

## LIS connection

### Import from LIS

1. You need to set directory for data import:
  - a. Start the sw
  - b. Log in as Supervisor (you need supervisor rights to set the directory)
  - c. Open settings
  - d. Open Supervisor settings
  - e. Set the desired path (could be shared storage):

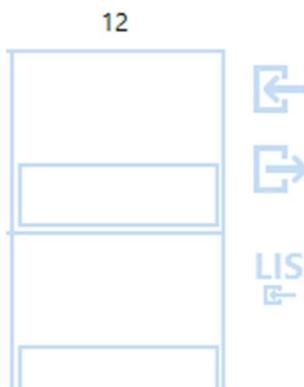
Directory for data import from LIS/analyzers

C:\Users\tl-prochazka\Desktop\import

2. The LIS needs to be programmed to be able to create xml file with this structure and save it in the directory you have set in step 1

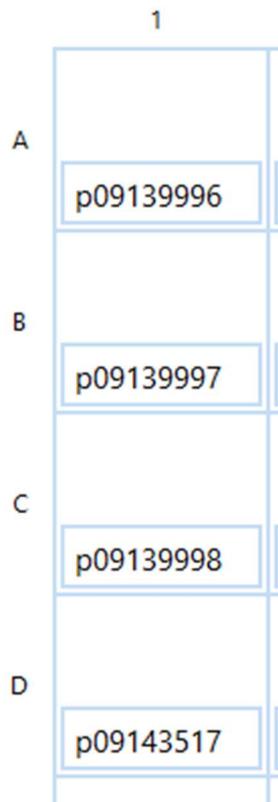
```
<?xml version="1.0" encoding="utf-8"?>
<ASSIGNMENT instrument="microblot" version="" date="2015-09-14" time="13:29:55">
  <PATIENT code="p09139996">
    <TEST name="Myositis" />
  </PATIENT>
  <PATIENT code="p09139997">
    <TEST name="Myositis" />
  </PATIENT>
  <PATIENT code="p09139998">
    <TEST name="Myositis" />
  </PATIENT>
  <PATIENT code="p09143517">
    <TEST name="Myositis" />
  </PATIENT>
</ASSIGNMENT>
```

3. Open the Analysis module and click on the Import from LIS/analyzers button on the right



4. The windows explorer file selection will open in directory you have set in the step 1

- Select the file you want to load
- The sw will load the xml file and fill the patient IDs as they are written in the xml



- Therefore if you will use import from LIS it is always better to load the xml to sw before processing the strips. Process the strips correspondingly to the information in sw, i.e. put patient p09139996 in to well A1 etc.
- The xml file will be moved from your directory to archive which is here:  
...\\Desktop\\TL\\ArrayReader\\LISImportArchive
- SW will evaluate only the test filled in xml file so in this case only Myositis will be selected for report:

Well:	A1	Patient:	p09139996	Validation:	Test is valid.	Kit name:	ANA IgG	Lot number:
Test	Result	Result description	Comment	Include in report	Replicates			
ANA	●	Positive		<input type="checkbox"/>	Jo-1; PL-7; PL-12; EJ; OJ; KS; YARS; ZoA; ZoB; HMGCR; SAE-1;...			
Myositis	●	Negative		<input checked="" type="checkbox"/>	Jo-1; PL-7; PL-12; EJ; OJ; KS; YARS; ZoA; ZoB; HMGCR; SAE-1;...			
Scleroderma	●	Negative		<input type="checkbox"/>	PmSci 100; PmSci 75; M2; Sci70; CENP A; CENP B; POLR3A; ...			
SLE and other conn...	●	Positive		<input type="checkbox"/>	NOR90; Ro52; Ro60; La; PCNA; P0; SmB; SmD; Nucleolin; N...			

- If you will need more test for the patient just add this parameter under patient:

<TEST name=" " /> tests inside ANA kit are:

ANA

Myositis

Scleroderma

SLE and other connective tissue disease (SjS, MCTD)

## Export to LIS

1. You need to set directory for data export:
  - a. Start the sw
  - b. Log in as Supervisor (you need supervisor rights to set the directory)
  - c. Open settings
  - d. Open Supervisor settings
  - e. Set the desired path (could be shared storage):

