### VEEAMUN2019

# Migrating File Servers to Office 365



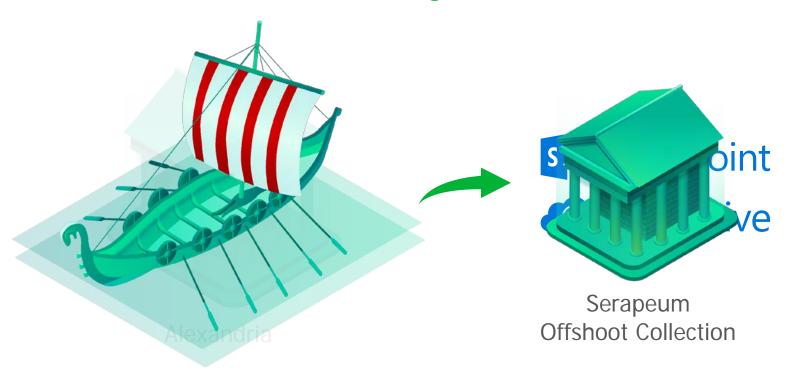
Alexander S. Rødland Senior Consultant alexander.rodland@ Innofactor.com #alexsolaat www.solaat.no

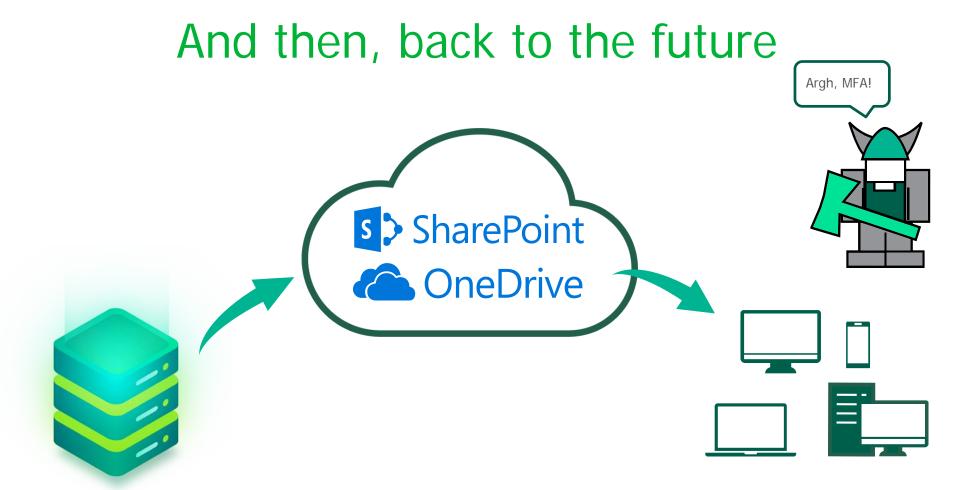


Rick Vanover Senior Director, PS @RickVanover



# Ancient Library of Alexandria







### **Planning**

- What kind of use?
- Console, restructure

### **Implementing**

Home folder migration

### Controlling and monitoring

Microsoft Office 365 & Veeam<sup>®</sup>

# Preparation





### **Prerequisites**

Create a migration server

Significant bandwidth

Create a service account

Have adequate licenses for the users



### Testing

Testing
Identify unsupported
files and folders



### On-premises file server

Ensure that backup has been performed for all folders

File server testing

Replace unsupported file characters



# Installation and staging



### **Installations**

SharePoint Online PowerShell module Azure AD PowerShell module SharePoint Migration Tool



### Office 365

Assign licenses to user Analyze storage File server and OneDrive for Business Set OneDrive Storage space



### OneDrive for Business

Pre-stage OneDrive

for Business sites
Export all OneDrive
for Business site URLs
in the tenant —
validate sites





# Migration







### **OneDrive Client**

OneDrive for Business client deployment

Configure OneDrive for Business

Known folder redirection?



