PMA.transfer 2.0

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by Yassine Iddaoui

PMA.transfer 2.0

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Table of Contents

Part I About PMA.Transfer 5

1 Who should read this 5
2 What's new in version 2.0.1 5
3 What's new in version 2.0.2 5
4 What's new in version 2.0.3 5
5 Release history 6

Part II Installation 7

1 System requirements 7
2 Installation 7

Part III Site Manager 8

1 My Sites 9
2 Folders 10
3 Sites 10
4 Bookmarks 13

Part IV Upload and download 15

1 Initiating an upload 15
2 Monitoring an upload 15
3 Initiating a download 17
4 Monitoring a download 17

Part V Menu bar & Toolbar 20

1 Menu bar 20
- File 20
- Edit 20
- View 20
- Transfer 21
- Help 21

2 Toolbar 23
3 Connection bar & Logging text area 23

Part VI Table view for local site 25

1 Folders navigation tree 25
2 Create new folder 25
3 Menu button View 26
4 Context menu for slides 27

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5 Context menu for folders 29
6 Navigation 30

Part VII Table view for remote site 31

1 Folders navigation tree 31
2 Create new folder 31
3 Menu button View 32
4 Context menu for slides 33
5 Context menu for folders 36
6 Navigation 37

Index 0

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1 About PMA.Transfer

PMA.transfer is a slide transfer desktop application aimed to make slide transfer an easier process by remedying to a couple of frequent recurring problems (transfer failure, timeouts, Firewall issues, security, integrity check…)
It's available free of charge, and offers a couple of benefits including :

- Knowledge of what a slide actually is: you select a .mrxs file; the application automatically figures out to include the other files in the process.
- Runs over HTTP(S): no need to punch through firewalls.
- Error recovery in case the network connection is interrupted.
- Integrity check to verify the transferred files are not corrupt.

1.1 Who should read this

Any end user that wants to transfer slide between a local site (PMA.start) and a remote one (PMA.core or My Pathomation).

1.2 What's new in version 2.0.1

General improvements :

- Log file menu item to open directly the current log file in addition to log files' location
- Added file format to "inspect slide" interface

Bug fixes :

- VSI slides' transfer issue
- Dealing with leading/trailing spaces in host & username text fields and trailing slashes for host as well

1.3 What's new in version 2.0.2

General improvements :

- Ask for confirmation before closing the app
- Auto detect white or black text color depending on text area background color
- Add recursive folder download feature

Bug fixes :

- Fix thumbnail URL encoding issue on local site
- Tests against all supported file formats, bug fixing

1.4 What's new in version 2.0.3

New features :

- Bypass proxy
- Delete directories on server side (only if empty and not a root one)

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- Rename directories on server side (only if empty and not a root one)
- Delete slides on server side
- Rename slides on server side
- Add copy full path option both locally and remotely

General improvements :

- Directly download to selected folder on local site
- Keyboard input interaction
- New icon for root directories
- Better transfer speed metrics
- Better error messages
- Enhanced integrity check
- Adding counters to all bottom bar buttons

Bug fixes :

- Refresh table view for local site following successful downloads

1.5 Release history

Version	Revision	Released
PMA.transfer 2.0.0	50	May 2019
PMA.transfer 2.0.1	55	July 2019
PMA.transfer 2.0.2	60	September 2019
PMA.transfer 2.0.3	72	January 2020

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2 Installation

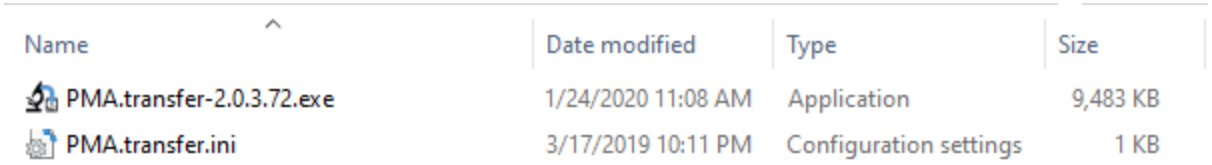
PMA.transfer relies on the presence of PMA.start, which can be downloaded free of charge through http://free.pathomation.com

2.1 System requirements

- Windows 7 or later
- Java runtime environment (JRE) 1.8 update 60 or later

2.2 Installation

- Extract file PMA.transfer.zip into a destination a folder
- Navigate to destination folder



- Double click on file PMA.transfer-2.0.3.x.exe

The Zip file is optionally shipped with a PMA.transfer.ini file containing a preconfigured connection data, it's loaded automatically when the app is launched.

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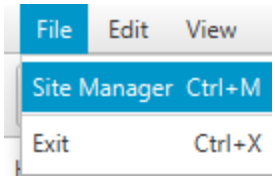
3 Site Manager

The site manager aims to make it easy for end users to store connection data related to the different Pathomation server instances (PMA.core, Pathomation cloud…).

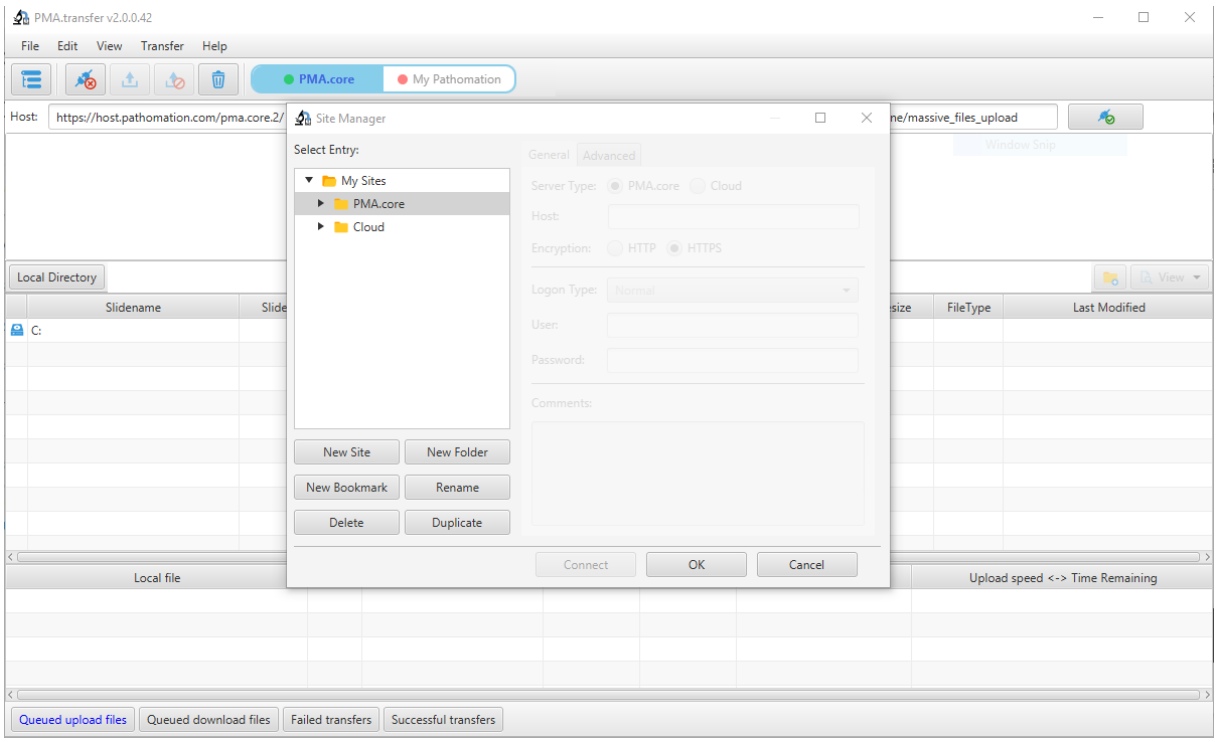
It can be initiated via :

- click on button “Site Manager” (first to the left on the icons toolbar)

- click on Menu item “Site Manager” on Menu “File”.



- Keyboard shortcut “Ctrl + M”.



It enables end users to organize connection data into folders, sites, bookmarks in addition to a couple of others functionalities (rename, duplicate…)
The data generated by the site manager is stored inside file “PMA.Transfer_data.json” on user’s default Windows directory :

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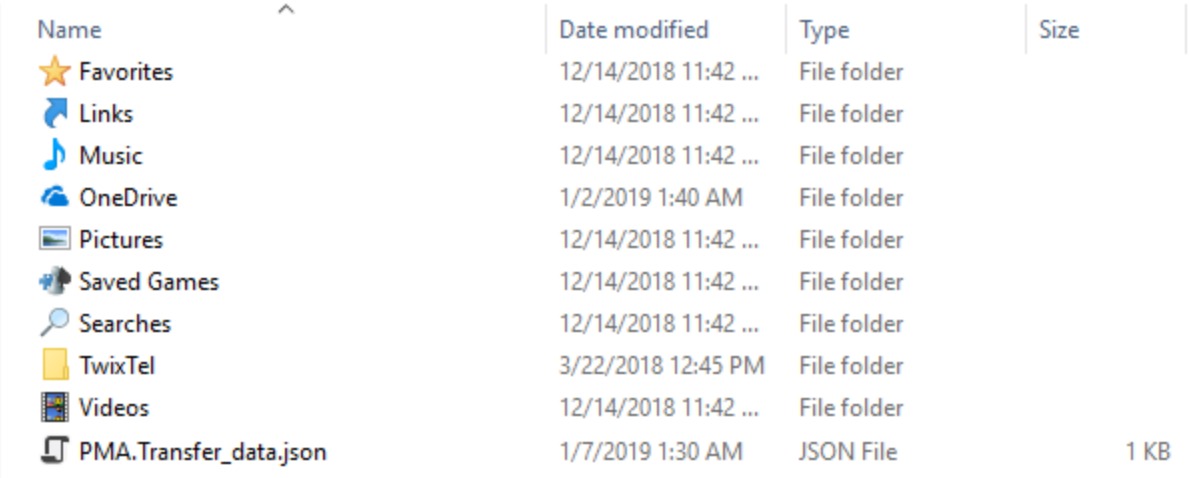
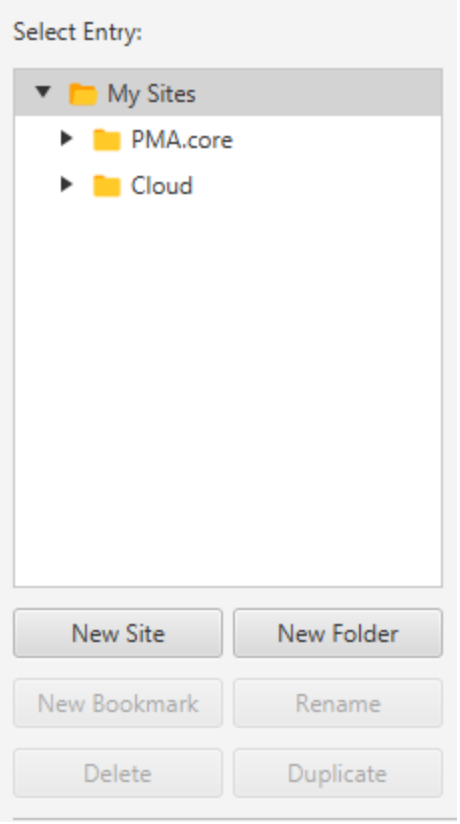


Name	Date modified	Type	Size
Favorites	12/14/2018 11:42 ...	File folder	
Links	12/14/2018 11:42 ...	File folder	
Music	12/14/2018 11:42 ...	File folder	
OneDrive	1/2/2019 1:40 AM	File folder	
Pictures	12/14/2018 11:42 ...	File folder	
Saved Games	12/14/2018 11:42 ...	File folder	
Searches	12/14/2018 11:42 ...	File folder	
TwixTel	3/22/2018 12:45 PM	File folder	
Videos	12/14/2018 11:42 ...	File folder	
PMA.Transfer_data.json	1/7/2019 1:30 AM	JSON File	1 KB

The content of this file should not be modified!

