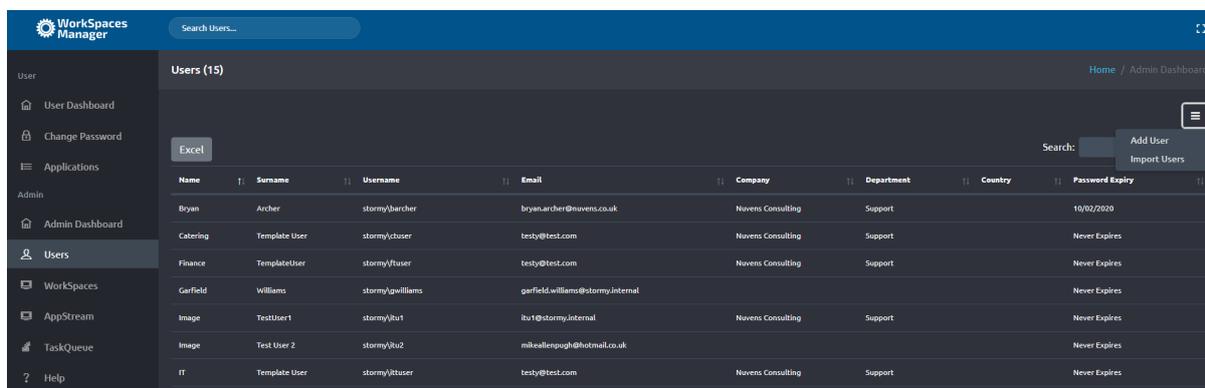
3.2 Users

If you are in an organisation where every new user will automatically be assigned a Workspace, you can assign them one from within WorkSpaces Manager.

There are two ways of doing this – adding single users or bulk importing.

3.2.1 Adding a single user

In the WorkSpaces Manager dashboard, go to the Users section and select the Actions button on the right hand side. You will see an option for 'Add User'.



Fill in the details and select what type of Workspace you would like the user to have (Mode can be either ALWAYS_ON or AUTO_STOP and the preconfigured Bundle ID of your choice). Select 'Add User' and you now get a confirmation box to confirm if you would like to proceed.

The WorkSpace will take around 30 minutes to set up. An email is automatically sent to the user with instructions on how to access their WorkSpace.

3.2.2 Bulk importing new users and creating them a WorkSpace.

In the WorkSpaces Manager dashboard, go to the 'Users' section and select the 'Actions' button on the right hand side. You will see an option for 'Import Users'.

Name	Surname	Username	Email	Company	Department	Country	Password Expiry
Bryan	Archer	stormy/barcher	bryan.archer@nuvens.co.uk	Nuven Consulting	Support		10/02/2020
Catering	Template User	stormy/tuser	testy@test.com	Nuven Consulting	Support		Never Expires
Finance	Template User	stormy/fuser	testy@test.com	Nuven Consulting	Support		Never Expires
Garfield	Williams	stormy/gwilliams	garfield.williams@stormy.internal				Never Expires
Image	TestUser1	stormy/tu1	tu1@stormy.internal	Nuven Consulting	Support		Never Expires
Image	Test User 2	stormy/tu2	mikeallenpugh@hotmail.co.uk				Never Expires
IT	Template User	stormy/tuser	testy@test.com	Nuven Consulting	Support		Never Expires

You will now see the following screen where you will be guided on how you need to fill in the template.

To import users you need to populate the import file template csv file

The mandatory columns are:-

- Username: "Create User" flag specifies if an AD Account needs to be created.
- First name: During the import process the system will check to ensure the username is available. You can specify a password for each user or allow the system to create a random password
- Surname: "Create WorkSpace" flag specifies if an AWS WorkSpace is created. The AD Computer Object will be created in the OU specified against the Directory Id. The WorkSpace resources are determined by the Bundle Id
- Email: "Copy User" flag allows you to create user accounts based on a template user. This will create the AD Object in the same OU as the template user and copy generic values such as department and company
- Directory Id: "Running Mode" determines if the WorkSpaces are created as Auto-Stop or Always on. If Auto-Stop Workspaces are deployed the AWS WorkSpace Cost Optimiser should be deployed into the VPC
- Bundle Id
- Running Mode
- Copy User
- User To Copy
- Create User
- Create WorkSpace

[Template](#)

Choose File No file chosen Import File

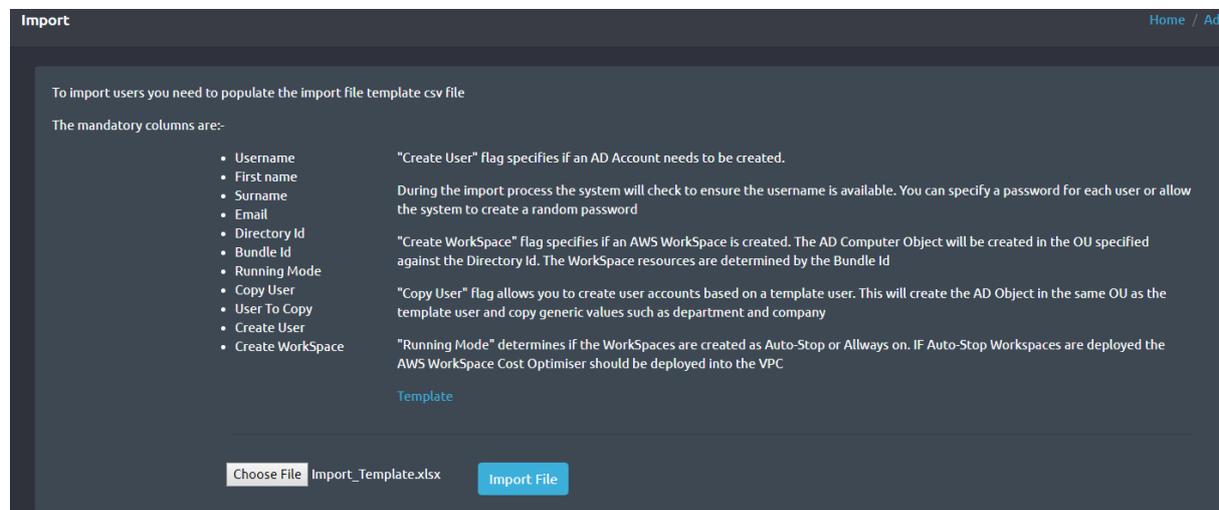
Select 'Template' and the template (Import_Template.xlsx) will be automatically downloaded. You will already have a sample user in there so you can see what you need to fill in. You will need to ensure that you have the correct DirectoryID (as you may have more than one depending on where

in Active Directory you want the users WorkSpace to be created) as well as the correct Bundle ID for the user (which may contain a different application set from other users).

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
UserName	Password	FirstName	Surname	Email	Department	Company	JobTitle	DirectoryId	BundleId	RunningMode	CopyUser	UserToCopy	CreateUser	CreateWorkspace	CreateOU
jjones	Testing123!	Jim	Jones	jjones@nuvens.co.uk	Finance	Nuvens Consulting	CFO	d-93672873da	wsb-vqkfrfbv	AUTO_STOP	FALSE	ttuser	TRUE	FALSE	ou=Finance,ou=Departments,ou=MyUsers,dc=stormy,dc=internal
barcher	Testing123!	Bryan	Archer	bryan.archer@nuvens.co.uk	Service Desk	Nuvens Consulting	Analyst	d-93672873da	wsb-vqkfrfbv	AUTO_STOP	FALSE	ttuser	TRUE	FALSE	ou=IT,ou=Departments,ou=MyUsers,dc=stormy,dc=internal
dsmith	Testing123!	Dennis	Smith	dennis.smith@nuvens.co.uk	Catering	Nuvens Consulting	Chef	d-93672873da	wsb-vqkfrfbv	AUTO_STOP	FALSE	ttuser	TRUE	FALSE	ou=Catering,ou=Departments,ou=MyUsers,dc=stormy,dc=internal

- If you **do not** wish to create the user a WorkSpace at this point, set CreateWorkspace to FALSE.
- If you **do not** wish to copy from a template user, set CopyUser to FALSE. You can specify which OU to place the new user in by entering the full OU location in the CreateOU column.
- If want to copy from a template user, set CopyUser to TRUE and specify the username. This will place the copied user in the same OU as the template user. At this point, the process ignores whatever is in the CreateOU column.

Once you have filled in the users that you will need to back to the 'Import' screen, select your template from 'Choose File' and then select 'Import File'.



When you select 'Import File', you are automatically taken to the 'Task Queue' option where you are advised of the status of your request. If you fill in an information incorrectly (such as DirectoryID and/or BundleID) then you will get an error stating that the WorkSpace could not be created.

The Task Queue will tell you at what stage the job is at. It will:

- Change User to TRUE when the user account is created.
- Change WorkSpace to TRUE if a WorkSpace has completed creation.
- Change Invite to TRUE if a user has been sent an email inviting them to connect to their WorkSpace.
- Change Completed Status to TRUE if (a) a user account has been created but no WorkSpace creation was specified in the template or (b) a user account and WorkSpace has been created.