### SharePoint Migration Tool

OneDrive for Business layout discussion

Assign secondary admin to all OneDrive for Business sites

### Migrate

Remove secondary admin to all OneDrive for Business sites



### Review

Review logfiles Merge those with same name



# Cleanup and repeat





### Remove files

Delete files from file server after N days

Repurpose file server / file shares



### **Next phase**

User adoption for Sharepoint Online / Teams

Restructure:

- •File share
- Service share



Repeat

Repeat the process with shared folders

### Provision OneDrive sites

```
#ODFB Bulk Provisioning
                Free to use, please leave this header intact
#Copyright:
#Author:
                Jos Lieben (OGD)
                OGD (http://www.ogd.nl)
#Company:
#Script help: http://www.lieben.nu
               Provision Onedrive for all users in Office 365
#Purpose:
########
#Changes:
#V0.2 fixed a bug, .Clear() does not function as expected in Powershell, = @() does.
########
#Requirements:
########
<#MS Online Services Signin Assistant:</pre>
https://www.microsoft.com/en-us/download/details.aspx?id=41950
Azure AD Module (x64):
http://social.technet.microsoft.com/wiki/contents/articles/28552.microsoft-azure-active-directory-
powershell-module-version-release-history.aspx
Powershell 4
.NFT 4.5
Sharepoint Server 2013 Client Components
http://www.microsoft.com/en-us/download/details.aspx?id=35585
run "Set-Executionpolicy Unrestricted" in an elevated powershell window
Windows 7+ or Windows Server 2008+
```

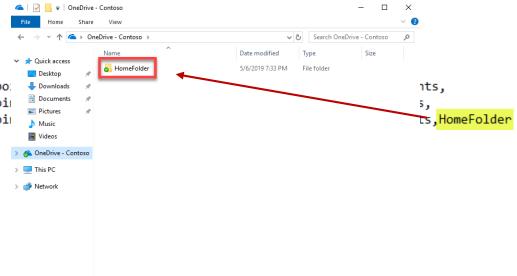


########

### Create the CSV file



\\file-bergen\home\$\alex,,,https://m365x900042-my.sharepoi\\file-dallas\home\$\bob,,,https://m365x900042-my.sharepoi\\file-miami\home\$\rick,,,https://m365x900042-my.sharepoi



1 item

### Scan for unsupported characters

```
$Global:FilePath = "C:\Tools\" #Path to csv file
$Global:CsvName = "users.csv" # Name of csv file
$Global:Csv = $Global:FilePath + $Global:CsvName
$csvItems = import-csv $Csv -Header c1,c2,c3,c4,c5,c6
ForEach ($item in $csvItems.c1) {
$Folder = $item
$Items = Get-ChildItem -Path $Folder -Recurse
$UnsupportedChars = '[!&{}~#%]'
foreach ($item in $items){
   filter Matches($UnsupportedChars){
   $item.Name | Select-String -AllMatches $UnsupportedChars
   Select-Object -ExpandProperty Matches
   Select-Object -ExpandProperty Values
    $newFileName = $item.Name
   Matches $UnsupportedChars | ForEach-Object {
        Write-Host "$($item.FullName) has the illegal character $($ .Value)" -ForegroundColor Red
       #These characters may be used on the file system but not SharePoint
       if ($_.Value -match "&") { $newFileName = ($newFileName -replace "&", "and") }
       if ($_.Value -match "{") { $newFileName = ($newFileName -replace "{", "(") }
        if ($ .Value -match "}") { $newFileName = ($newFileName -replace "}", ")") }
       if ($ .Value -match "~") { $newFileName = ($newFileName -replace "~", "-") }
       if ($_.Value -match "#") { $newFileName = ($newFileName -replace "#", "nr") ]
       if ($ .Value -match "%") { $newFileName = ($newFileName -replace "%", "") }
       if ($ .Value -match "!") { $newFileName = ($newFileName -replace "!", "") }
    if (($newFileName -ne $item.Name)){
       Rename-Item $item.FullName -NewName ($newFileName)
        Write-Host "$($item.Name) has been changed to $newFileName" -ForegroundColor Green
```