3.1 My Sites

The node “My Sites” is the root of the site manager tree, it cannot be deleted or renamed.



- Click on button “New Site” creates a new site inside “My Sites”.
- Click on button “New Folder” creates a new folder inside “My Sites”.

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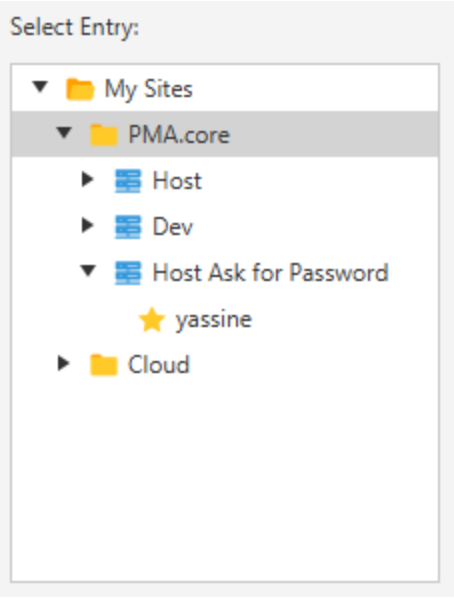
3.2 Folders

Folders organize “sites” (and consequently “Bookmarks”) functionally to give end users better visibility :



- Click on button “New Site” creates a new site inside selected folder.
- Click on button “New Folder” creates a new folder inside selected folder.
- Click on button “Rename” makes the Tree item editable so the folder’s name can be modified (to confirm the modifications press “Enter” key, to cancel them press “ESC”).
- Click on button “Delete” deletes selected folder (and consequently everything inside is removed, which include sub-folders, sites and bookmarks!)

3.3 Sites

Sites define connection details to connect to a server instance (which can be PMA.core or cloud instance)

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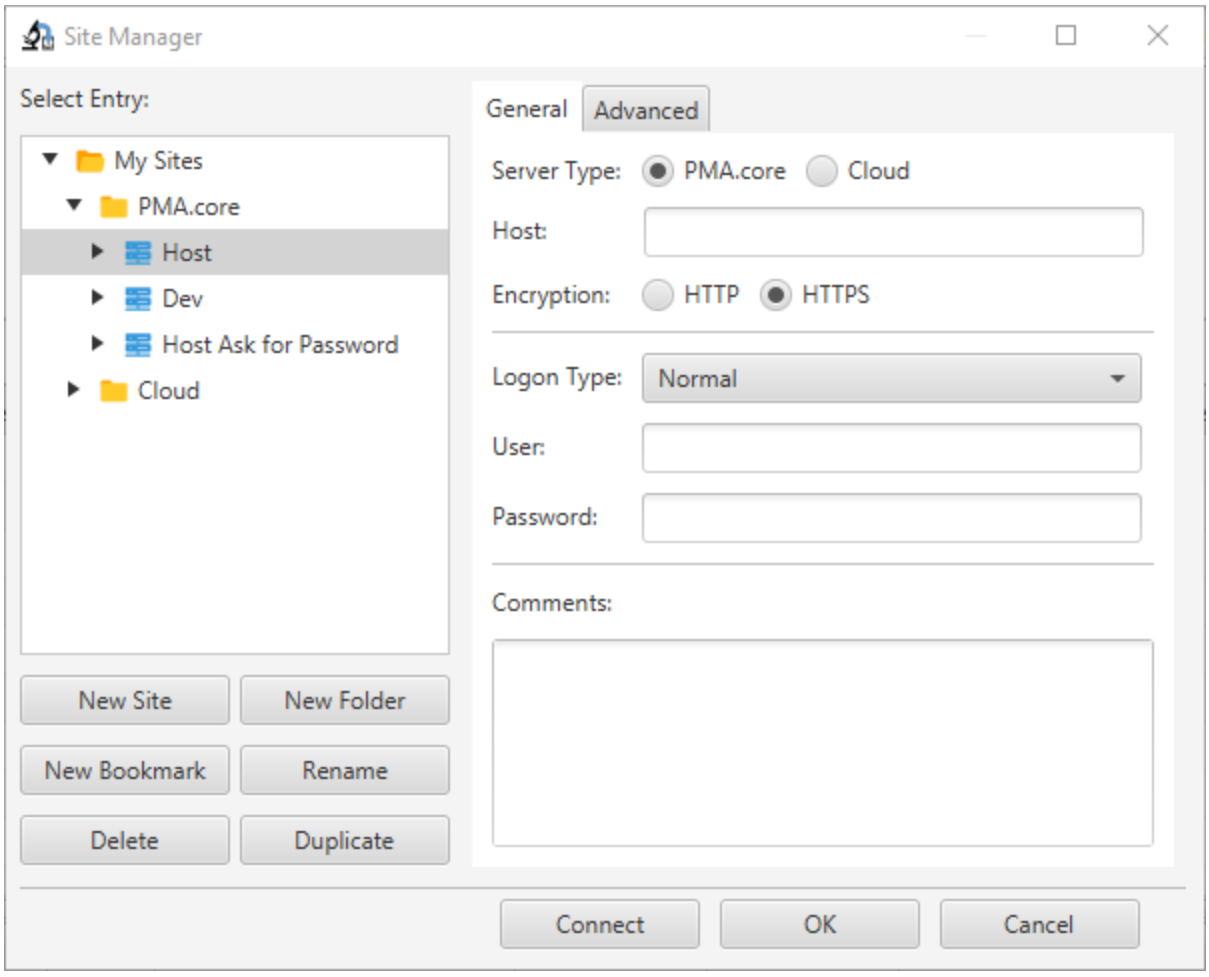
Site Manager
Select Entry:
My Sites
PMA.core
Host
Dev
Host Ask for Password
Cloud
New Site
New Folder
New Bookmark
Rename
Delete
Duplicate
General
Advanced
Server Type:
PMA.core
Cloud
Host:
Encryption:
HTTP
HTTPS
Logon Type:
Normal
User:
Password:
Comments:
Connect
OK
Cancel

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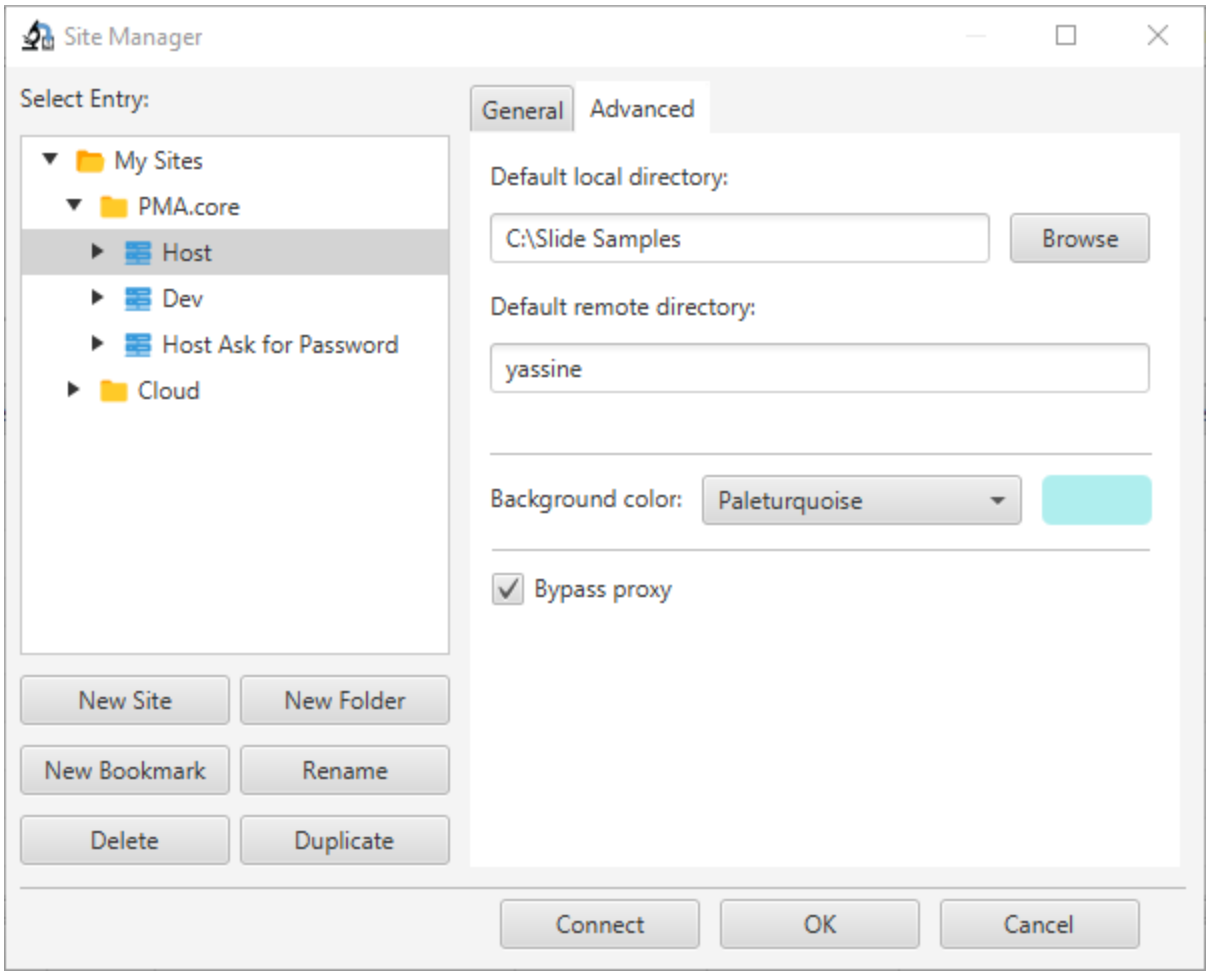

”General” & “Advanced” tabs gather the connection details for the selected site.
If “Cloud” Radio button is selected, host Text field and Encryption Radio are deactivated and switched automatically to values “host.pathomation.com”, “” and “HTTPS” respectively.

For “Advanced” tab, end users can define the default local and remote directories to automatically navigate to when a successful connection is established.
It's also possible to define a background color (that will fill the logging text area) to make it visually easier for end users to identify which host are they connected to. It's worth mentioning that the text color on logging text area will be automatically white or black depending on selected background color.
The last option on the list is "bypass proxy" which makes it possible to bypass the system proxy settings to connect directly to the desired host.

- Click on button “New Site” creates a new site within the same parent folder the selected site belongs to.
- Click on button “New Folder” creates a new folder within the same parent folder the selected site belongs to.
- Click on button “New Bookmark” creates a new bookmark in a new child node inside the selected site.
- Click on button “Rename” makes the Tree item editable so the site’s name can be modified (to confirm the modifications press “Enter” key, to cancel them press “ESC”).
- Click on button “Delete” deletes selected site (and consequently everything inside is removed, which includes bookmarks!)