Task Queue (3) Home / Admin Dashboard

Excel Search:

Tid	Step	Username	User	Workspace	Invite	Completed	Last Update	Owner	Message
20	0	pbrownit	False	False	False	False	17/06/2019 11:4:44	Mike Allen-Pugh	
21	0	jjones1	False	False	False	False	17/06/2019 12:18:07	Mike Allen-Pugh	
22	0	barcher1	False	False	False	False	17/06/2019 12:18:07	Mike Allen-Pugh	

Showing 1 to 3 of 3 entries

Previous **1** Next

3.3 WorkSpaces

If you go to the Workspace tab, you'll see a list of the users with WorkSpaces.

WorkSpaces Manager Home / Admin Dashboard

Search Users...

WorkSpaces (2)

Excel Search:

Computer Name	Workspace	Username	IP Address	Mode	State	Last Connect	Directory	Updated
EC2AMAZ-4H8BP01	ws-1p4q9R	gelliams	172.31.36.90	AUTO_STOP	STOPPED	23/06/2019 11:11:50	#93672873aa	23/06/2019 11:11:56
EC2AMAZ-UVNP7RU	ws-cdy4bymmj	mike.allenpugh	172.31.26.12	AUTO_STOP	AVAILABLE	23/06/2019 11:10:50	#93672873aa	23/06/2019 12:00:50

Showing 1 to 2 of 2 entries

Previous **1** Next

If you select a Workspace, you'll see the details for it. To manage it, select the Actions button. This will give you a range of options.

- Refresh

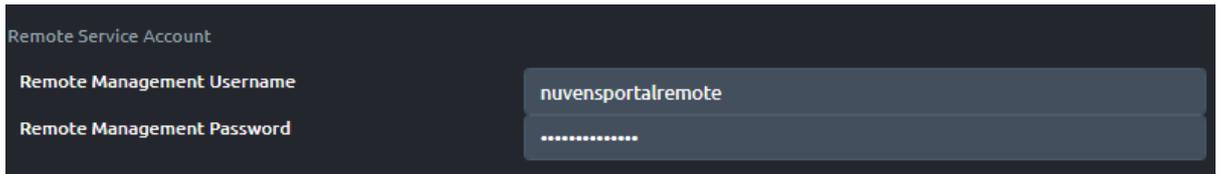
Refreshes the state of the Workspace to the latest state.

- RDP

Downloads an RDP file so you can connect to the user's Workspace. Note, this is not shadowing a user. It just let's you get on to their Workspace to look at processes, memory, etc.

- Dameware

This requires the Dameware agent to be installed onto the Workspace. For this to generate the correct downloadable batch file with the credentials already filled in to connect, you must enter the correct connection account name in the Remote Service Account section of 'Options\Settings'.



Remote Service Account

Remote Management Username	nuvensportalremote
Remote Management Password

We have also tested this process with other session sharing tools such as TeamViewer. Please contact us for more information. The settings to auto-connect via DameWare can be found [here](#).

- Reboot

Reboots the user Workspace.

- Restore

Restores a user's Workspace to the last known 'good' backup (AWS automatically takes backups every 12 hours).

- Rebuild

If there are any issues with a user's Workspace that cannot be resolved, you can rebuild the Workspace to its original state. This will rebuild the Workspace C drive and will restore the contents of the D drive the last automatic backup (D drive backups occur every 12 hours).

- Stop

Stops the user Workspace.

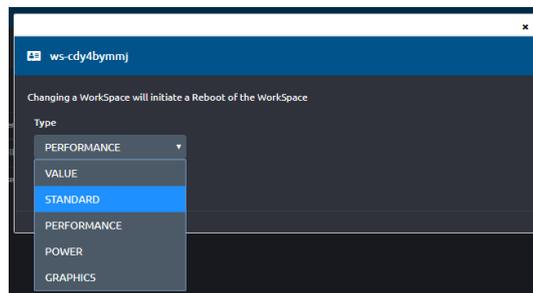
- Terminate

Deletes the Workspace permanently. Please note that if a Workspace is deleted, all contents will be lost. If a user has been storing configurations and documents on their D drive then these will be permanently removed.

- Change Workspace Type

This allows the administrator to change the type of Workspace to a different compute type.

This is not available to normal users through User Dashboard as they could choose a more powerful (and more expensive) WorkSpace without the administrator(s) being advised. Note that you can only change a WorkSpace type again after 24 hours has elapsed.



- Change WorkSpace Mode

Allows you to manually change the WorkSpace from ALWAYS_ON to AUTO-STOP and vice versa. There is no limit to how many times this can be changed in any given time period. This option is only available to WorkSpaces Manager administrators.

- Manage Tags

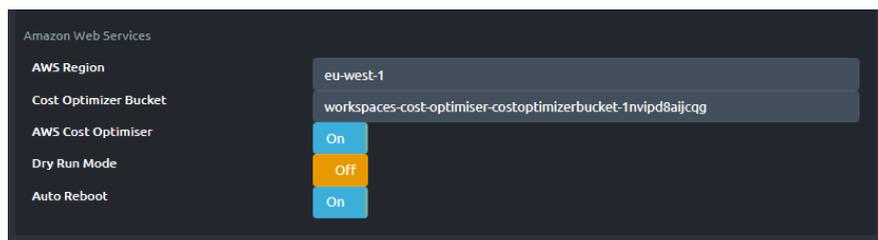
Allows you to add tags to the WorkSpace. You may need this for such things as billing. An example of tagging could be:

Cost Code = 2344

Department = Finance

- Change Reboot Hour

If you turn on the 'Auto Reboot' option in the License\Settings section, you can set the reboot time for individual WorkSpaces. By default, WorkSpaces do not automatically reboot and this option allows you do set the option of doing so based on a time best suited to your user (or users).

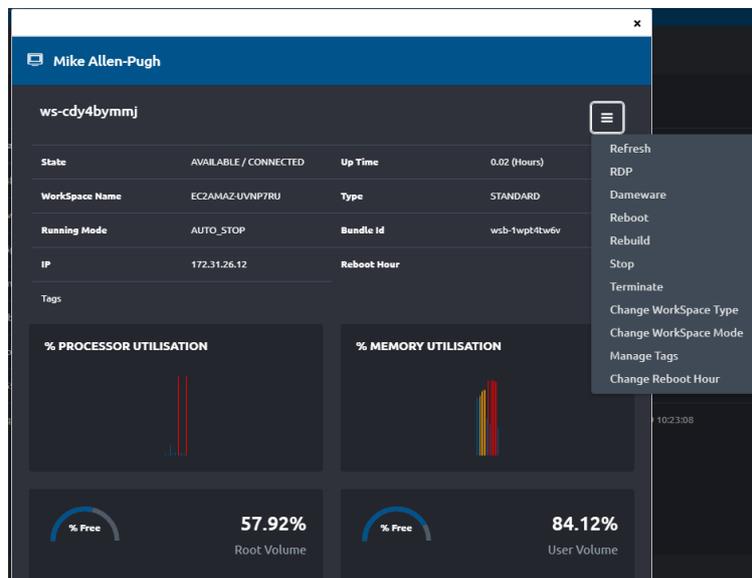


You can then set the reboot hour (24 hour schedule).



- Processor and Memory utilisation.

Statistic are available if you have installed the WorkSpace Manager Agent (Windows only) as highlighted in the Workspaces Manager Installation and Configuration Guide.



3.4 AppStream

Currently under development.

3.5 TaskQueue

This shows you the status of creation of WorkSpaces and users accounts if you are using the Import Template function. The update job runs every 10 minutes, hence please wait for the status to be updated in the next running job update phase.

Tid	Step	Username	User	Workspace	Invite	Completed	Last Update	Owner	Message
35	0	jones1	False	False	False	False	17/06/2019 15:39:10	Mike Allen-Pugh	
36	0	barcher1	False	False	False	False	17/06/2019 15:39:10	Mike Allen-Pugh	

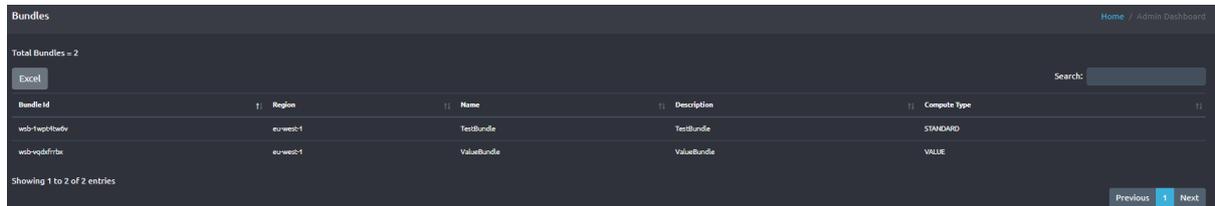
Showing 1 to 2 of 2 entries

Previous 1 Next

4. Resources

4.1 Bundles

Lists all of the WorkSpace bundles in the AWS account.