# Grant access and migrate

```
$Global:FilePath "C:\Tools\" #Path to csv file
 $Global:CsvName = "users.csv" # Name of csv file
 $Global:Csv = $Global:FilePath + $Global:CsvName
 $Global:sSPOAdminCenterUrl = "https://tenantname-admin.sharepoint.com"
 $Global:AdminUserName = "svc migration@innofactor.com"
 $Global:AdminPassWord = ConvertTo-SecureString -String "SecurePassword" -AsPlainText -Force
 $Global:SPOCredential = New-Object -TypeName System. Management. Automation. PSCredential -ArgumentList $Global:AdminUserName. $Global:AdminPassWord
 $Global:WorkingFolder = "D:\Migration-Temp'
 Connect-SPOService -Url $sSPOAdminCenterUrl -Credential $SPOCredential
 Pegister=SPMTMigration -SPOCredential $Global:SPOCredential -Force -MigrateOneNoteFolderAsOneNoteBook 1 -SkipFilesWithExtension json -WorkingFolder $Global:WorkingFolder
 $csvItems = import-csv $Csv -Header c1,c2,c3,c4,c5,c6
     Write-Output "-----" >> $FilePath\Set-SecondaryOwvnerODcsv.log
     Write-Output "Started Set-SecondaryOwvnerODcsv.ps1 Process - $(Get-Date)" >> $FilePath\Set-SecondaryOwvnerODcsv.log
 ForEach ($item in $csvItems){
 —— Set-SPOUser -Site $item.c4 -LoginName $Global:AdminUserName -IsSiteCollectionAdmin $True -ErrorAction SilentlyContinue | Out-Null
     Write-Output "$(Get-Date) - Added $($Global:AdminUserName) as secondary admin to the site $($item.c4)" >> $FilePath\\Set-SecondaryOwvnerODcsv.log
     Write-Host $item.c1
     Add-SPMTTask - llesnareSource Sitem.c1 - TargetSiteUrl Sitem.c4 - TargetList Sitem.c5 - TargetListRelativePath Sitem.c6
     Write-Output "Ended Set-SecondaryOwynerODcsy.ps1 Process - $(Get-Date)" >> $FilePath\Set-SecondaryOwynerODcsy.log
 Start-SPMTMigration
     Write-Output "-----" >> $FilePath\Remove-SecondaryOwvnerODcsv.log
     Write-Output "Started Remove-SecondaryOwynerODcsv.ps1 Process - $(Get-Date)" >> $FilePath\Remove-SecondaryOwynerODcsv.log
 ForEach ($item in $csvItems){
Set-SPOUser -Site $item.c4 -LoginName $Global:AdminUserName
                                                                                              -ErrorAction SilentlyContinue | Out-Null
     Write-Output "$(Get-Date) - Removed $($Global:AdminUserName) as secondary admin to the site $($item.c4)" >> $FilePath\Remove-SecondaryOwynerODcsv.log
     Write-Output "Ended Remove-SecondaryOwvnerODcsv.ps1 Process - $(Get-Date)" >> $FilePath\Remove-SecondaryOwvnerODcsv.log
```

# Merge and review logs

\$files = Is -Path . -Filter "SummaryReport\*.csv" -Recurse -ErrorAction SilentlyContinue | Select-Object

-ExpandProperty FullName | Import-Csv | Export-Csv .\mergedSummaryReport.csv - NoTypeInformation -Append

WF\_16f00ec5

WF\_137e13d3

WF\_bf62d3e4

> Dokumenter >	onmicrosoft.com > WF_16f00ec5 > Report
Details	27.02.20
TaskReport_7f43378e	27.02.20
FailureSummaryReport	08.02.20
GlobalSettings	07.02.20
SummaryReport	08.02.20