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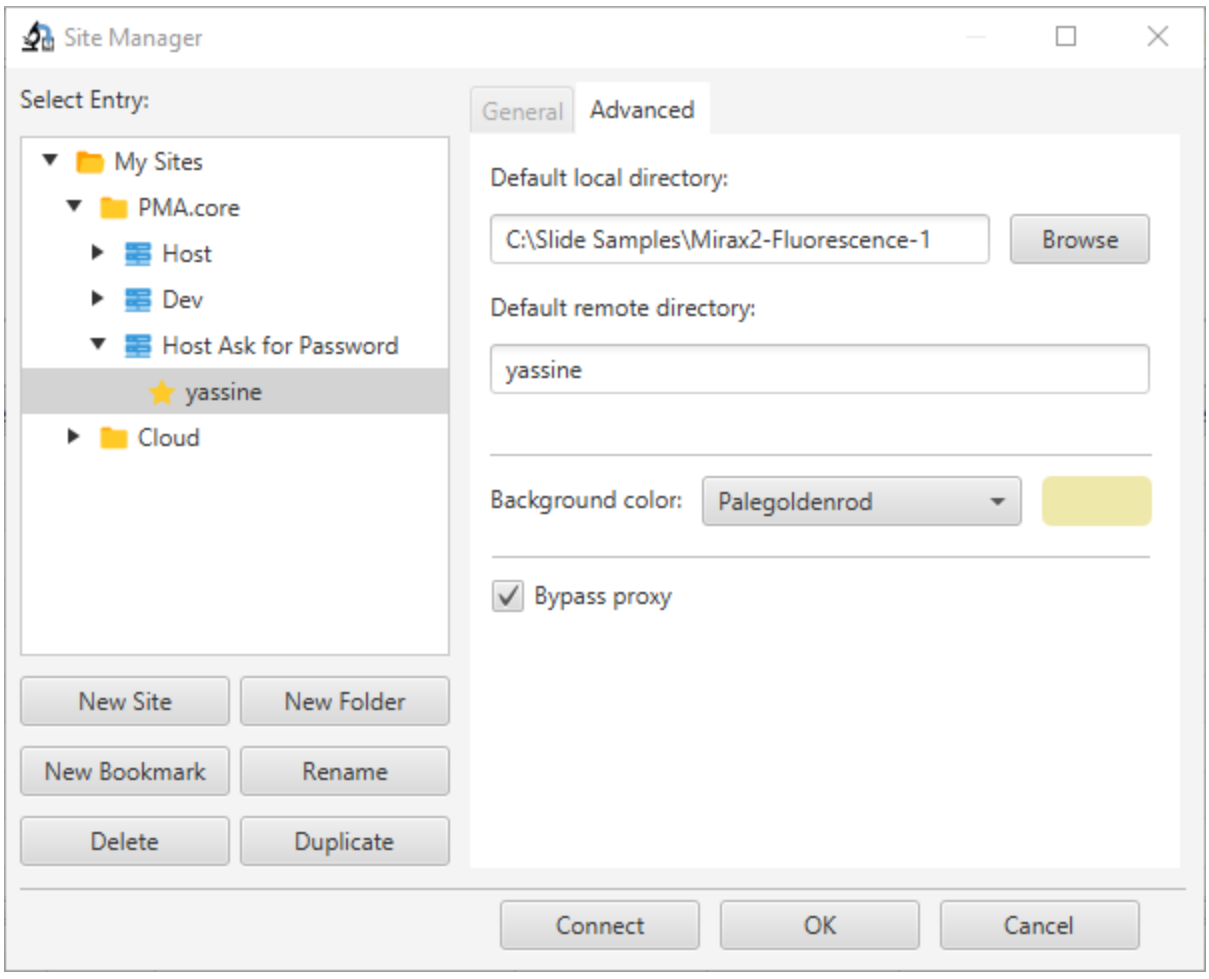
- Click on button “Duplicate” copies recursively the selected site (which includes related “bookmarks”) in a new node within the same parent folder it belongs to.

Once the end user is done with the modifications, he can either click on button “OK” to save them or button “Cancel” to discard them. It’s worth adding that if the selected node is a site or a bookmark, it’s possible to click on button “Connect” to initiate a connection and store the modifications all together.

3.4 Bookmarks

Since it’s possible to have multiple slide folders on a local HDD and access multiple slide folders on server side (either PMA.core or Pathomation cloud), bookmarks offer the possibility to save favorite combinations of local/remote directories to navigate directly to once a connection is successfully initiated.
Each Bookmark belongs to a parent site and relies on it for connection data.



- Click on button “New Site” creates a new site within the parent folder of the site the selected bookmark belongs to.
- Click on button “New Folder” creates a new folder within the parent folder of the site the selected bookmark belongs to.
- Click on button “New Bookmark” creates a new bookmark next to the selected bookmark.
- Click on button “Rename” makes the Tree item editable so the bookmark’s name can be modified (to confirm the modifications press “Enter” key, to cancel them press “ESC”).

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- Click on button “Delete” deletes selected bookmark.
- Click on button “Duplicate” copies the selected bookmark in a new node next to it.

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4 Upload and download

4.1 Initiating an upload

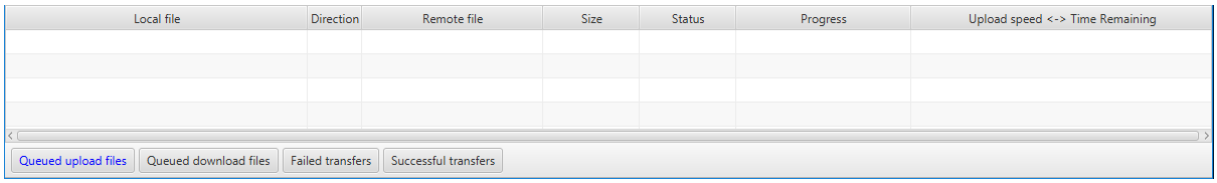
There are four options to launch an upload :

- Select a slide on local site (Table view to the left) then click on button
- Select a slide on local site (Table view to the left) then click on menu "Transfer" on the toolbar then select menu item "Upload slide"
- Mouse right click inside the left table view borders, then select “upload slide to remote slide” context menu item to upload the selected slide to the remote site.
- Drag & drop : drag a slide from the left, then drop it on the right. The cursor switches to on drag, on drop and when an operation is forbidden.

Upload of a folder (recursively) :

The upload of a folder can be performed via a drag & drop or click on context menu item "upload folder to remote site" . Once successfully initiated, The folder and its sub-directories are sub-consequently created on server side then the upload of contained slides is operated to corresponding destinations.

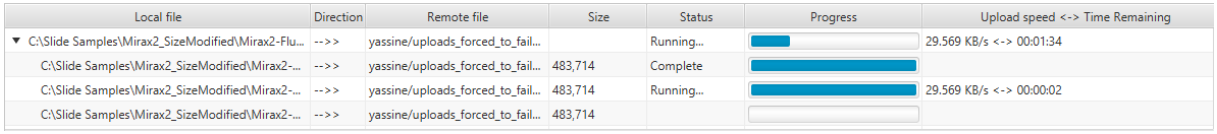
4.2 Monitoring an upload



The tree table view is intended to monitor upload progress and keep track of successful/aborted uploads. The toolbar to the bottom permits to switch between queued uploads/downloads, successful and aborted ones.

Queued files :

When an upload is started, the slide (including the related files) are added to the view in a tree fashion. The progress bar, upload speed and remaining time for each file and also the whole slide keep end user informed about the upload progress.



It's worth adding :

- For multi-file slides the files are sorted by size in descendant order to give end users the best user experience
- When the internet connection is lost, the status switches to “stalling…” till the connection is established again, then it switches back to “Running…” and the upload resumes

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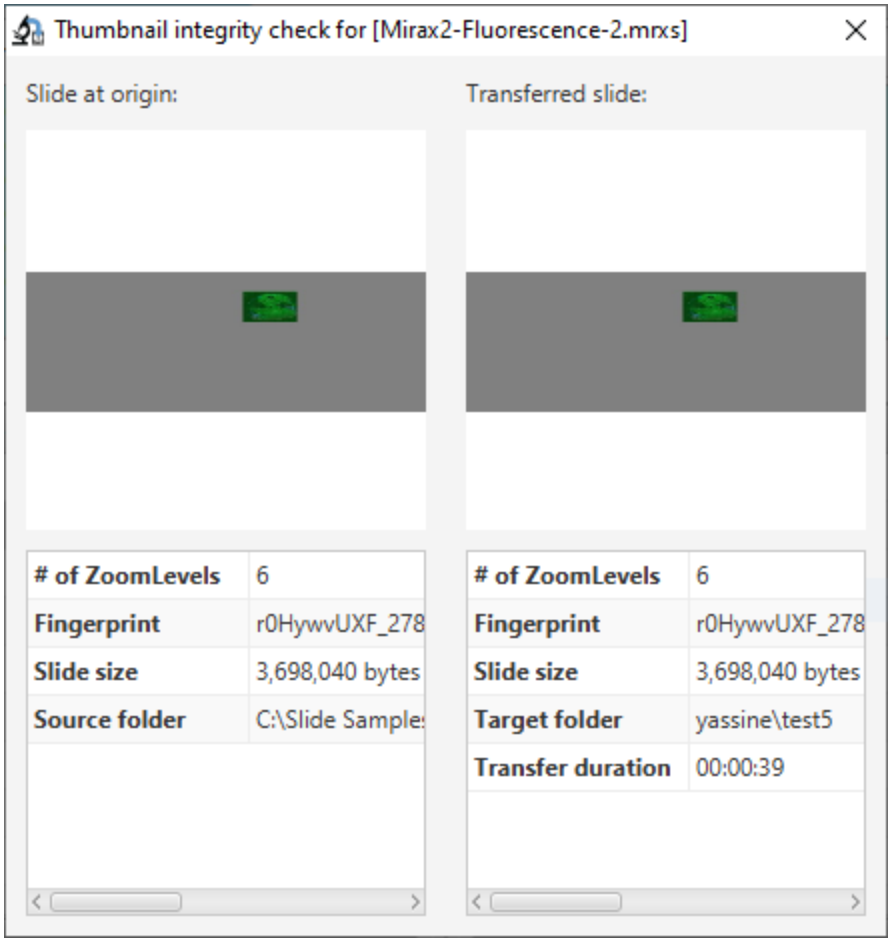
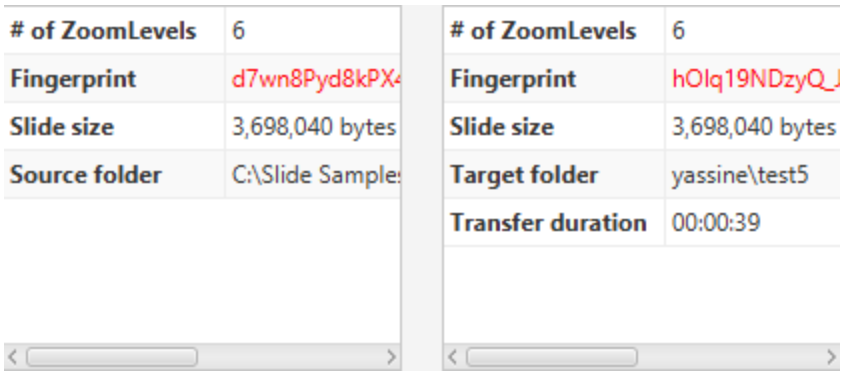
Once the upload is complete, an integrity check windows pops up to compare both slides on local/remote sites.



In case the fingerprint doesn't match, a red font is used to mark this incoherence



Failed transfers :

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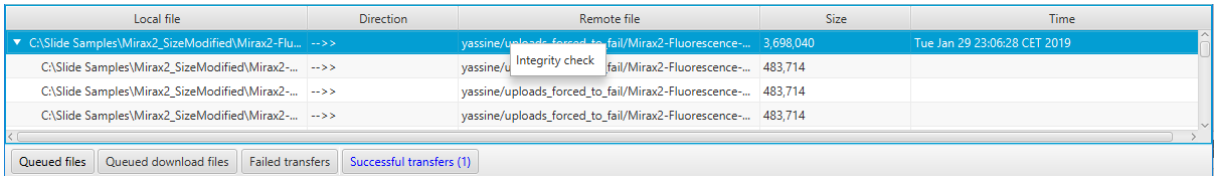
By design, uploads on PMA.transfer aren't supposed to "fail", it keeps relaunching failed uploads indefinitely till a complete and successful upload is achieved. Therefor the uploads shown following a click on this button are uploads that were intentionally aborted via click on button "stop".