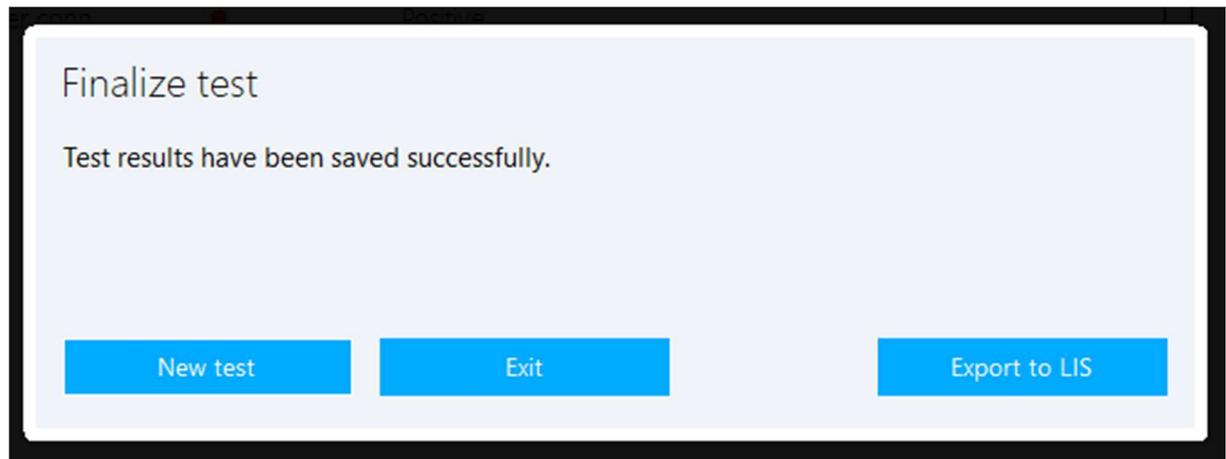
Directory for data export to LIS

C:\Users\tl-prochazka\Desktop\export

2. After analysis and after you have printed/exported your PDF reports click on the Save button:

Save

3. Then click on Export to LIS button:



4. The file is saved in the directory you have set in step 1 and have this structure:

```
<?xml version="1.0" encoding="utf-8"?>
<RESULTS name="ANAMA96" Instrument="Array Reader C-series" version="1.8.00" from="Run.exe" to="HOST" date="2021-03-25" time="09:40:21" operator="Supervisor">
  <PATIENT number="1" code="">
    <SAMPLE number="1" code="" description="" well="A1">
      <TEST number="1" name="ANA" value="Positive" usermodified="False">
        <VALUE number="1" kind="" name="Jo-1" textvalue="Positive" intensity="32.371" antibodyLevel="713.565" antibodyLevelUnit="U/ml" positivityIndex="2.672" calibratedPositivityIndex="" usermodified="False" probableAssociationWith="ASS, PM, DM" />
        <VALUE number="2" kind="" name="PL-7" textvalue="Negative" intensity="0.629" antibodyLevel="37.321" antibodyLevelUnit="U/ml" positivityIndex="0.049" calibratedPositivityIndex="" usermodified="False" probableAssociationWith="" />
        <VALUE number="3" kind="" name="PL-12" textvalue="Negative" intensity="1.054" antibodyLevel="40.275" antibodyLevelUnit="U/ml" positivityIndex="0.083" calibratedPositivityIndex="" usermodified="False" probableAssociationWith="" />
        <VALUE number="4" kind="" name="EJ" textvalue="Negative" intensity="0.735" antibodyLevel="31.666" antibodyLevelUnit="U/ml" positivityIndex="0.058" calibratedPositivityIndex="" usermodified="False" probableAssociationWith="" />
        <VALUE number="5" kind="" name="OJ" textvalue="Negative" intensity="2.407" antibodyLevel="76.457" antibodyLevelUnit="U/ml" positivityIndex="0.189" calibratedPositivityIndex="" usermodified="False" probableAssociationWith="" />
      </TEST>
    </SAMPLE>
  </PATIENT>
  <SENDTO path="C:\Users\tl-prochazka\Desktop\export" address="" />
</RESULTS>
```

5. There is description of the information in xml:  
results:
  - name - name of the used configuration
  - instrument - instrument which is sending the results

- version - version of the evaluation sw
- from, to, date, time a operator - some additional info

patient:

- number - number of the patient
- code - ID of the patient

test:

- number - number of the test
- name - name of the test
- value - evaluation of the test (Negative/Borderline/Positive)
- usermodified - modified by user (False/True)

value:

- number - number of the antigen in the well
- kind - for now it is not used, could be used for better distinction of antigen
- name - name of the antigen
- textvalue - evaluation of the antigen (Negative/Borderline/Positive)
- intensity - (0-100)
- antibodyLevel - (0-cca 1100)
- antibodyLevelUnit - U/ml
- positivity index - (0-16)
- calibratedPositivityIndex - we don't use this evaluation at this time
- usermodified - modified by user (False/True)
- probableAssociationWith - tied only to ANA test, based on the result of the antigen this file is filled

6. The LIS needs to be programmed to be able to read xml file with this structure and select what information from it you want to load into LIS.