# Cleanup

Delete or archive the files

```
$Global:FilePath = "C:\Temp\" #Path to csv file
$Global:CsvName = "users.csv" # Name of csv file
$Global:Csv = $Global:FilePath + $Global:CsvName
$csvItems = import-csv $Csv -Header c1,c2,c3,c4,c5,c6
if (-not (Test-Path $FilePath\Logs)) { md $FilePath\Logs }
Write-output "Purge started $(Get-Date)" >> $FilePath\Logs\RemovedFilesLog.csv
ForEach ($path in $csvItems.c1) {
    $files = ls -Path $path -Filter "*.*" -Recurse -ErrorAction SilentlyContinue
    Select-Object -ExpandProperty FullName
    ForEach ($item in $files) {
    Remove-Item -force -path $item
    Write-Output "The following file was removed: $item" >>
    $FilePath\Logs\RemovedFilesLog.csv
Write-output "Purge ended $(Get-Date)" >> $FilePath\Logs\RemovedFilesLog.csv
```

VeeaMUN2019

## OneDrive & SharePoint Online limitations

Characters that aren't allowed in file and folder names in OneDrive, OneDrive for Business on Office 365, and SharePoint Online Characters that aren't allowed in file and folder names in OneDrive for Business on SharePoint Server 2013



# OneDrive & SharePoint Online limitations

These names aren't allowed for files or folders: .lock, CON, PRN, AUX, NUL, COM1 - COM9, LPT1 - LPT9, \_vti\_, desktop.ini, any filename starting with ~\$.

### **Notes:**

- "\_vti\_" cannot appear anywhere in a file name
- "forms" isn't supported when the folder is at the root level for a library.
- You can't create a folder name in SharePoint Online that begins with a tilde (~).



## OneDrive limitations

15 GB file size limit

If files < 100,000 then {multiple folders / libraries}

RMS are synced read only



(Live) demo



# OneDrive for Business Admin Center

Use these settings to customize how sharing works in OneDrive and SharePoint. Learn more about external sharing Links Choose the kind of link that's selected by default when users share items. Default link type O Shareable: Anyone with the link Internal: Only people in your organization Direct: Specific people Advanced settings for shareable links V External sharing Users can share with: SharePoint OneDrive Most permissive Users can create shareable links that don't require sign-in. New and existing external users External users must sign in. Existing external users Only users already in your organization's directory. Only people in your organization Least permissive No external sharing allowed. Your sharing setting for OneDrive can't be more permissive than your setting for SharePoint.

Advanced settings for shareable links ^

Links must expire within this number of days:

30

Files:

View

Folders:

View

View

Advanced settings for external sharing ~

Other settings

Display to owners the names of people who viewed their files



Office 365 Admin Portal

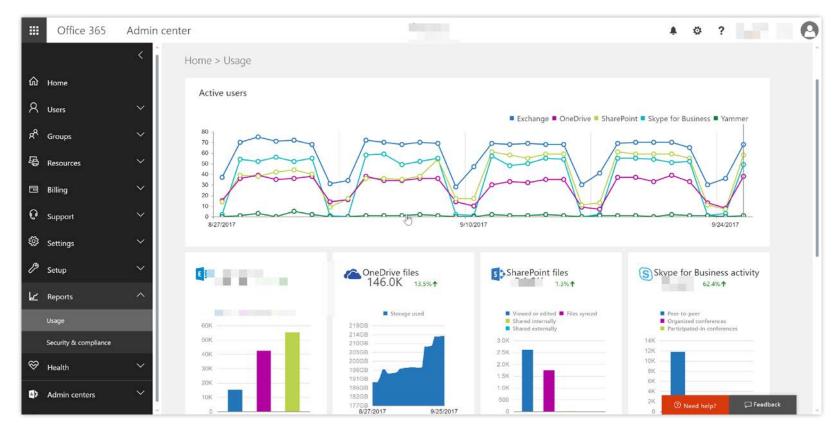
Security & compliance

Cloud app security

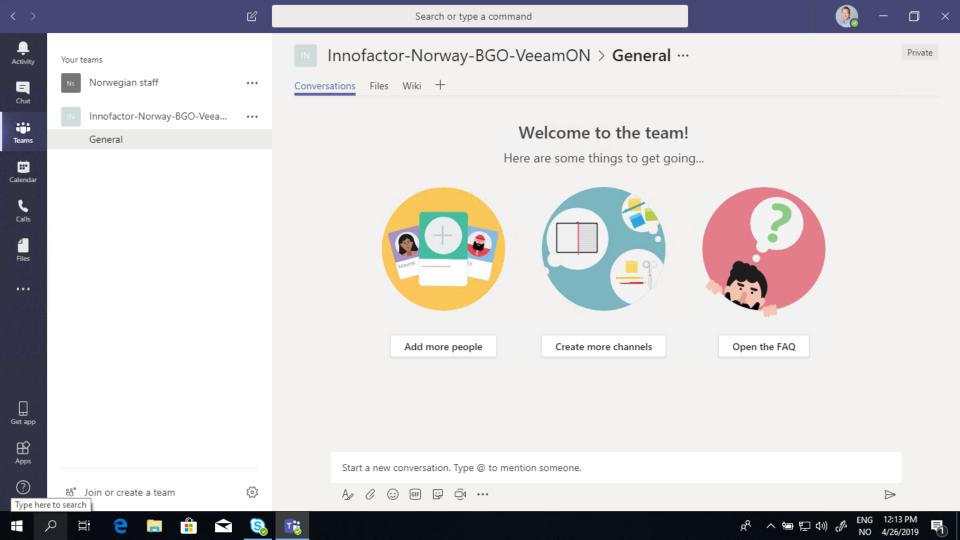
PowerShell

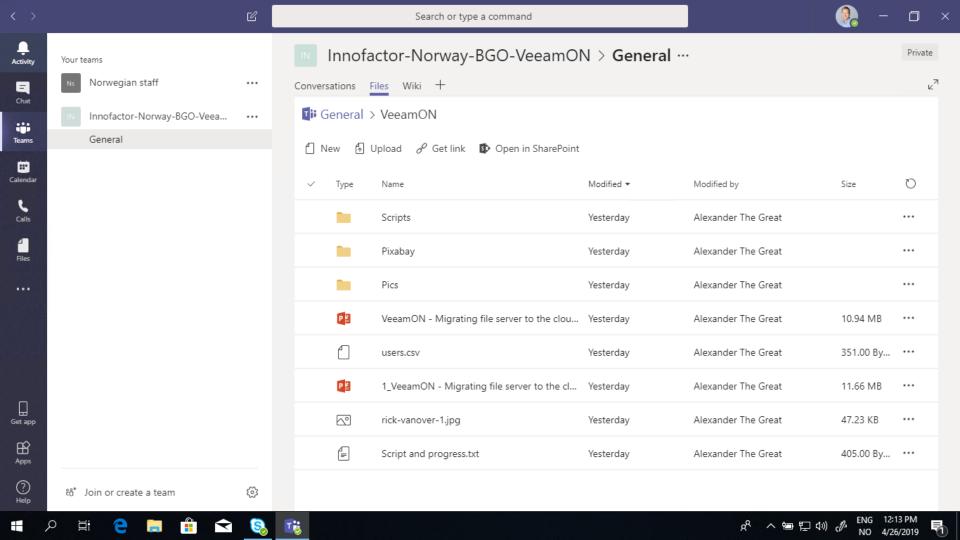
Home folder(?)