Successful transfers :

Keeps track of successful transfers (either uploads or downloads), while giving also end users the possibility to call back the integrity check window (this can be done via mouse right click on the root of the slide or directly via a double click on that same root).



4.3 Initiating a download

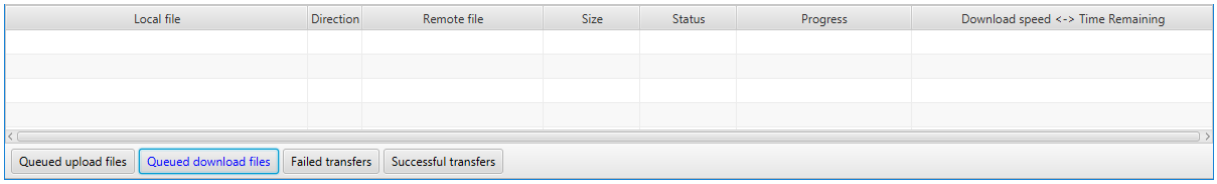
There are two options to launch a download :

- Select a slide on local site (Table view to the left) then click on menu "Transfer" on the toolbar then select menu item "Download slide"
- Mouse right click inside the left table view borders, then select "Download slide to local folder" context menu item.

Download of a folder (recursively) :

The download of a folder can be performed via a click on context menu item "download folder to local site" . Once successfully initiated, The folder and its sub-directories are sub-consequently created on local side then the download of contained slides is operated to corresponding destinations.

4.4 Monitoring a download



The tree table view is intended to monitor download progress and keep track of successful/aborted downloads. The toolbar to the bottom permits to switch between queued uploads/downloads, successful and aborted ones.

Queued files :

When a download is started, the slide (including the related files) are added to the view in a tree fashion. The progress bar, download speed and remaining time for each file and also the whole slide keep end user informed about the upload progress.

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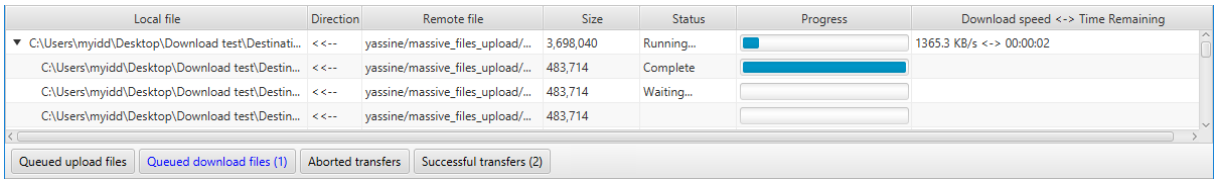
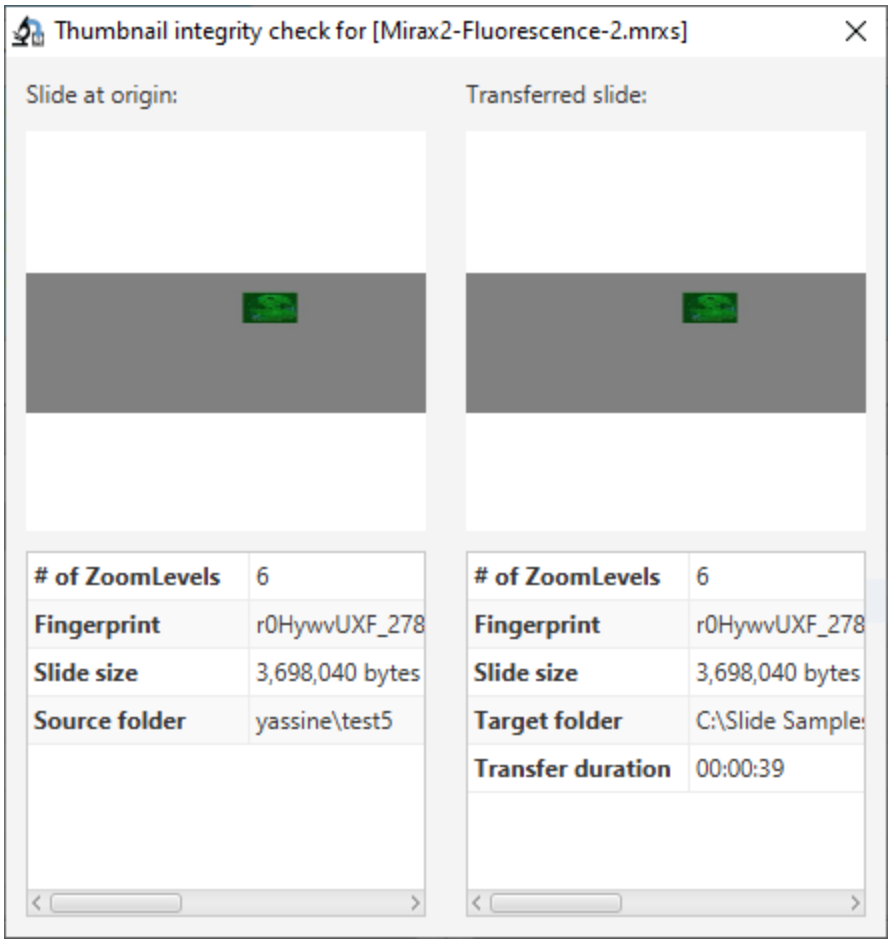


It's worth adding :

- For multi-file slides the files are sorted by size in descendant order to give end users the best user experience
- When the internet connection is lost, the status switches to “stalling…” till the connection is established again, then it switches back to “Running…” and the download resumes

Once the download is complete, an integrity check windows pops up to compare both slides on local/remote sites.



In case the fingerprint doesn't match, a red font is used to mark this incoherence

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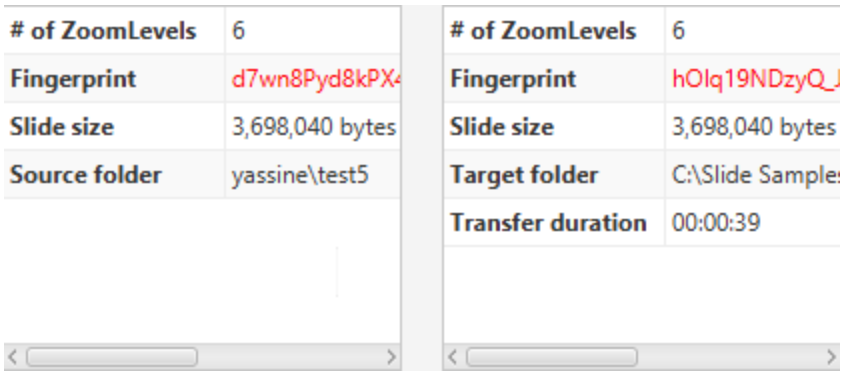
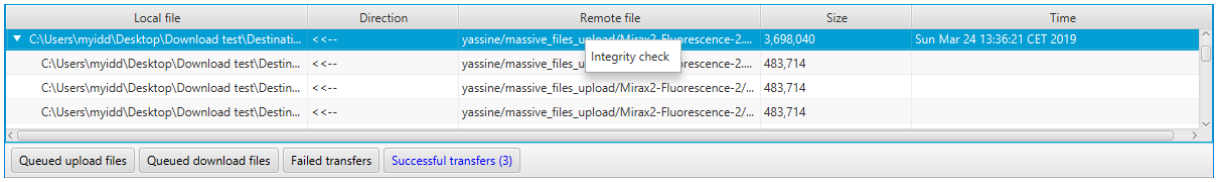


Failed transfers :

By design, downloads on PMA.transfer aren't supposed to "fail", it keeps relaunching failed downloads indefinitely till a complete and successful download is achieved. Therefor the downloads shown following a click on this button are downloads that were intentionally aborted via click on button "stop".

Successful transfers :

Keeps track of successful transfers (either uploads or downloads), while giving also end users the possibility to call back the integrity check window (this can be done via mouse right click on the root of the slide or directly via a double click on that same root).



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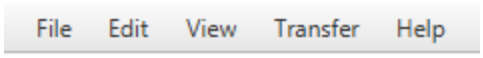
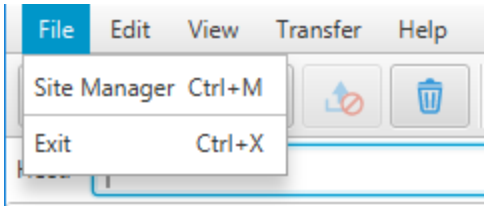
5 Menu bar & Toolbar

5.1 Menu bar

Composed of five menu items : “File”, “Edit”, “View”, "Transfer", “Help”

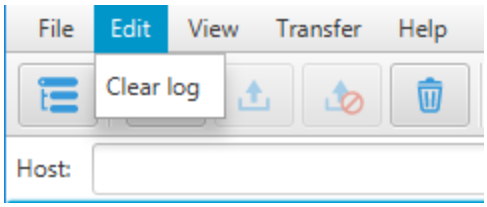


5.1.1 File



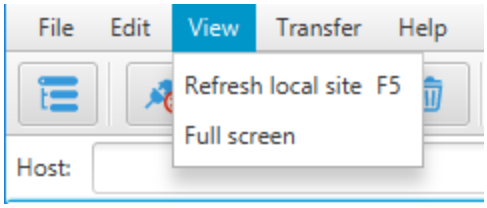
- Click on “Site Manager” launches Site manager window
- Click on “Exit”, shuts down PMA.Transfer

5.1.2 Edit



- Click on “Clear log”, clears logging messages in the text area below connection text fields

5.1.3 View



- Click on “Refresh local site”, refreshes the table view to the left related to content on end user’s local computer.
- Click on “Full screen” switches to full screen display.

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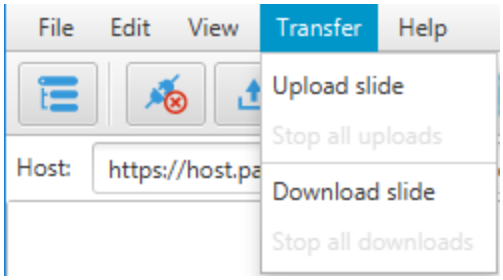
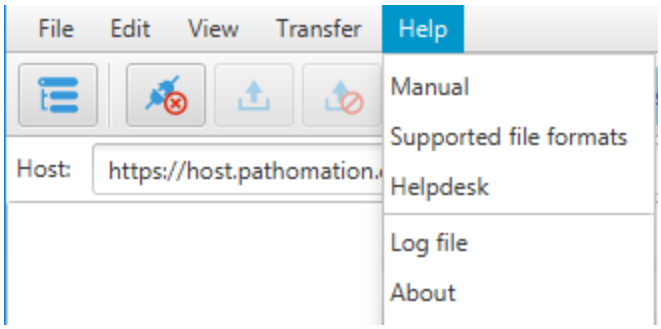
5.1.4 Transfer



- Click on “upload slide” : Enabled when a slide on local HDD is selected, it initiates an upload to the remote site PMA.transfer is actually connected to (a couple of checks are operated before an upload can be started : duplicate slide name, slide already being uploaded, no connection…)
- Click on “Stop all uploads” : Enabled when there are active uploads running, it aborts all current running uploads.
- Click on "Download slide" : Enabled when a slide on remote site is selected, it initiates a download to the selected destination on local site (a couple of checks are operated before a download can be started : creation of destination folders, duplicate slide name, slide already being downloaded, no connection…)
- Click on “Stop all downloads” : Enabled when there are active downloads running, it aborts all current running downloads.

5.1.5 Help



- Click on “Manual” downloads latest version of PMA.transfer manual.
- Click on "Supported file formats" loads a table view of the supported file formats by PMA.transfer.