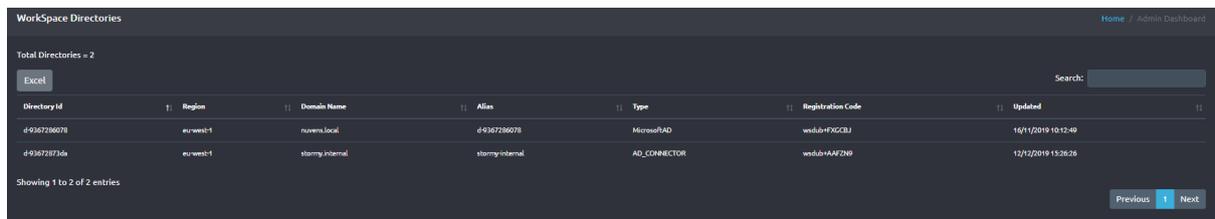


The screenshot shows the 'Bundles' page in the AWS WorkSpace console. It displays a table with 2 entries. The table has columns for Bundle Id, Region, Name, Description, and Compute Type. The entries are 'wb-1wpt4bwv' and 'wb-wqdf7rta', both in the 'eu-west-1' region. The first is a 'TestBundle' of type 'STANDARD', and the second is a 'ValueBundle' of type 'VALUE'. There is a search bar and pagination controls at the bottom.

Bundle Id	Region	Name	Description	Compute Type
wb-1wpt4bwv	eu-west-1	TestBundle	TestBundle	STANDARD
wb-wqdf7rta	eu-west-1	ValueBundle	ValueBundle	VALUE

4.2 Directories

Lists all of the WorkSpace Directories in the AWS account.

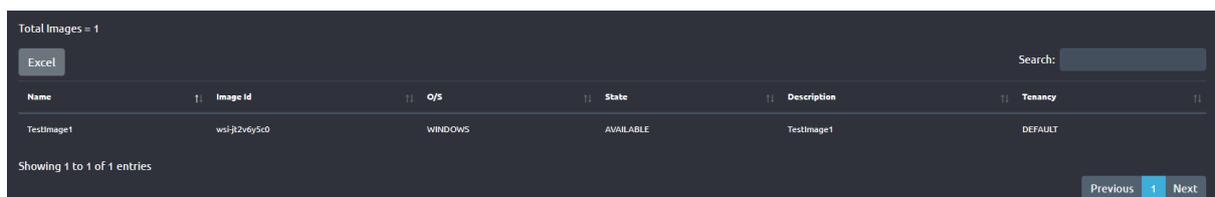


The screenshot shows the 'WorkSpace Directories' page in the AWS WorkSpace console. It displays a table with 2 entries. The table has columns for Directory Id, Region, Domain Name, Alias, Type, Registration Code, and Updated. The entries are 'd-9367286078' and 'd-93672873da', both in the 'eu-west-1' region. The first is a 'MicrosoftAD' type with registration code 'wcdh-FXGCBJ' and updated on '16/11/2019 10:12:49'. The second is an 'AD_CONNECTOR' type with registration code 'wcdh-AAFZNB' and updated on '12/12/2019 15:26:26'. There is a search bar and pagination controls at the bottom.

Directory Id	Region	Domain Name	Alias	Type	Registration Code	Updated
d-9367286078	eu-west-1	nuvens.local	d-9367286078	MicrosoftAD	wcdh-FXGCBJ	16/11/2019 10:12:49
d-93672873da	eu-west-1	stamps.internal	stamps.internal	AD_CONNECTOR	wcdh-AAFZNB	12/12/2019 15:26:26

4.3 Images

Lists all of the WorkSpace images in the AWS account.

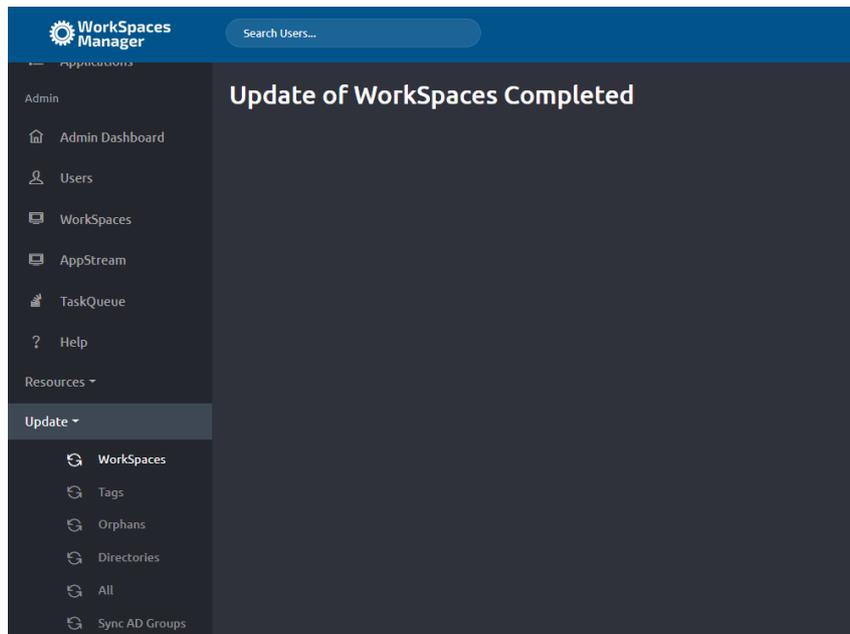


The screenshot shows the 'WorkSpace Images' page in the AWS WorkSpace console. It displays a table with 1 entry. The table has columns for Name, Image Id, O/S, State, Description, and Tenancy. The entry is 'TestImage1' with image id 'ws-jk2v6y5c0', O/S 'WINDOWS', State 'AVAILABLE', Description 'TestImage1', and Tenancy 'DEFAULT'. There is a search bar and pagination controls at the bottom.

Name	Image Id	O/S	State	Description	Tenancy
TestImage1	ws-jk2v6y5c0	WINDOWS	AVAILABLE	TestImage1	DEFAULT

5. Update

This ensures that the data that you are presented with for AD users, WorkSpaces, etc, is fully up to date in the local database on the WorkSpaces Manager appliance. You can choose whichever section of the database you want to update. If you do a Full Update ('All'), it will take longer as it will do each of the updates. If you are working in a very large Active Directory environment with a lot of WorkSpaces, this may take some time.



When you select an update on any of the options, wait for the status update to say 'Completed'.



- WorkSpaces

Performs a quick update of existing WorkSpaces. This will only update WorkSpaces that you have permission to manage.

- Tags

Update Tags of existing WorkSpaces. This will only update Tags for WorkSpaces that you have permission to manage.

- Orphans

This is the same report as in Section 3.5.6.

- Directories

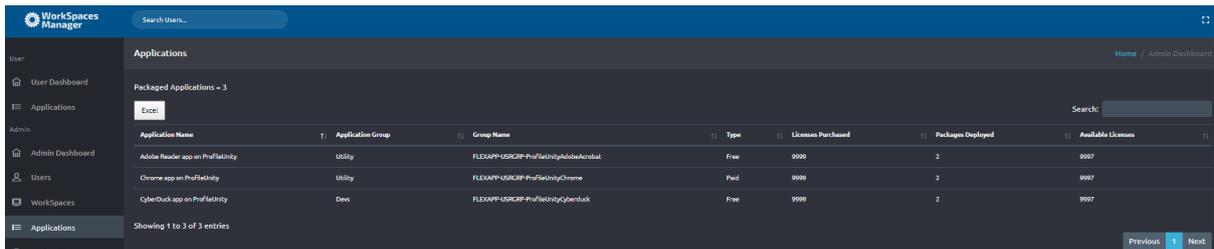
This will update directories in all Regions.

- All

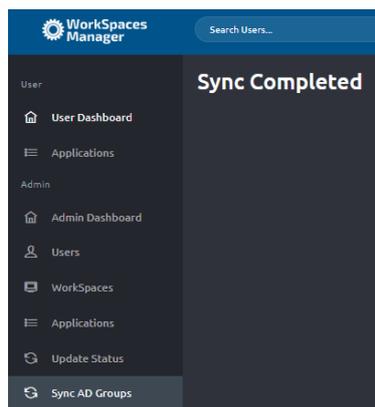
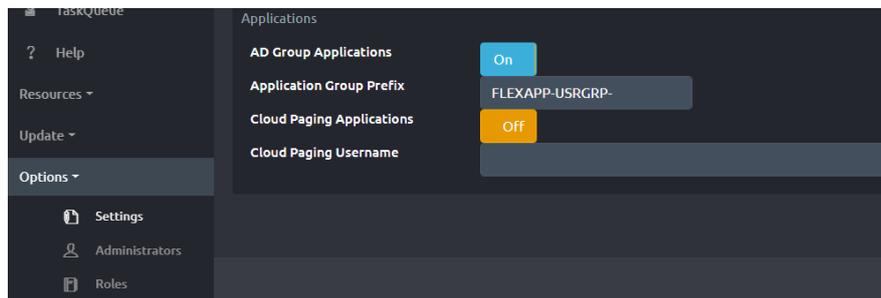
Performs every update option. This can take some time, especially in

- Sync AD Groups

This is specifically to update the application list where new applications would have been added\removed by administrators (by a software delivery service such as Liquidware FlexApp).