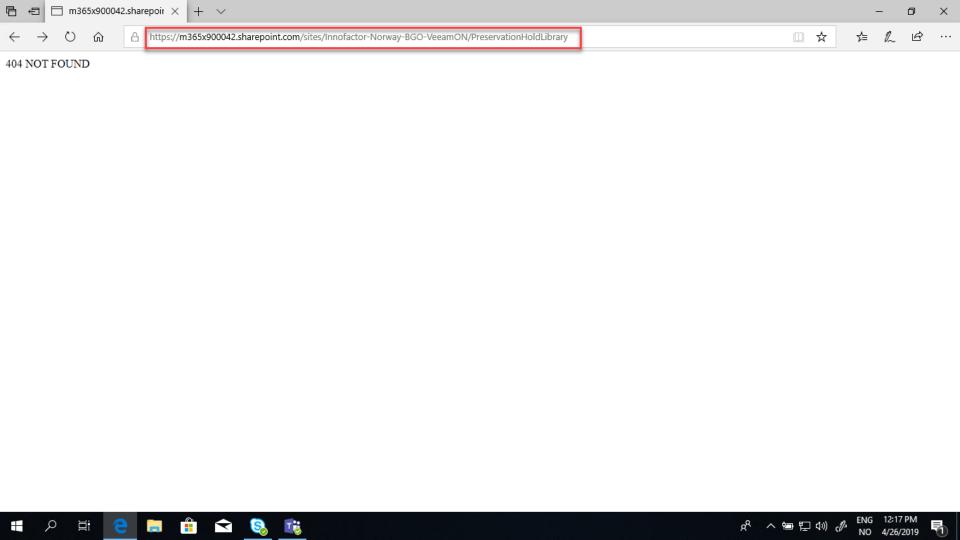
# Reporting: Office 365 Admin Portal

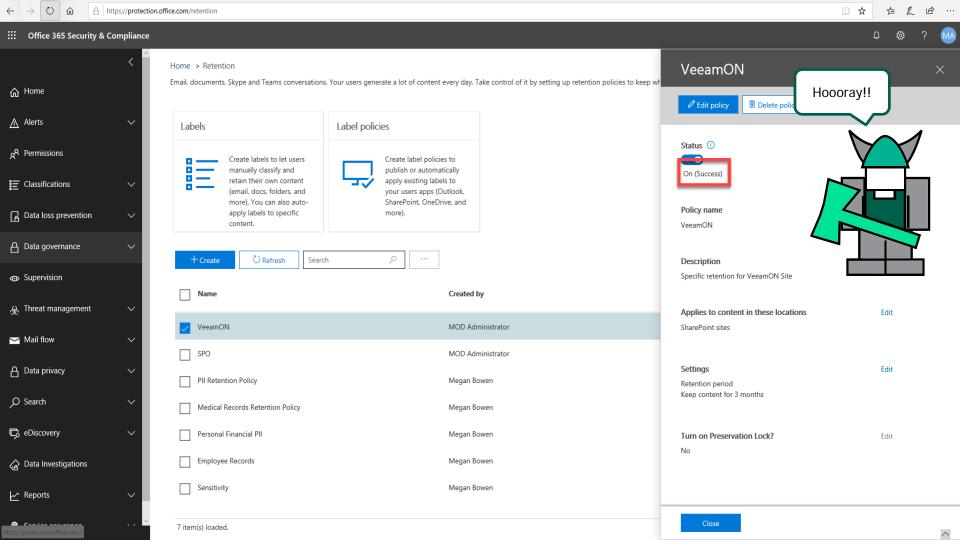


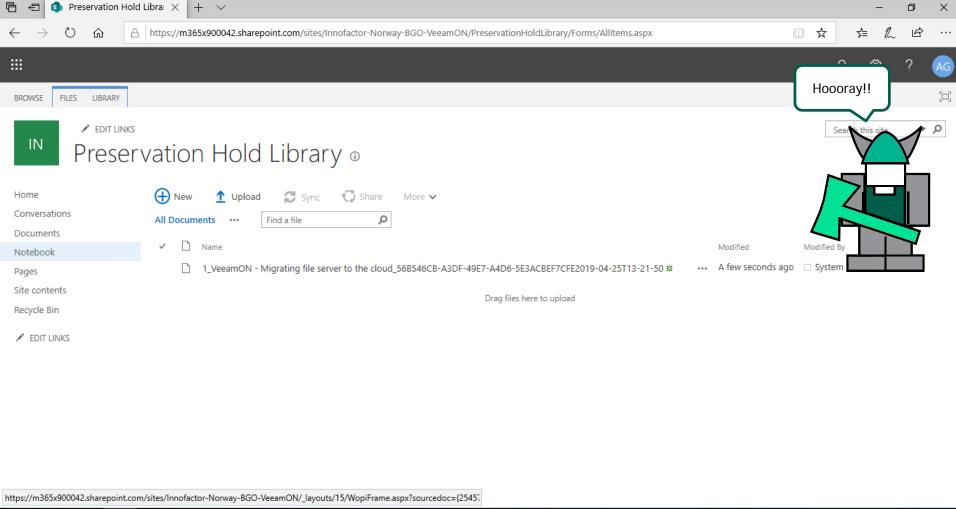
# Retention















What's next for OneDrive



OneDrive and VDI environments



### Files on-demand

Your files will have these statuses in File Explorer:



Online-only files don't take up space on your computer. You see a cloud icon for each online-only file in File Explorer, but the file doesn't download to your device until you open