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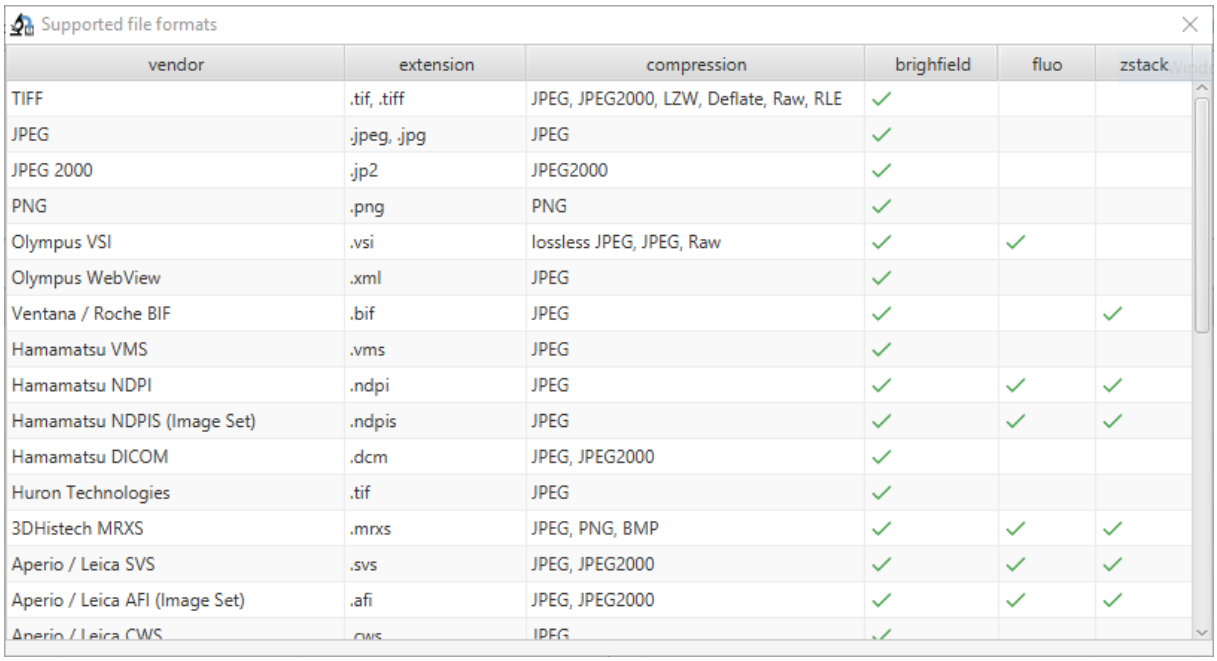
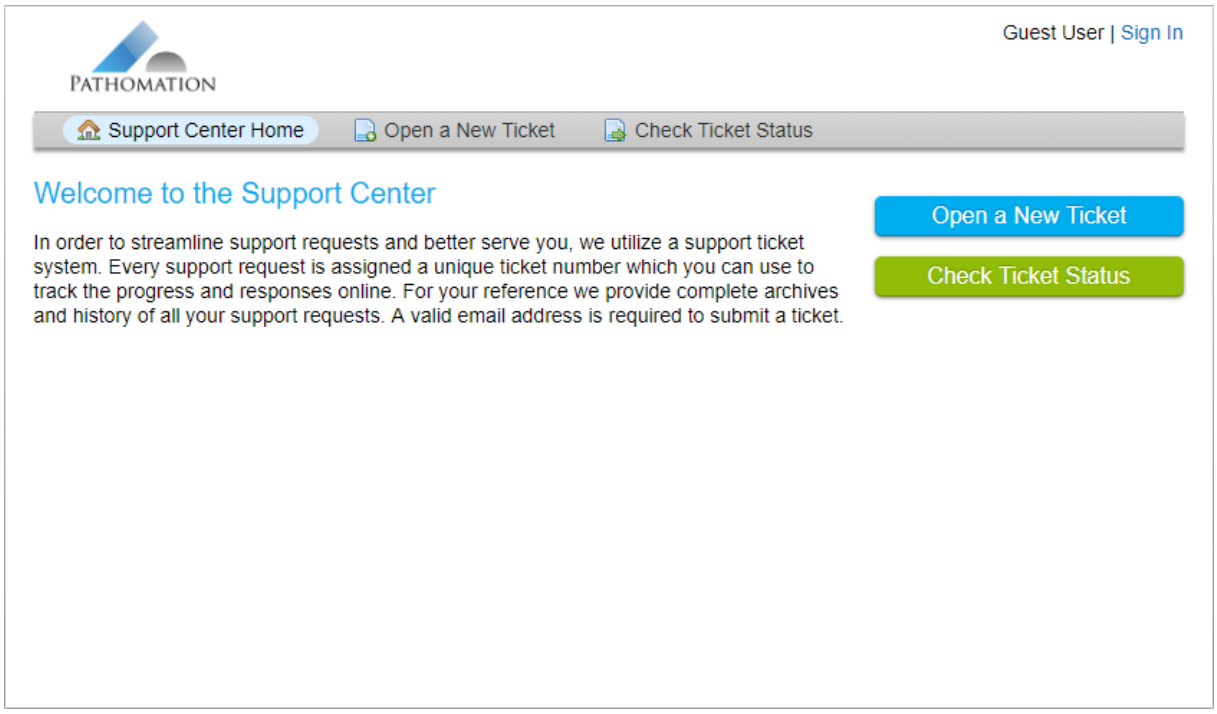


vendor	extension	compression	brighfield	fluo	zstack
TIFF	.tif, .tiff	JPEG, JPEG2000, LZW, Deflate, Raw, RLE	✓		
JPEG	.jpeg, .jpg	JPEG	✓		
JPEG 2000	.jp2	JPEG2000	✓		
PNG	.png	PNG	✓		
Olympus VSI	.vsi	lossless JPEG, JPEG, Raw	✓	✓	
Olympus WebView	.xml	JPEG	✓		
Ventana / Roche BIF	.bif	JPEG	✓		✓
Hamamatsu VMS	.vms	JPEG	✓		
Hamamatsu NDPI	.ndpi	JPEG	✓	✓	✓
Hamamatsu NDPIS (Image Set)	.ndpis	JPEG	✓	✓	✓
Hamamatsu DICOM	.dcm	JPEG, JPEG2000	✓		
Huron Technologies	.tif	JPEG	✓		
3DHistech MRXS	.mrxs	JPEG, PNG, BMP	✓	✓	✓
Aperio / Leica SVS	.svs	JPEG, JPEG2000	✓	✓	✓
Aperio / Leica AFI (Image Set)	.afi	JPEG, JPEG2000	✓	✓	✓
Aperio / Leica CWS	.cws	JPEG	✓		

- Click on “Helpdesk” redirects to a web interface to create a support ticket.



- Click on "Log file" opens up the current log file in notepad in addition to log files's location
- Click on “About” pops up an interface regarding general information about PMA.transfer

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5.2 Toolbar

From left to right :

- Site Manager : launches site manager window
- Disconnect : disconnect from current session, if no connection is already established an alert dialog pops up for notification.
- Start upload : Enabled when a slide on local HDD is selected, it initiates an upload to the remote site PMA.transfer is actually connected to (a couple of checks are operated before an upload can be started : duplicate slide name, slide already being uploaded, no connection…)
- Stop upload : Enabled when there are active uploads running, it aborts all current running uploads.
- Clear log : Clears logging messages in the text area below connection text fields
- Switch Mode : To switch between a PMA.core server and Pathomation cloud (it operates the necessary disconnections if required)

5.3 Connection bar & Logging text area

For PMA.core :

- Host : PMA.core instance to connect to, it should be in this form “http(s)://xxxxx/pma.core.2/”
- Username & Password : connection credentials
- Folder : Remote directory on server to navigate to if connection is successful

For My Pathomation :

- Email : The email address used to subscribe to Pathomation cloud.
- Password : Password received on inbox once the subscription & payment are validated.
- Folder : disabled text field, end user can only connect to its own subscription folder.

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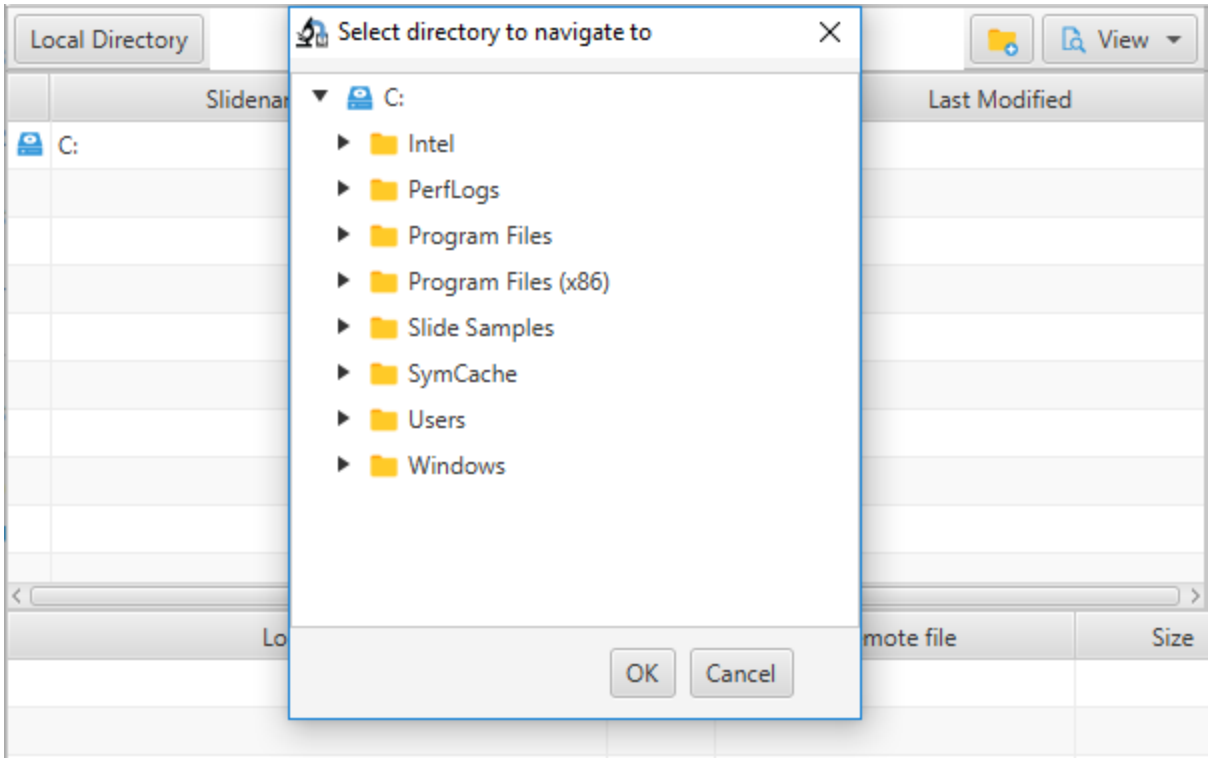
6 Table view for local site

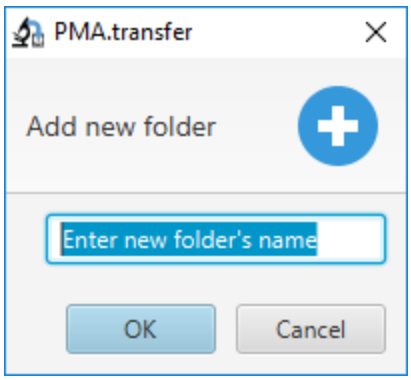
6.1 Folders navigation tree



Click on button “Local Directory” opens a tree view window to select folder to navigate to.
Action takes places by a click on button “OK”, while “cancel” simply cancels operation.