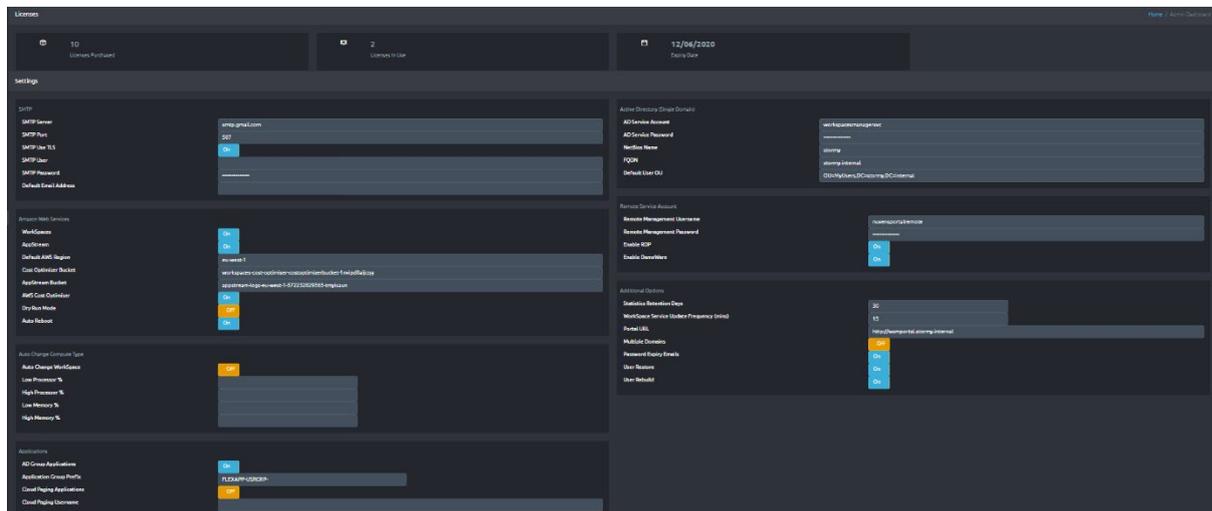
If you cannot see the list of complete applications in the organisation (which are imported in via the Active Directory group prefix specified in the 'Application Group Prefix' setting on the 'Settings' section of Options, then you'll need to go to 'Sync AD Groups', wait for the 'Sync Completed' message and go back to the 'Applications' list again.



6. Options

6.1 Settings

This is your main setup page. Most will have been filled in as part of your installation.



Active Directory

NOTE : *If you have users in more than one domain, you can turn on the 'Multiple Domains' feature in the 'Additional Options' section. You can learn more in 'Section 9 – Mult-Domain Forest'.*

AD Service Account and password:

When creating the AD Service Account to support AWS WorkSpaces you will have already provided an account with permissions to create computer objects within AD to the OU specified at the time.

We recommend using the same service account and providing additional permissions to delete computer objects.

NetBIOS name:

NetBIOS name of the domain that your WorkSpaces will be joining.

FQDN:

Fully Qualified Domain Name of the domain that your WorkSpaces will be joining.

Default User OU:

If you create a user in the 'Add User' section of the Portal, this is where it will place that user. If you use the 'Import Template' then you can specify where you want the user(s) to be located per OU or by copying template users.

SMTP

This enables you to send emails to users when their new Workspace is ready and/or if their password is to expire in two weeks' time.

You could use AWS Simple Email Service to achieve this, or your own SMTP setup.

Amazon Web Services

Workspaces:

Turns on the WorkSpaces Management function.

AppStream:

In development and not available yet. Turns on the AppStream Management function.

Default AWS Region:

This is the AWS Region that your Amazon WorkSpaces are hosted in. For example, Ireland will be eu-west-1. A full list of Regions can be located [here](#).

Cost Optimizer Bucket:

This is the bucket name mentioned in the 'AWS WorkSpaces Cost Optimizer' section earlier on the document.

AppStream Bucket:

In development and not available yet. This is where you put in your S3 bucket for your AppStream Usage Reports.

AWS Cost Optimiser:

This enables the AWS Cost Optimiser.

Dry Run Mode:

Running the Cost Optimiser in Dry Run Mode will show you the changes that would have been made

Auto Reboot:

This gives the ability to set reboot times on WorkSpaces. Available once you've set up the Portal.

Auto Change Compute Type

You can opt for WorkSpaces Manager to automatically change compute type of a WorkSpace. This is useful if, for example, you had a user running heavy spreadsheets on a Standard WorkSpace and it would benefit them with being upgraded to a Performance WorkSpace.

Set Low and High Processor and Memory values (these are up to you). WorkSpaces Manager will also advise you of recommendations.

Applications

AD Group Applications: Enable this if you use software distribution on to your WorkSpaces from the likes of LiquidWare FlexApp. This allows users to add and remove applications available to them through the Self Service side of the WorkSpaces Manager Portal. You can change this to your own prefix when you've logged into the Portal. For example, your FlexApp groups could be prefixed 'FLEXAPP-USRGRP'.

Application Group Prefix:

As above, this is the prefix of your application distribution groups with whatever product you are using (FlexApp, SCCM, etc).

Cloud Paging Applications:

If you want to use Nument Cloudpaging applications with WorkSpaces, you can enable this feature on here.

Cloud Paging Username:

This is where you enter the account name that you use for Nument Cloudpaging.

Additional Options

Statistics Retention Days:

If the WorkSpace Agent has been deployed to the WorkSpaces, it will be reporting back to the server key metric statistics periodically as defined in the Group Policy (see section below on 'Installing The WorkSpaces Agent'). In a large estate, this will create millions of rows within the database over a period of time. The number of days that are retained within the database can be specified here. If the number of days are too high on a large estate (e.g. 60) then it will have an impact on queries of statistics and also increased disk space usage. For smaller estates, you can set this to 30 days and monitor from there.

WorkSpace Service Update Frequency (mins):

This will automatically update the local database with up to date information on this period. 15 minutes is sufficient for most cases, but you wouldn't want to do this on, for example, a 1 minute period on a very large WorkSpaces and user estate. If you need to do a manual update for any reason, you can do this in the Update section of the portal.

Portal URL:

Enter your portal URL here.

Multiple Domains:

If you are using a multi-domain forest, you can add multiple domains that host your user accounts. Therefore, their WorkSpaces can be managed, searched and reported on.

Password Expiry Emails:

If this is chosen, users will receive a notification email two weeks prior to their password expiring. This can be turned on/off whenever and is not required to complete the Portal configuration at this stage.

User Restore:

Enables the Self-Service function for a user to restore their WorkSpace to a last known healthy state. Automatic snapshots for use when restoring a WorkSpace are scheduled every 12 hours. If the WorkSpace is healthy, snapshots of both the root volume and user volume are created around the same time. If the WorkSpace is unhealthy, these snapshots are not created. If needed, a user can restore a WorkSpace to its last known healthy state. This recreates both the root volume and user volume, based on the most recent snapshots of these volumes that were created when the WorkSpace was healthy.

User Rebuild:

Enables the Self-Service function for a user to rebuild their WorkSpace.

- The system is refreshed with the most recent image of the bundle that the WorkSpace was created from. Any applications that were installed, or system settings that were changed after the WorkSpace was created, are lost.
- The user volume (for Microsoft Windows, the D drive; for Linux, /home) is recreated from the most recent snapshot. The current contents of the user volume are overwritten.
Automatic snapshots for use when rebuilding a WorkSpace are scheduled every 12 hours. If the WorkSpace is healthy, a snapshot of the user volume is created. If the WorkSpace is unhealthy, the snapshot is not created.
- The primary elastic network interface is recreated. The WorkSpace receives a new private IP address.

Remote Services Account

This is an account that you configure to remote control user devices using Dameware, etc. This is the generic account that you connect with (which will be standard throughout your organisation). You can remote control a user's WorkSpaces by selecting 'Dameware' (if you've selected the 'Enable Dameware' option in 'Additional Options' and it downloads a connection file for you to run.

Enable RDP:

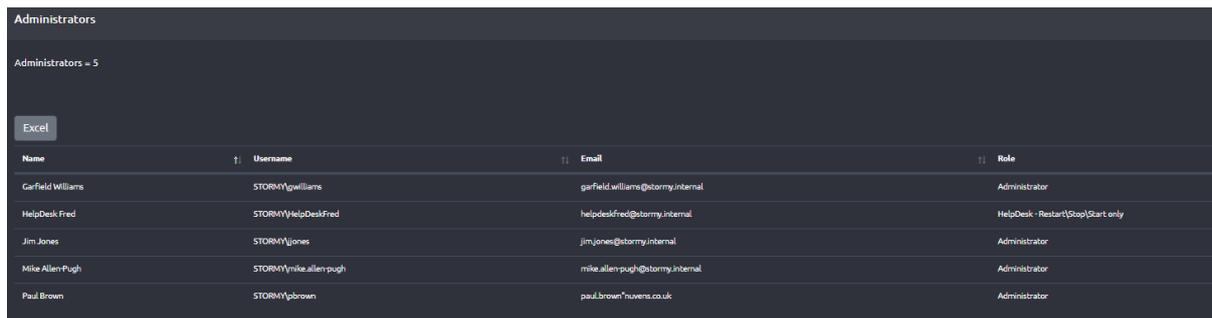
Enables the option for downloading an RDP file to connect to the user's WorkSpace from within the Portal.

Enable DameWare:

Enables the option for downloading an RDP file to connect to the user's WorkSpace from within the Portal.

6.2 Administrators

You can granularly assign WorkSpaces Manager portal admin users to do specific tasks.