it. You can't open online-only files when your device isn't connected to the Internet.

Online-only files



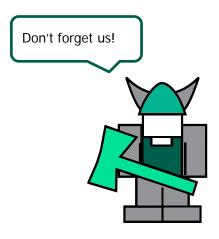
Locally available

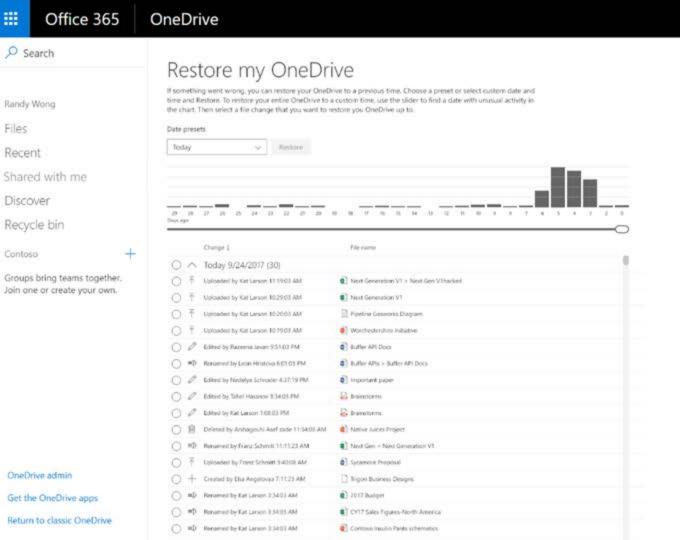
When you open an online-only file, it downloads to your device and becomes a locally available file. You can open a locally available file anytime, even without Internet access. If you need more space, you can change the file back to online only. Just right-click the file and select "Free up space."