6.2 Create new folder

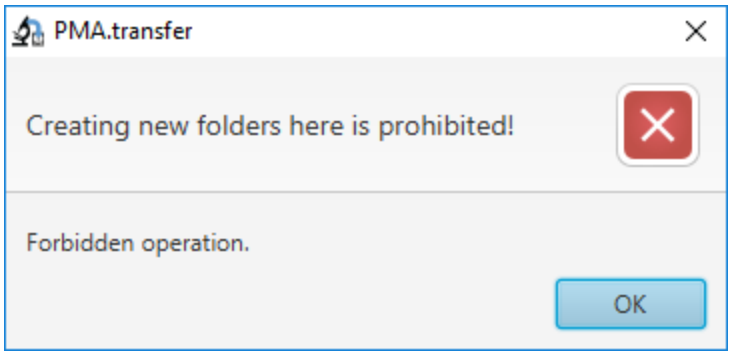
Click on this button pops up the following dialog window :



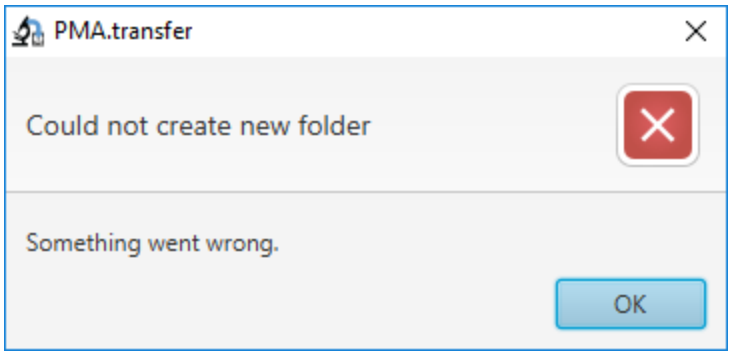
© 2019

Name of the folder to be created should be added on the text field then a click on button “OK” for confirmation. If operation is successful, the folder is added and the table view is automatically refreshed to show the newly created folder, otherwise one of the following windows pops up :

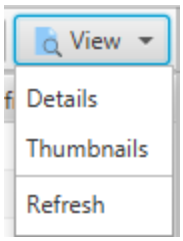
- If the operation is prohibited :



- If operation fails (duplicate folder name, access rights..) :



6.3 Menu button View



Composed of three menu items : Details, Thumbnails, Refresh

Details :

This is the default view mode for the table view, it includes an icon, “Slidename”, “Slidesize”, “FileType”, “Last Modified” columns

Thumbnails :

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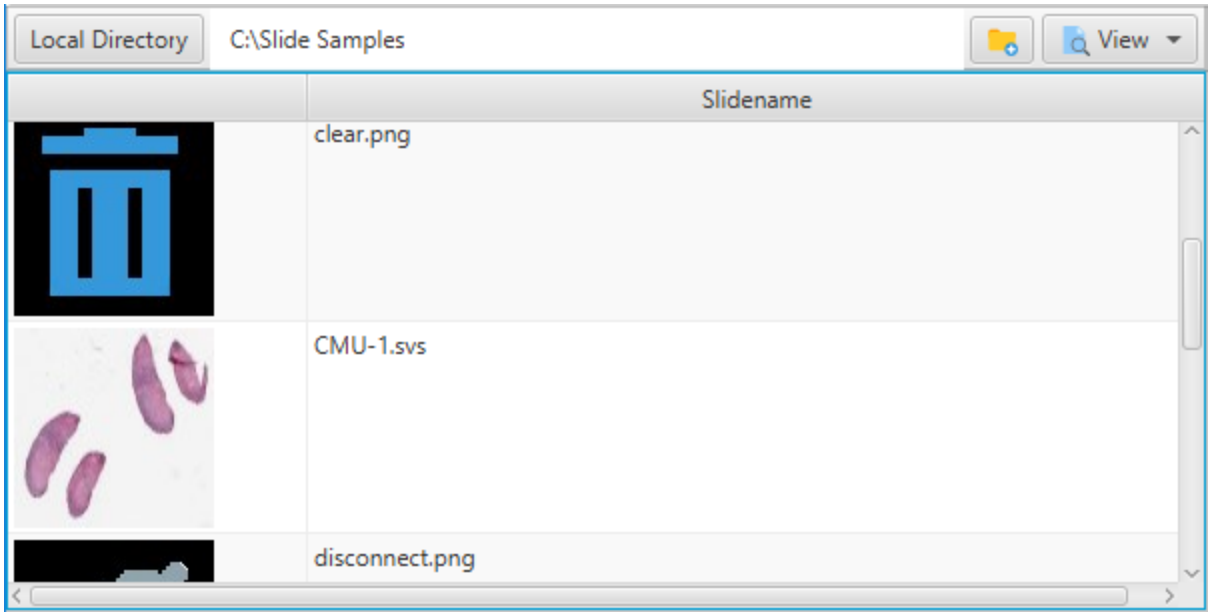
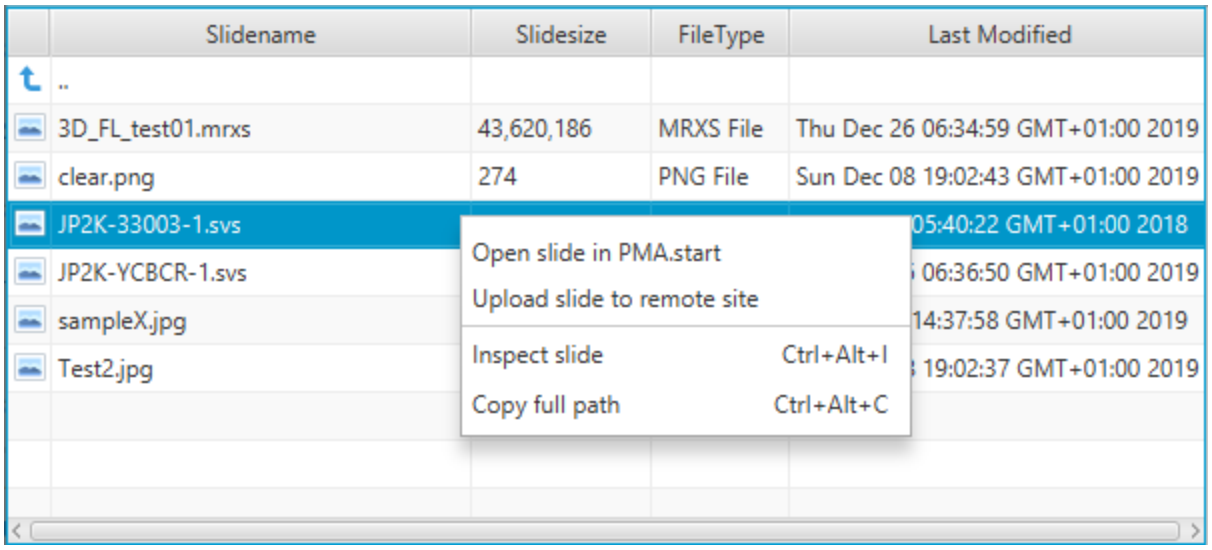
This view mode should be selected when it's needed to view the thumbnails of a slide (or a couple of slide). It includes an icon and a "Slidename" columns.



Refresh :

Refreshes the table view (it's worth noting that the table view, buttons "Add folder" and "View" get deactivated till the refresh is complete)

6.4 Context menu for slides



Initiated via mouse right click within the table view borders, it's composed of four menu items : "Open slide in PMA.start", "Upload slide to remote site", "Inspect slide" and "Copy full path".

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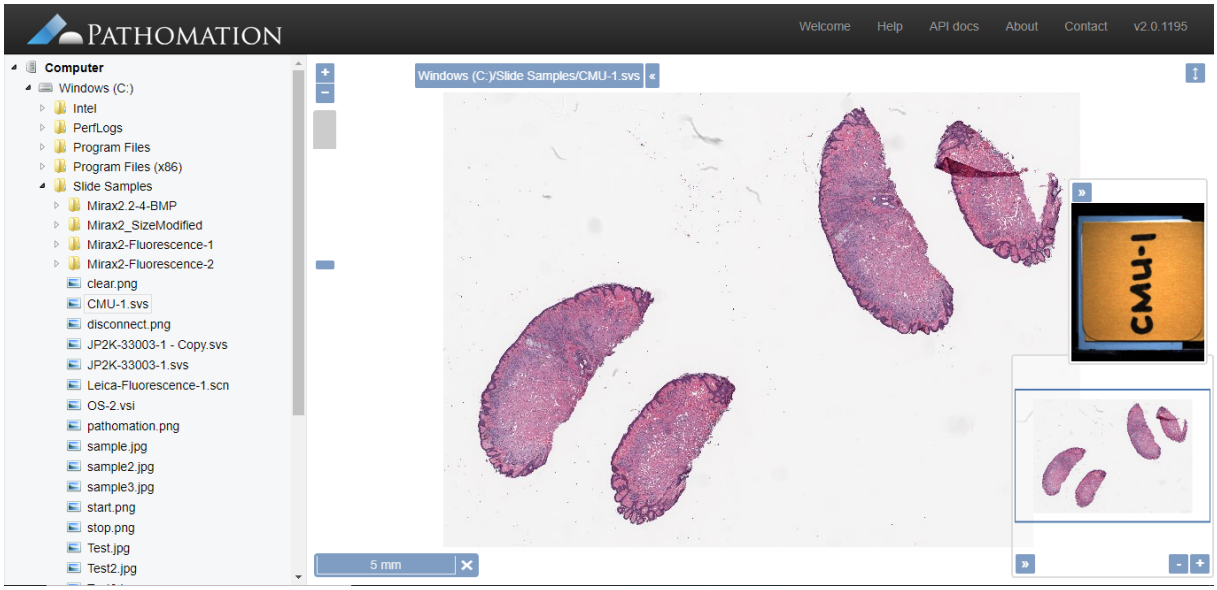
Open slide in PMA.start :

Opens the slide in PMA.start



Upload slide to remote site :

Has been discussed in details earlier on this tutorial.