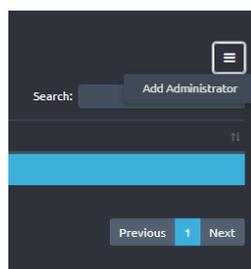


Name	Username	Email	Role
Garfield Williams	STORMY\gwilliams	garfield.williams@stormy.internal	Administrator
HelpDesk Fred	STORMY\helpdeskfred	helpdeskfred@stormy.internal	HelpDesk - Restart\Stop\Start only
Jim Jones	STORMY\jones	jim.jones@stormy.internal	Administrator
Mike Allen-Pugh	STORMY\mike.allen-pugh	mike.allen-pugh@stormy.internal	Administrator
Paul Brown	STORMY\pbrown	paul.brown@nuvens.co.uk	Administrator

This very useful for delegation of support roles purposes where you don't want all users to have full administration rights over every WorkSpace in the estate. For example, you may have two staff who look after users who have critical roles and policy stipulates that they are the only users who can change the reboot times for their WorkSpaces.

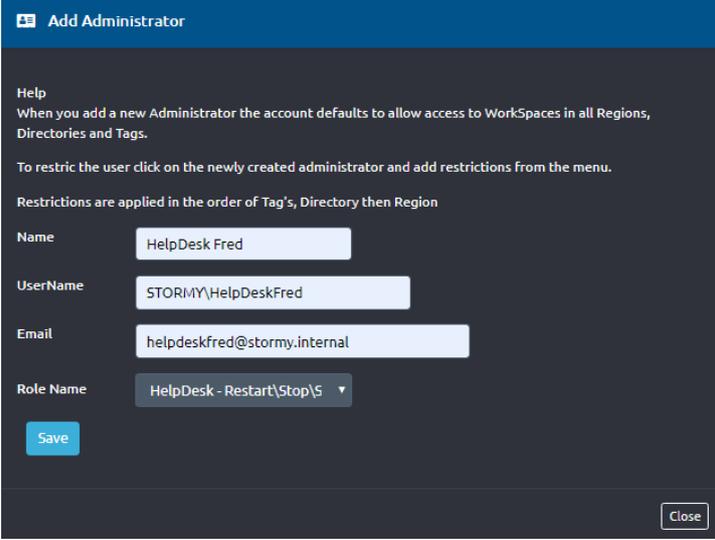
6.2.1 Adding a new portal Administrator

To add a new portal administrator, select the icon on the right and select 'Add Administrator'.



Now fill in the administrator details from Active Directory. Ensure that the username is prefixed with your domain name. You can choose the Role Name for this user. The Roles are defined in the next

section. In this case, we want our portal admin to just be able to restart, stop and start a users' WorkSpace.



Add Administrator

Help
When you add a new Administrator the account defaults to allow access to WorkSpaces in all Regions, Directories and Tags.

To restrict the user click on the newly created administrator and add restrictions from the menu.

Restrictions are applied in the order of Tag's, Directory then Region

Name: HelpDesk Fred

UserName: STORMY\HelpDeskFred

Email: helpdeskfred@stormy.internal

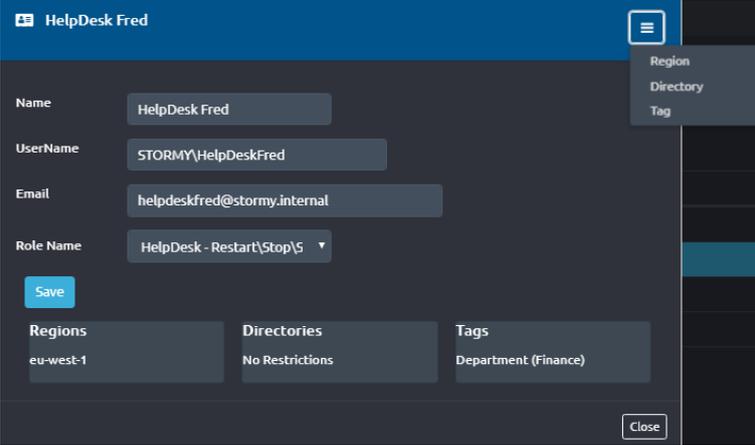
Role Name: HelpDesk - Restart\Stop\5

Save

Close

6.2.2 Restricting users to Regions, Directories or Tags.

For delegation of support roles purposes, you may wish to have portal administrators restricted to WorkSpaces in specific AWS Regions (e.g. a support team in APAC), specific WorkSpace Directories (e.g. which may contain Finance and Marketing users only) or WorkSpace Tags (e.g. the Department is Finance).



HelpDesk Fred

Name: HelpDesk Fred

UserName: STORMY\HelpDeskFred

Email: helpdeskfred@stormy.internal

Role Name: HelpDesk - Restart\Stop\5

Save

Regions: eu-west-1

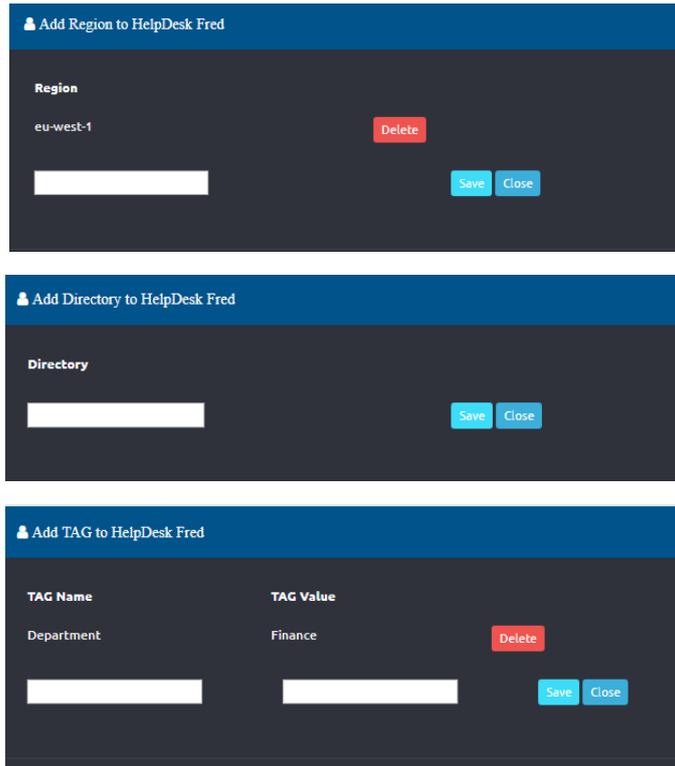
Directories: No Restrictions

Tags: Department (Finance)

Close

Region
Directory
Tag

With this user, we've restricted the administrator to WorkSpaces in eu-west-1 Region, with no specific WorkSpace Directory, and any WorkSpaces that are tagged with 'Department' of 'Finance'. They cannot administer anything other than these WorkSpaces (for example, they cannot terminate\reboot a WorkSpace in 'Marketing'). You can add remove Regions, Directories and Tags but selecting the 'Action' button on the top right.



6.3 Roles

You can create roles which can be assigned to WorkSpaces Manager portal administrators. Only these functions will be available to them from within the WorkSpaces Manager portal.

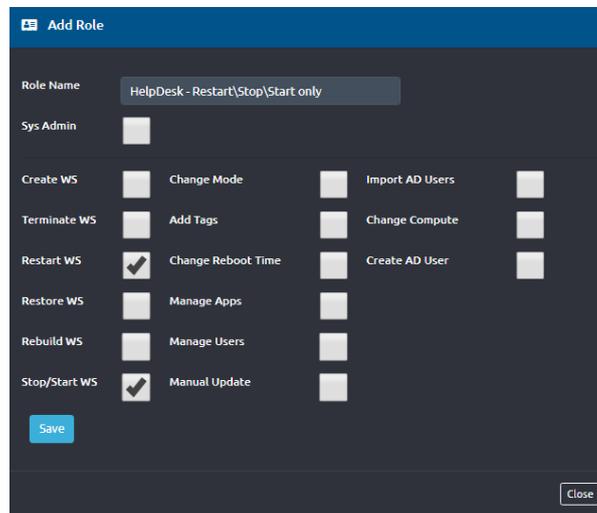
The screenshot shows the 'User Roles' management interface. It includes a search bar, a table of roles, and navigation controls.

Role	SysAdmin	Create	Terminate	Restart	Restore	Rebuild	Stop/Start	Taps	Users	Apps	Type	Mode	AD Users	Import
Administrator	<input checked="" type="checkbox"/>													
HelpDesk - Restart/Stop/Start only	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Showing 1 to 2 of 2 entries

Navigation: Previous, Next

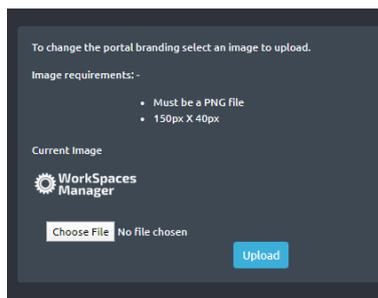
You add a new role by selecting the 'Action' button on top right. In this example, we want to create a role which only allows the user with that role assigned the ability to Restart, Stop and Start a users' WorkSpace. When you've chosen the actions, select 'Save'. You can change these at any time by double clicking on the role and saving it.