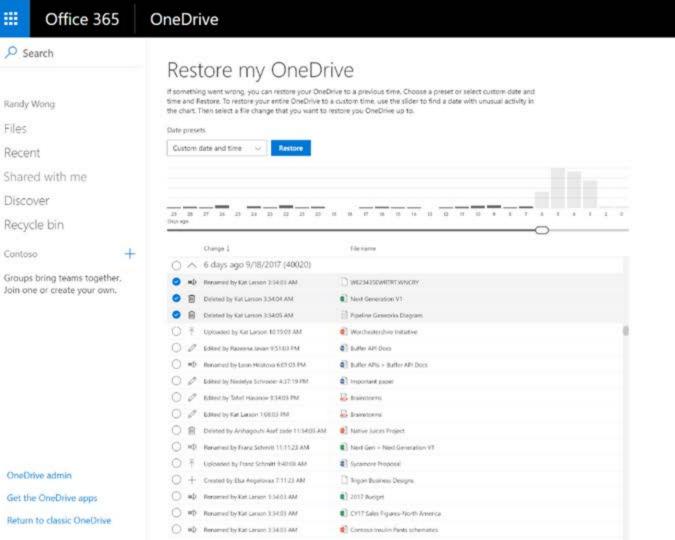


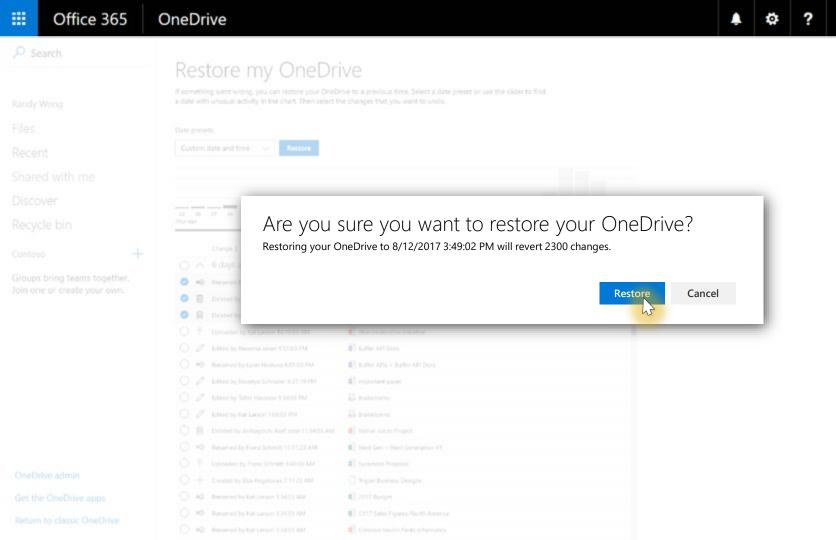
Always available

Only files that you mark as "Always keep on this device" have the green circle with the white check mark. These files download to your device and take up space, but they're always there for you even when you're offline.











# Options for file servers (on premises)

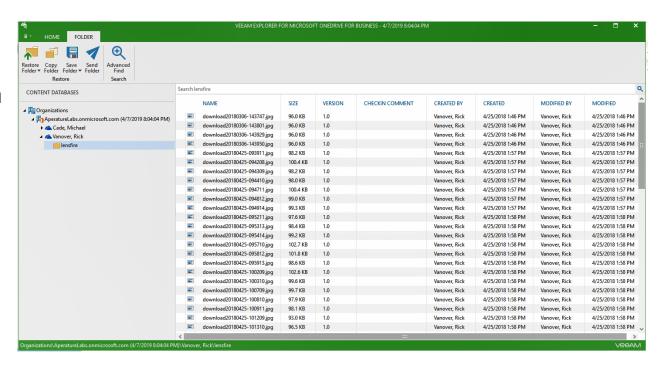
File servers on premises can exist and be made available with Veeam technologies in the following methods:

Method	Backup technique
Storage snapshots of a share	(Is not a backup)
NAS shares	NDMP to tape, files to tape (GA) Next release NAS backup
Virtual machines that are file shares	Veeam Backup & Replication™
Windows or Linux systems that are file servers	Veeam Agent for Microsoft Windows & Linux

### Veeam options for files in Office 365

Individual OneDrive accounts for users can be restored easily with Veeam Backup for Microsoft Office 365

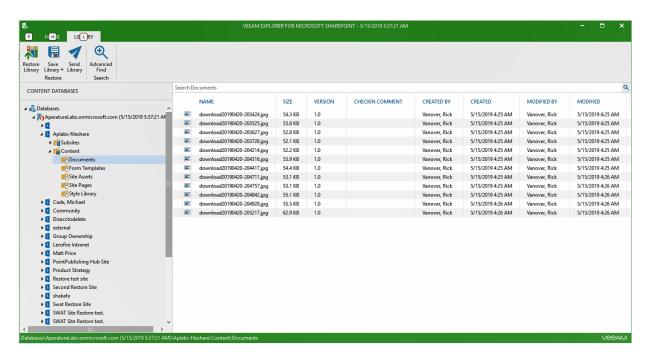
Example here — viewing one personal OneDrive



### Veeam options for files in Office 365

Sites are backed up and able to be restored as well.

**Example here** — viewing sties in OneDrive





# Thank you

VEEAMUN2019

# Session survey available now!

Please take the very short (5 question) survey through your mobile app now!

- 1 Tap on the session
- Scroll down past **Speakers**
- Tap Session Feedback Survey