Inspect slide :

Information data regarding the slide (Thumbnail, fingerprint, size…)

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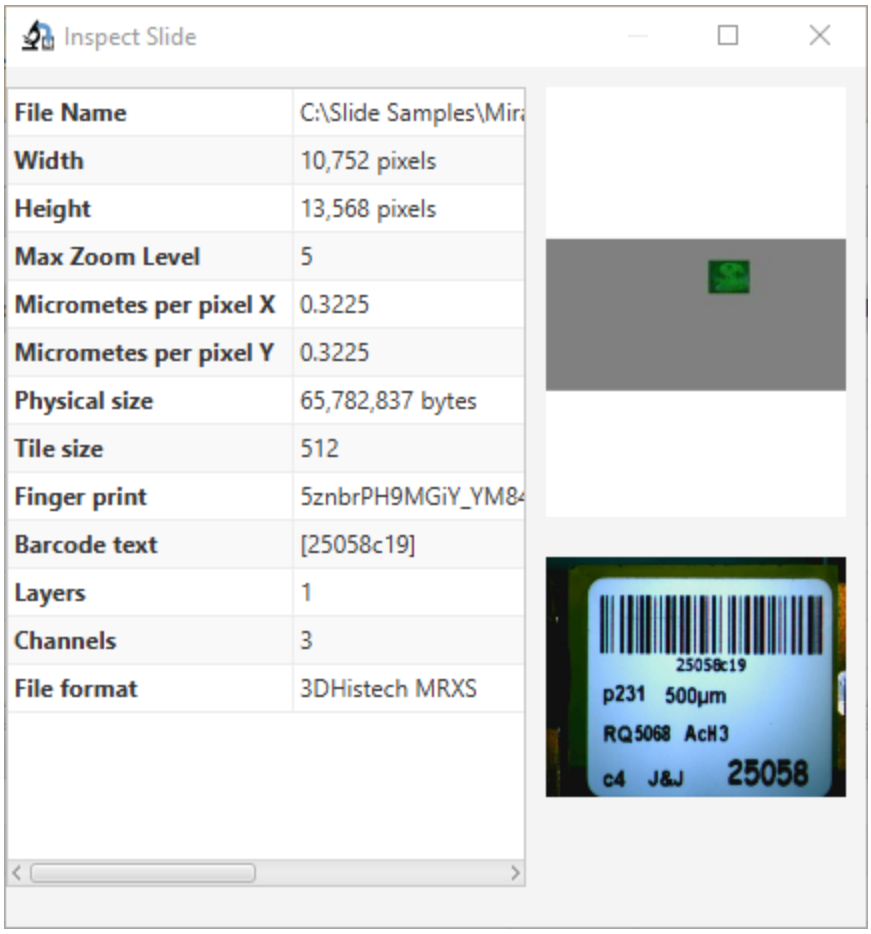
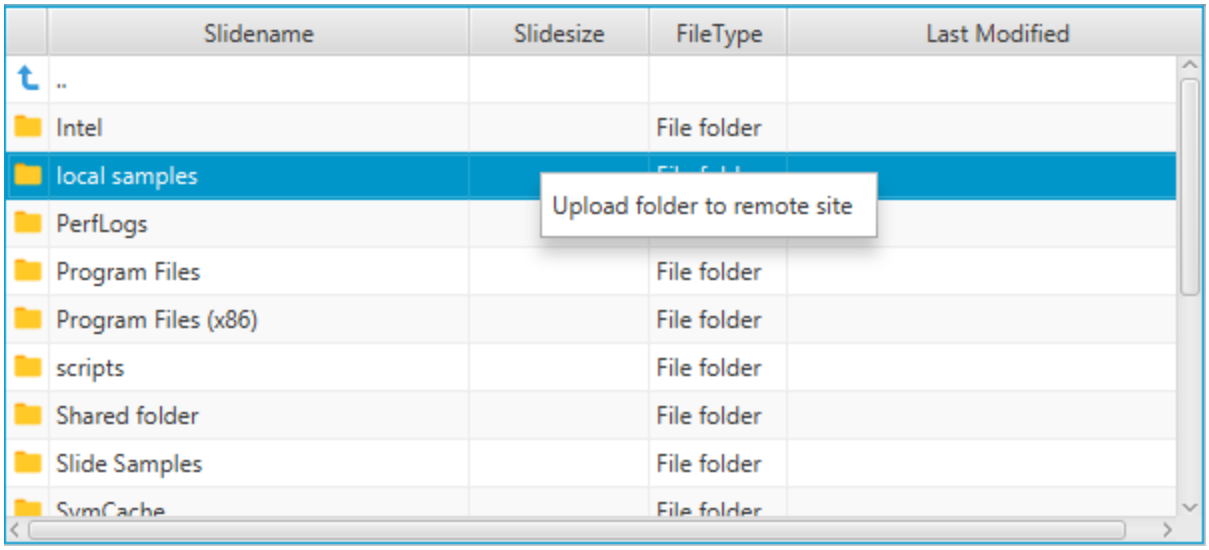


Copy full path :

Copies the full path of the local slide to the clipboard.

6.5 Context menu for folders



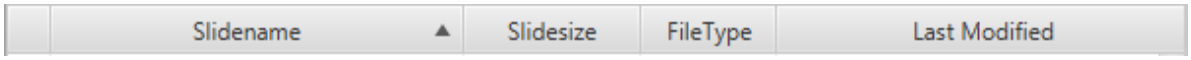
© 2019

Initiated via mouse right click within the table view borders, it's composed of one menu item : "Upload folder to remote site".

Upload folder to remote site :

Has been be discussed in details earlier on this tutorial.

6.6 Navigation

- Double click to navigate into a folder
- Double click on this row (to the top) to navigate to a parent folder
- 

Click on column headers to sort content in the table view by slides' name, slides' size, file type (folder or slide) and last modification date in ascendant or descendant order.

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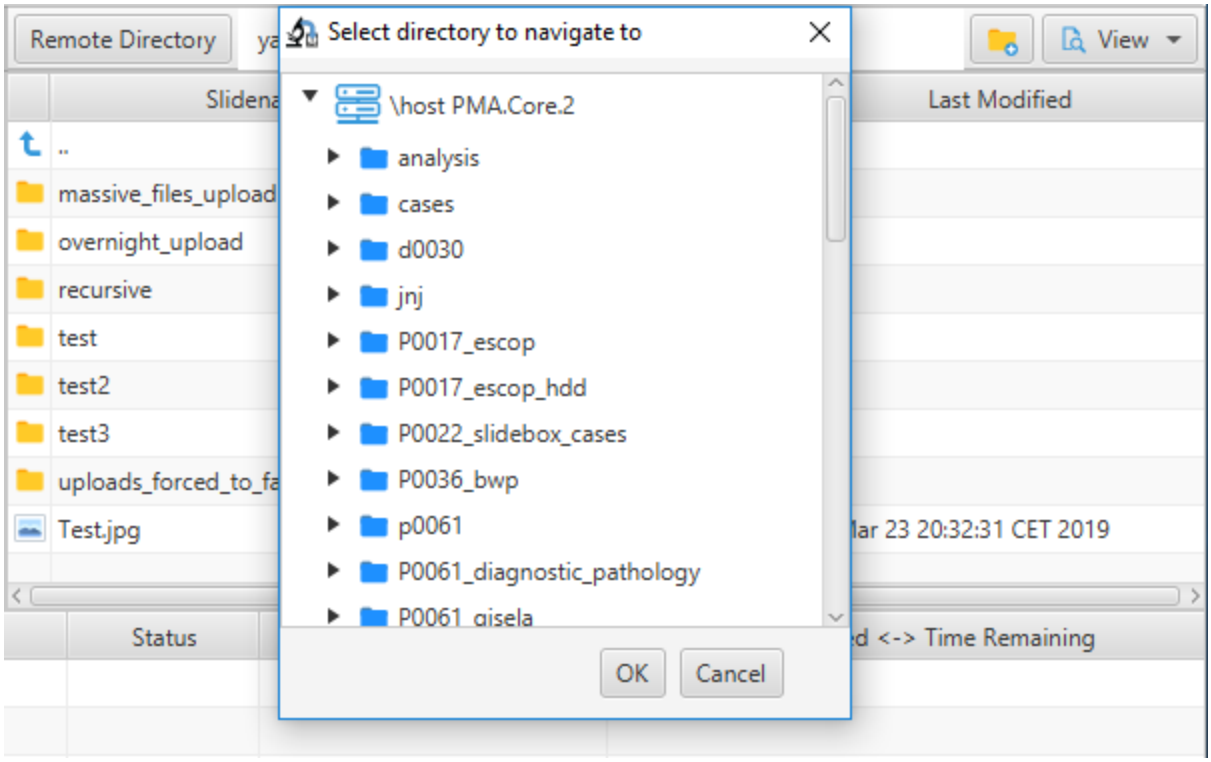
7 Table view for remote site

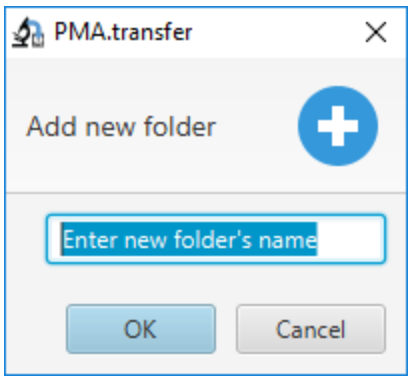
7.1 Folders navigation tree



Click on button “Remote Directory” opens a tree view window to select folder to navigate to.
Action takes places by a click on button “OK”, while “cancel” simply cancels operation.
It's worth also noting that the folder blue icon refers to a root directory, while the yellow icon refers to a non root one.

7.2 Create new folder

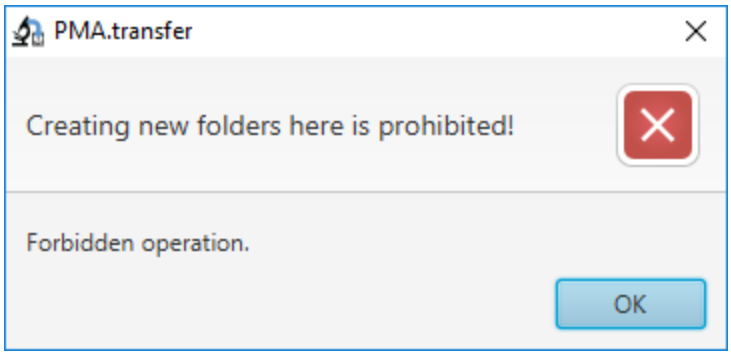
Click on this button pops up the following dialog window :



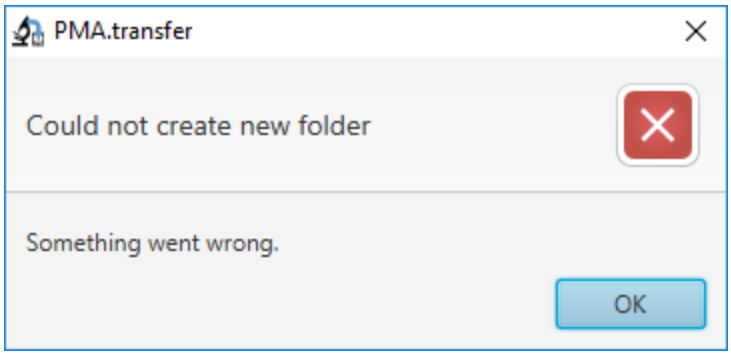
© 2019

Name of the folder to be created should be added on the text field then a click on button “OK” for confirmation. If operation is successful, the folder is added and the table view is automatically refreshed to show the newly created folder, otherwise one of the following windows pops up :

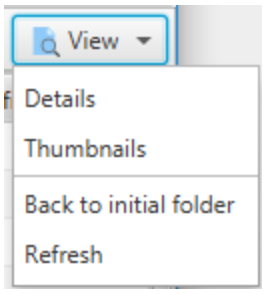
- If the operation is prohibited :



- If operation fails (duplicate folder name, access rights..) :



7.3 Menu button View



Composed of four menu items : Details, Thumbnails, Back to initial folder and Refresh.

Details :

This is the default view mode for the table view, it includes an icon, “Slidename”, “Slidesize”, “FileType”, “Last Modified” columns

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Thumbnails :

This view mode should be selected when it's needed to view the thumbnails of a slide (or a couple of slide). It includes an icon and a "Slidename" columns.