NOTE: Even though the user has permissions to restart, stop and start a Workspace here as part of their role, they may be restricted by Regions, Directories and Tags above (as in Section 6.2.2). So, for example, a user cannot restart\stop\start a WorkSpace of a WorkSpace tagged with 'Department – Catering' if they only have permissions to do so with 'Department – Finance' tagged WorkSpaces.

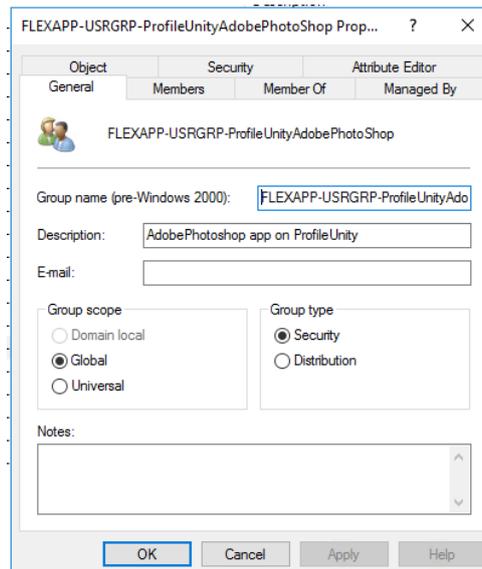
6.4 Branding

You can brand the WorkSpaces Manager portal with your company logo. It must be 150px x 40px or less.



6.5 Applications

By default, any new imported applications based on the prefix group name (in the example below, 'FLEXAPP-USRGRP') are given the 'Application Group' of 'App' and the 'Type' of 'Free'. For an application group to be imported into this list, it will need to have a description and the group prefix specified in the 'Application Group Prefix' field of 'Options > Settings > Applications'. An example:



This is a list of applications that a user can add\remove as a Self-Service function in the WorkSpaces Manager portal. To know more about this, go to **Section 8** where you will be shown how to amend this list where it says 'Type'. All imported applications are 'Free' of Type by default - a user can add and remove themselves from the application in the WorkSpaces Manager Self-Service portal. However, you may want to amend the 'Type' to 'Paid' for such applications as Visio which have licensing constraints. A user can hence remove themselves from the group, but will have to ask the Service Desk (or another AD administrator) to add them back in.

Application Name	Application Group	Group Name	Type	Licenses Purchased	Packages Deployed	Available Licenses
Adobe Reader app on ProfFeatInity	App	FLEXAPP-USRGRP-ProfFeatInityAdobeAcrobat	Free	9999	1	9998
Chrome app on ProfFeatInity	App	FLEXAPP-USRGRP-ProfFeatInityChrome	Free	9999	1	9998
CyberDuck app on ProfFeatInity	App	FLEXAPP-USRGRP-ProfFeatInityCyberDuck	Free	9999	1	9998
FileZilla app on ProfFeatInity	App	FLEXAPP-USRGRP-ProfFeatInityFileZilla	Free	9999	0	9999
Firefox app on ProfFeatInity	App	FLEXAPP-USRGRP-ProfFeatInityFirefox	Free	9999	0	9999
Notepad++ app on ProfFeatInity	App	FLEXAPP-USRGRP-ProfFeatInityNotepadPlusPlus	Free	9999	0	9999
OpenOffice app on ProfFeatInity	App	FLEXAPP-USRGRP-ProfFeatInityOpenOffice	Free	9999	0	9999
WinSCP app on ProfFeatInity	App	FLEXAPP-USRGRP-ProfFeatInityWinSCP	Free	9999	0	9999

If you've added some more AD groups and they do not show, update the list by going to 'Update > Sych AD Groups' and then go back to the list.

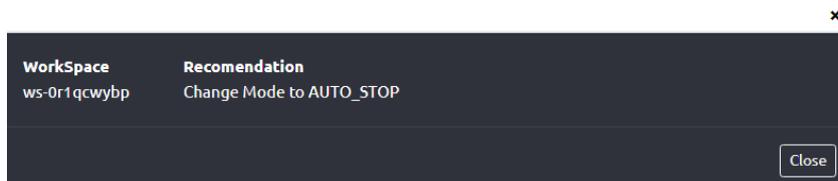
7. Reports

7.1 Cost Estimator and Optimizer

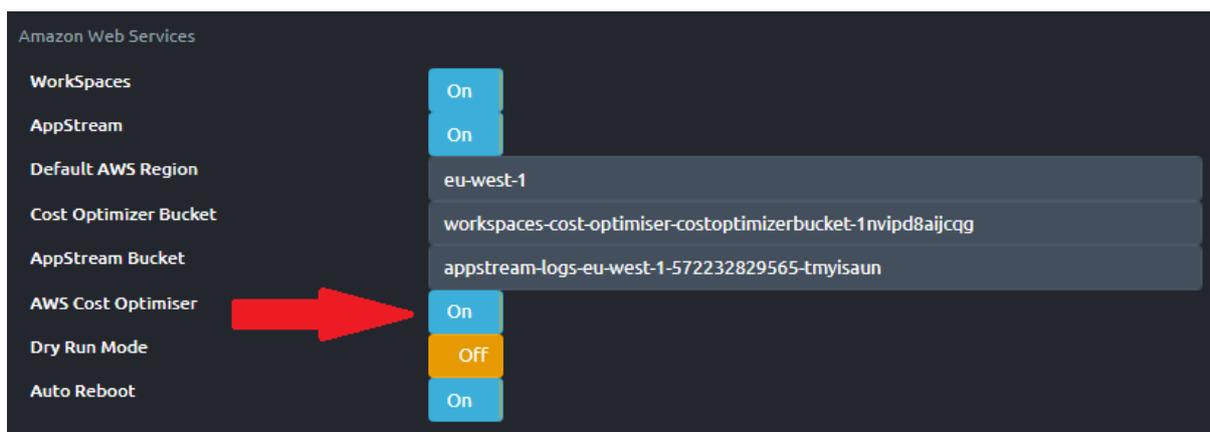
This report shows if the optimiser has is about to change, or has changed, the running modes of a WorkSpaces. You can let the optimizer do it for you, or you can view the recommendations (click on the blue bar at the top) and you can change the type manually. This report can be exported to Excel.

Workspace ID	Initial Mode	Hours in use	Threshold	Change	New Mode	Estimated Cost	Optimized
ws-0r1qcwybp	ALWAYS_ON	220	85	No Change	ALWAYS_ON	\$ 34.00	✔
ws-4qc3q9nl	AUTO_STOP	9	85	No Change	AUTO_STOP	\$ 10.88	✔
ws-8dy3d8mf	AUTO_STOP	7	83	No Change	AUTO_STOP	\$ 10.14	✔
ws-fn41c8d3	AUTO_STOP	12	83	No Change	AUTO_STOP	\$ 13.32	✔
ws-7p6g9gdc	ALWAYS_ON	811	83	No Change	ALWAYS_ON	\$ 38.00	✔
ws-hac8m3dy	AUTO_STOP	25	85	No Change	AUTO_STOP	\$ 16.00	✔

You may have a recommendation at the top of the page where, if you click on the banner, you get the recommended optimisation(s).



PLEASE NOTE : AWS WorkSpaces Cost Optimiser requires enabling on your AWS account containing the WorkSpaces for these reports to be available. Additionally, this feature must be enabled in WorkSpaces Manager portal under 'Options\Settings'.



7.2 Cost History

Shows the cost of your WorkSpaces over the last 12 months. The current month is based on the Cost Estimator above and will update at the end.



PLEASE NOTE : AWS WorkSpaces Cost Optimiser requires enabling on your AWS account containing the WorkSpaces for this to be available.

7.3 Unused

Gives a list of WorkSpaces that have not been used within 31 days. Monitoring this every month can assist you in keeping your costs down. If your users are not using their WorkSpace, you may query if they actually need it. This can be exported to Excel.

1 WorkSpaces not connected in the past 31 days

Computer Name	WorkspaceID	Username	IP Address	Mode	State	Last Connect	Directory	OS	Bundle
EC2AMAZCCTURU	ws-0hr3y9mc	stormy@williams	172.31.29.208	AUTO_STOP	AVAILABLE		d-93672873da		wsb-1ap04buv

Showing 1 to 1 of 1 entries

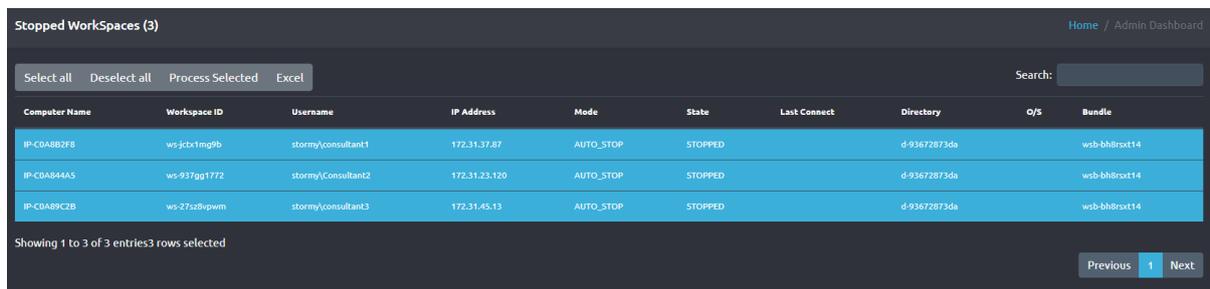
7.4 UnHealthy

Gives a list of WorkSpaces that are in an UnHealthy status and users will not be able to reconnect to them without action. This can be a good pro-active remediation task, but please be aware that if somebody is running such processes as heavy compute then the CPU may be high over a long period of time. But with the WorkSpaces Manager User Dashboard, users can reboot their own WorkSpaces if they get the 'UnHealthy' status on their WorkSpaces client.