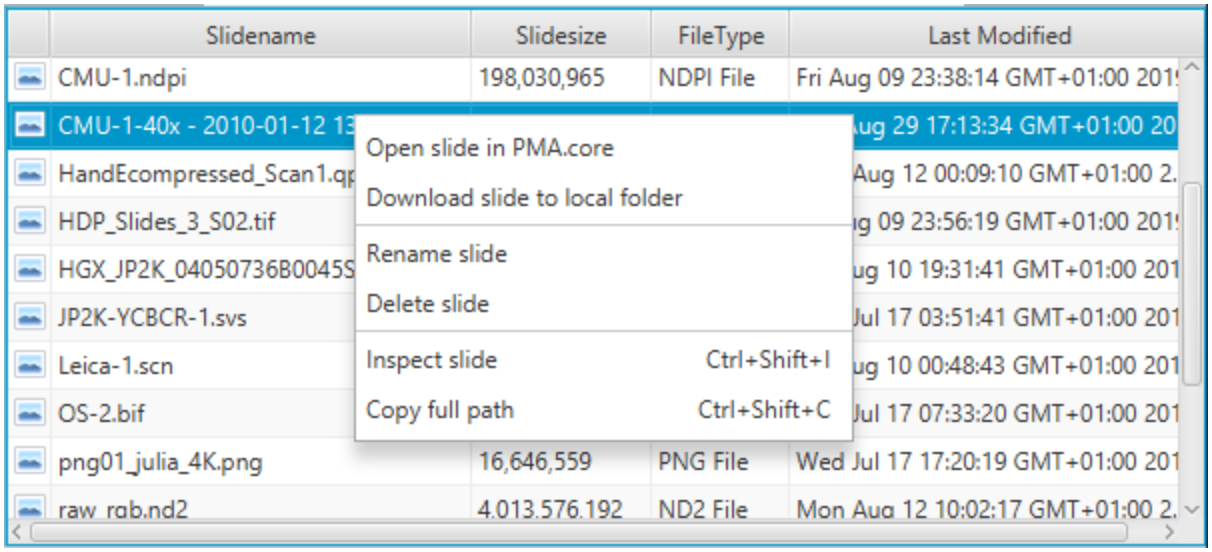
Back to initial folder :

This can be very useful to get back to initial folder of connection following series of navigation to parent/children folders.

Refresh :

Refreshes the table view (it's worth noting that the table view, buttons "Add folder" and "View" get deactivated till the refresh is complete)

7.4 Context menu for slides



Initiated via mouse right click within the table view borders, it's composed of six menu items : "Open slide in PMA.core", "Download slide to local folder", "Rename slide", "Delete slide", "Inspect slide", "Copy full path".

Open slide in PMA.core :

Opens selected slide in PMA.core viewer

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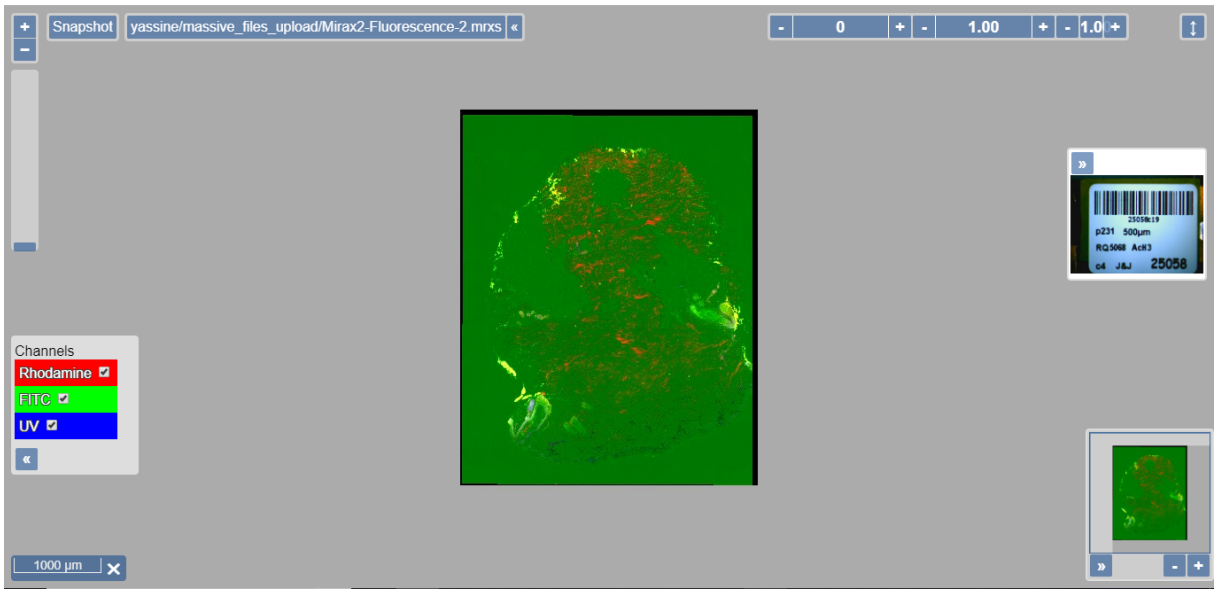
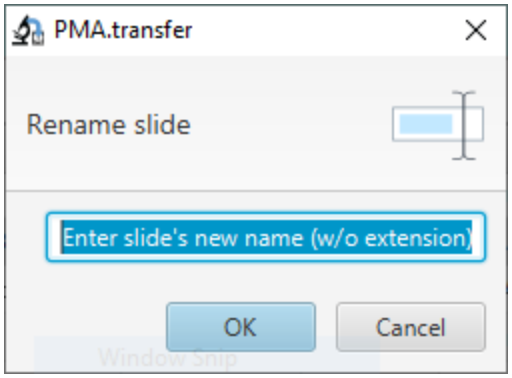


Download slide to local folder :

Has been discussed in details earlier on this tutorial.

Rename slide :

Click on this option pops up the following window :



The slide name to be introduced should not include the extension and the new name shouldn't be already used on a slide on the same folder.

Delete slide :

A confirmation window asks for delete confirmation, once confirmed the slide is removed completely from the server (warning : this action cannot be undone).

Inspect slide :

Information data regarding the slide (Thumbnail, barcode, fingerprint, size…)

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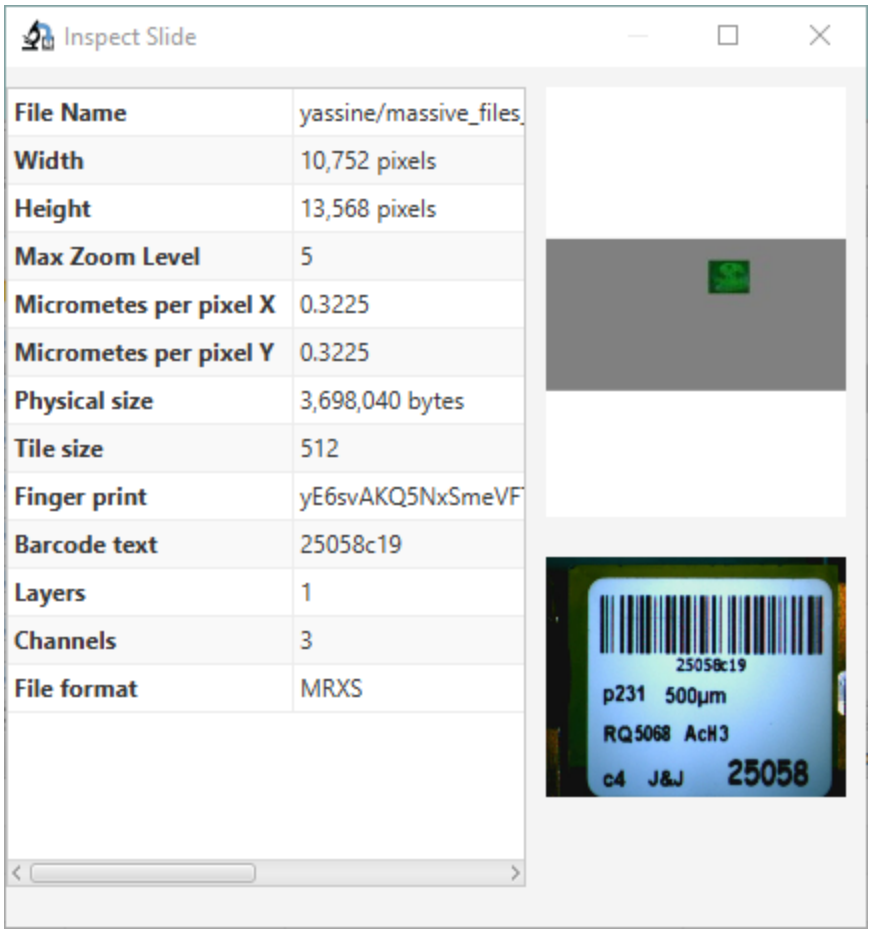

Copy full path :

Copies the full path of the remote slide to the clipboard.

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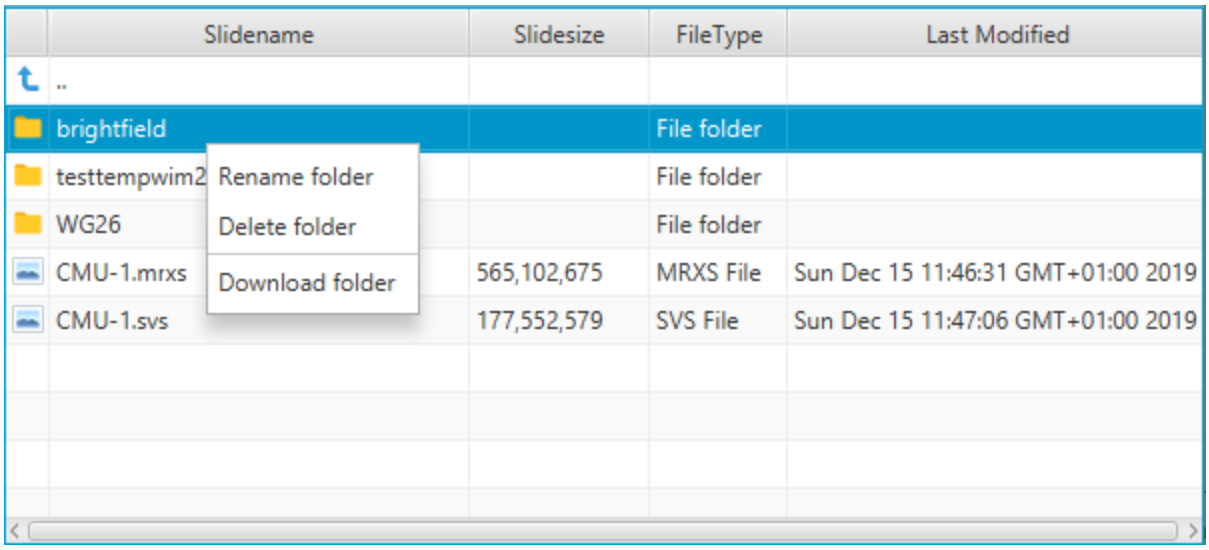
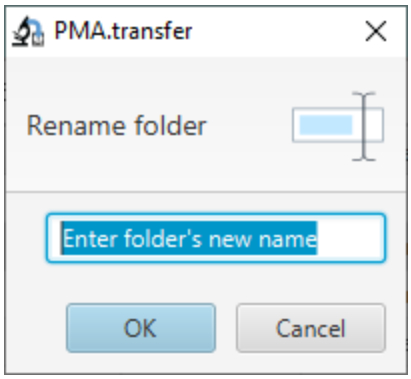
7.5 Context menu for folders



Initiated via mouse right click within the table view borders, it's composed of three menu items : "Rename folder", "Delete folder", "Download folder".

Rename folder :

Click on this option pops up the following window :



It's only permitted to rename empty folders and the new name shouldn't be already used on a neighboring folder.

Delete folder :

It's only permitted to rename an empty folder. If it's the case, a confirmation window asks for delete confirmation, once confirmed the folder is removed completely from the server (warning : this action cannot be undone).

Download folder :

Has been discussed in details earlier on this tutorial.

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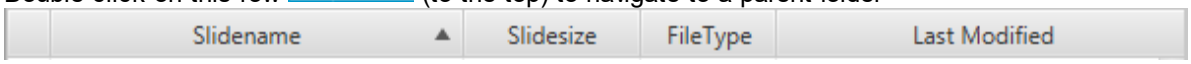
7.6 Navigation

- Double click to navigate into a folder
- Double click on this row (to the top) to navigate to a parent folder
- 

Click on column headers to sort content in the table view by slides' name, slides' size, file type (folder or slide) and last modification date in ascendant or descendant order.

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