This report can be exported to Excel.

7.5 Stopped

Gives a list of WorkSpaces that are in Stopped 'state'.



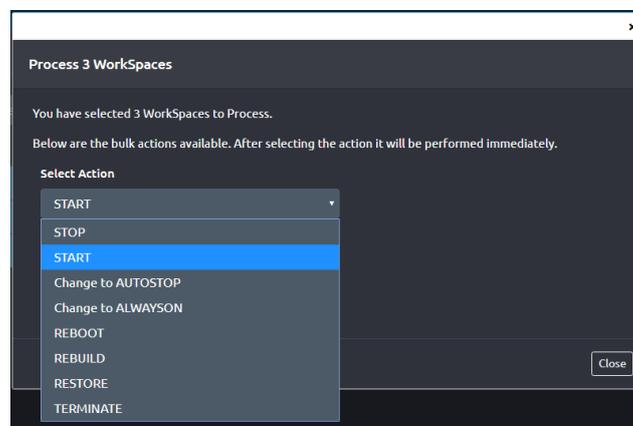
Stopped WorkSpaces (3) Home / Admin Dashboard

Select all Deselect all Process Selected Excel Search:

Computer Name	Workspace ID	Username	IP Address	Mode	State	Last Connect	Directory	O/S	Bundle
IP-C0A8B2F8	ws-jctx1mg9b	stormy/consultant1	172.31.37.87	AUTO_STOP	STOPPED		d-93672873da		wsb-bh8rsxt14
IP-C0A844A5	ws-937gg1772	stormy/Consultant2	172.31.23.120	AUTO_STOP	STOPPED		d-93672873da		wsb-bh8rsxt14
IP-C0A89C2B	ws-27sz2vpwm	stormy/consultant3	172.31.45.13	AUTO_STOP	STOPPED		d-93672873da		wsb-bh8rsxt14

Showing 1 to 3 of 3 entries 3 rows selected Previous 1 Next

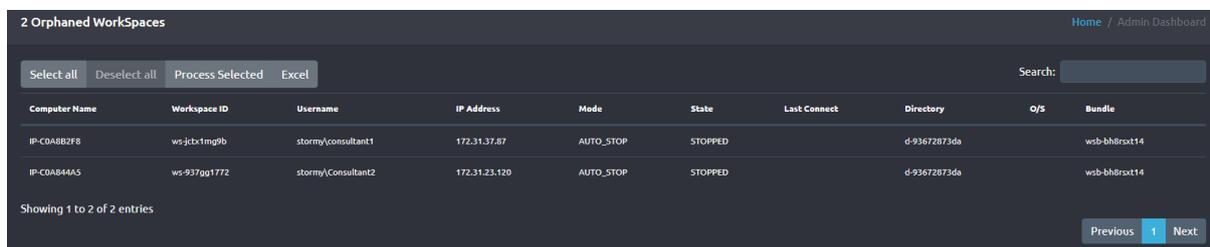
You can select them all, or select them one by one, and perform an action. This report can also be exported to Excel.



7.6 Orphaned

Check for Orphaned WorkSpaces. This will only update WorkSpaces that you have permission to manage and OU's within AD that you have access to.

If users have been deleted from Active Directory, it is likely that their Workspace will remain. In the example below, two user accounts have been deleted but their WorkSpaces remain and is costing the company.



2 Orphaned WorkSpaces Home / Admin Dashboard

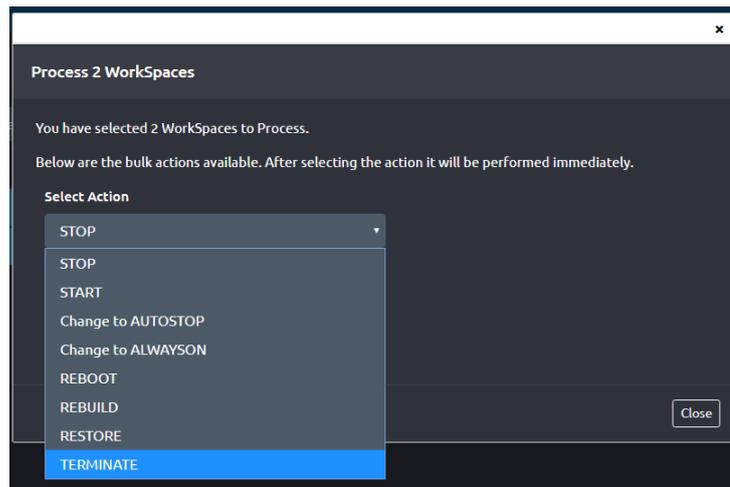
Select all Deselect all Process Selected Excel Search:

Computer Name	Workspace ID	Username	IP Address	Mode	State	Last Connect	Directory	O/S	Bundle
IP-C0A8B2F8	ws-jctx1mg9b	stormy/consultant1	172.31.37.87	AUTO_STOP	STOPPED		d-93672873da		wsb-bh8rsxt14
IP-C0A844A5	ws-937gg1772	stormy/Consultant2	172.31.23.120	AUTO_STOP	STOPPED		d-93672873da		wsb-bh8rsxt14

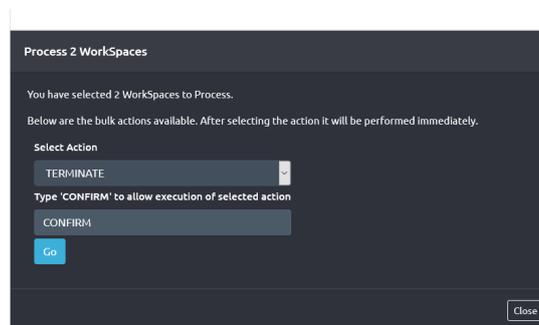
Showing 1 to 2 of 2 entries Previous 1 Next

You can select them all, or select them one by one, and perform an action. This report can also be exported to Excel.

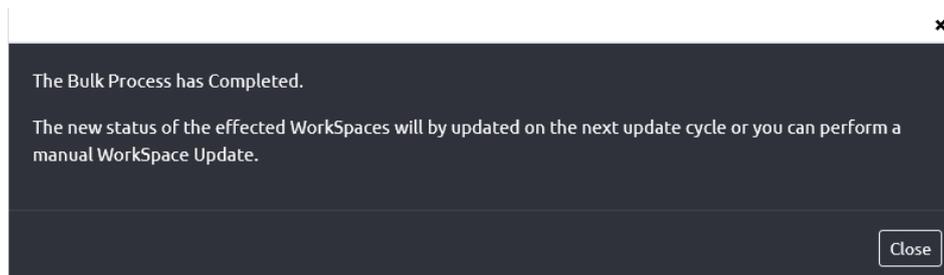
You can export these to Excel if you have a good many. Select the WorkSpaces you wish to act on. Select 'Process Selected' and you now get a drop-down list with a selected list of actions. In reality, you'd only need to select 'Terminate' (delete).



To terminate them, select 'TERMINATE' and then type CONFIRM and select 'Go'.



You will now receive a confirmation message.

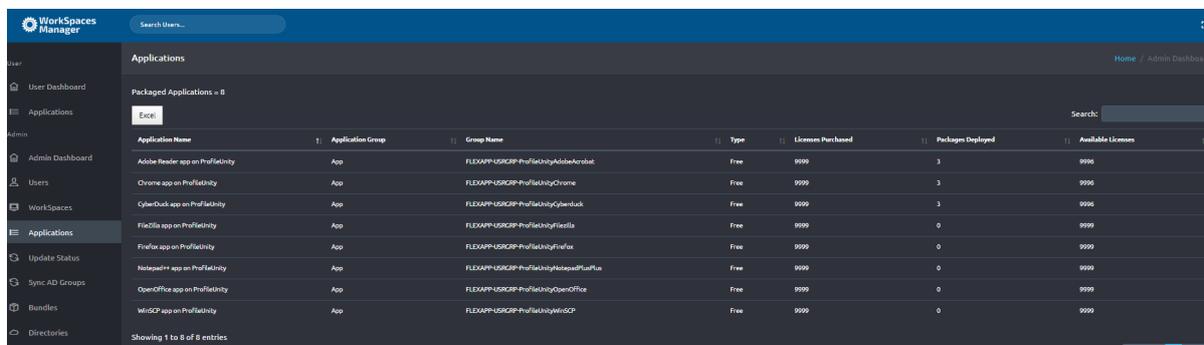


7.7 AppStream

Currently under development.

8. Adding 'Application Group' and 'Type' to the applications in the database

By default, any new imported applications based on the prefix group name (in the example below, 'FLEXAPP-USRGRP') are given the 'Application Group' of 'App' and the 'Type' of 'Free'.



The screenshot shows the WorkSpaces Manager interface with a table of packaged applications. The table has the following columns: Application Name, Application Group, Group Name, Type, Licenses Purchased, Packages Deployed, and Available Licenses. The data rows are as follows:

Application Name	Application Group	Group Name	Type	Licenses Purchased	Packages Deployed	Available Licenses
Adobe Reader app on ProfFactIny	App	FLEXAPP-USRGRP-ProfFactInyAdobeAcrobat	Free	9999	3	9996
Chrome app on ProfFactIny	App	FLEXAPP-USRGRP-ProfFactInyChrome	Free	9999	3	9996
CyberDuck app on ProfFactIny	App	FLEXAPP-USRGRP-ProfFactInyCyberDuck	Free	9999	3	9996
FileZilla app on ProfFactIny	App	FLEXAPP-USRGRP-ProfFactInyFileZilla	Free	9999	0	9999
Firefox app on ProfFactIny	App	FLEXAPP-USRGRP-ProfFactInyFirefox	Free	9999	0	9999
Notepad++ app on ProfFactIny	App	FLEXAPP-USRGRP-ProfFactInyNotepadPlusPlus	Free	9999	0	9999
OpenOffice app on ProfFactIny	App	FLEXAPP-USRGRP-ProfFactInyOpenOffice	Free	9999	0	9999
WinSCP app on ProfFactIny	App	FLEXAPP-USRGRP-ProfFactInyWinSCP	Free	9999	0	9999

Should you wish to change these after the automatic import, you can do so by editing the WorkSpaces Manager directly. For example, you may want to change 'Microsoft Visio' to a 'Paid' application otherwise users could add themselves to any application and therefore cause potential licensing violations with vendors. For 'Paid' applications, the user will have to request the application as they would via normal methods (for example, a corporate Service Desk). Applications that are marked as 'Free' can be added/removed by the users in their WorkSpaces Manager Self Service Portal. With 'Paid' applications, they can only remove themselves from the application, but cannot add themselves back in without being added back to the associated Active Directory group.

IMPORTANT : Please do not edit anything else in any database tables as it can break WorkSpaces Manager.

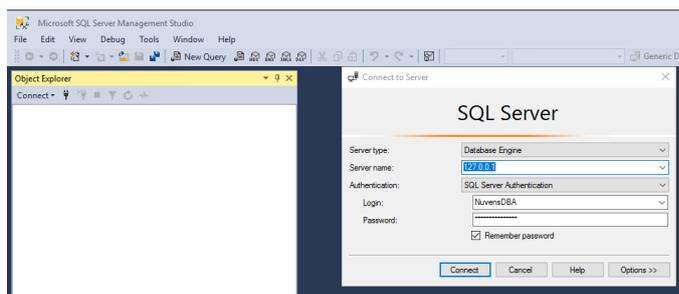
- RDP to the WorkSpaces Manager appliance.

- Open up D:\Portal\web.config in a text editor and make a note of the Password.

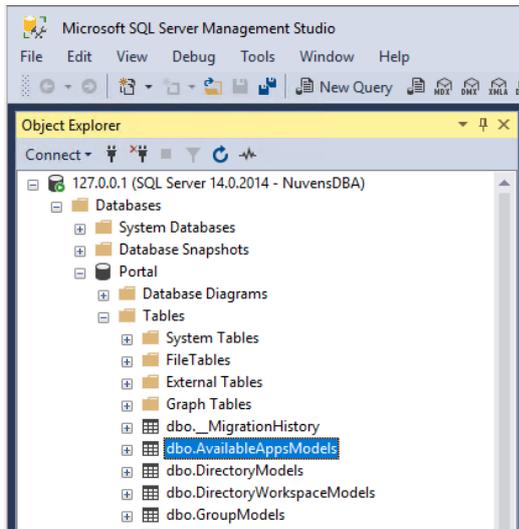
```
<add name="DefaultConnection" connectionString="Data Source=127.0.0.1;Initial Catalog=Portal;Persist Security Info=True;User ID=██████████;Password=██████████" providerName="System.Data.SqlClient" />
```

- Open up 'Microsoft SQL Server Management 17' on the WorkSpaces Manager appliance. NOTE : If you are using a HA pair, open this up on the Primary database instance. Any changes to the database will be replicated from Primary to Secondary.

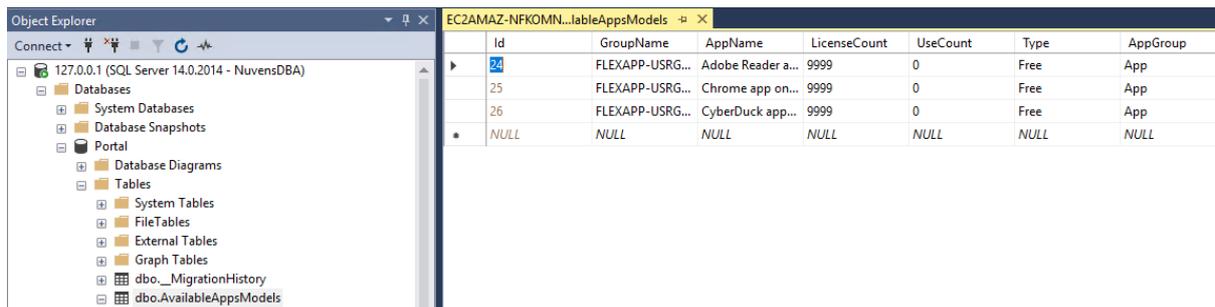
-The 'Login' box will already be populated with the username, so now enter the password from above. Select 'Connect'.



- Select 'Databases', then 'Portal' then 'Tables'.



- Right click on 'dbo.AvailableAppModels' select 'Edit Top 200 Rows'.



- If you want the application restricted to something like a licensed install, type 'Paid' in the Type field next to that application. The user can remove themselves from the AD group, but an administrator will have to add them in via AD for them to get the application back. Additionally, if you want to change the 'AppGroup' category (from 'App' to 'Utilities', etc, then you can do it here by overwriting the 'AppGroup' on the line of the application itself.

9. Multi-Domain forest

If you have users in a multi-domain forest, you can add your domains to the WorkSpaces Manager portal. For this configuration, you will need to switch the Multiple Domains function in Additional Options to 'On'. You will have a single domain by default.

Active Directory (Single Domain)

AD Service Account	workspacesmanagersvc
AD Service Password	*****
NetBios Name	stormy
FQDN	stormy.internal
Default User OU	OU=MyUsers,DC=stormy,DC=internal

Select 'Multiple Domains' from Off to On.

Additional Options

Statistics Retention Days	30
WorkSpace Service Update Frequency	15
Portal URL	http://wsportal.stormy.internal
Multiple Domains	On
Password Expiry Emails	On
User Restore	On
User Rebuild	On

You now add your WorkSpaces Directory ID, FQDN and NetBIOS name of your Active Directory domain, the default OU for your user accounts in that domain, and the username and password for the service account in that domain that you are using to add and remove WorkSpaces.

stormy.internal

Directory ID	d-93672873da
FQDN	stormy.internal
Service Account	workspacesmanagersvc
Password	*****
Netbios Name	stormy
Default OU	OU=MyUsers,DC=stormy,DC=internal

Save

Close

You add more domains by clicking on the '+' button.

Active Directory (Multi Domain Forest) +

Excel Search: _____

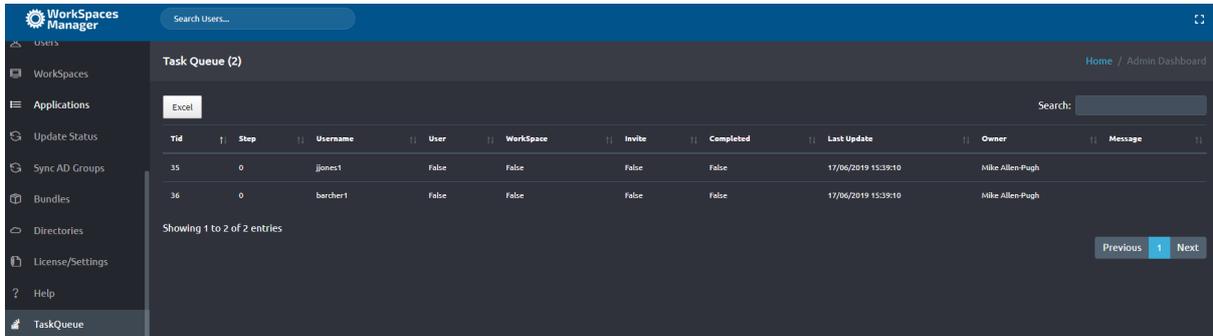
Directory ID	Domain	Service Account
d-93672873da	stormy.internal	workspacesmanagersvc

Showing 1 to 1 of 1 entries

Previous 1 Next

10. Troubleshooting

Q: You've imported some users in the 'Import Users' spreadsheet. The tasks in the TaskQueue don't seem to be updating. They all say 'False'.



A: You need to wait 10 minutes for the scheduled process to get the status for account creation. You can check that the accounts are created within Active Directory. When the user account is created, the user column will change to 'True'. Similarly, for when the user Workspace is created, and the invite is sent via email to the user (if you have specified SMTP server account settings in License\Settings in the WorkSpaces Manager portal). When all processes have completed, the 'Completed' flag will be set to 'True'.

Q: My users aren't creating, and neither are my Workspaces.

A: Check to see if the Nuvens Portal Service is running. If it's stopped, restart it.

