

# Labmatica<sup>©</sup> 2.1

**Document Version 0.9.2 – Third Release, 09.01.2013, Online Version**

## 1. Introduction

Labmatica<sup>®</sup> is an easy to use laboratory information and management system (LIMS). We build labmatica<sup>®</sup> for those people and labs that do not need a big system with hundreds of special functions. Nevertheless we are open to go on developing the Labmatica<sup>®</sup> LIMS.

The actual version of the labmatica is a complete rework of version 1.7. The old version is not available any more!

Labmatica<sup>®</sup> 2.0 can be installed in the intranet. If there is need for using it independent of the location it can be installed in the cloud and be used on almost any device.

With it's user management it is secure and flexible. We suggest that it can be used on any browser, even on tablets. We tested it on Ubuntu, XP, Windows 7 and on iPad and Nexus 7 in the intranet.

## 2. First Steps in using the labmatica LIMS

At fist you have to install a MySQL Database or SQL Server or Oracle DBMS.

**Keep in mind the database user and password. You will need it later!**

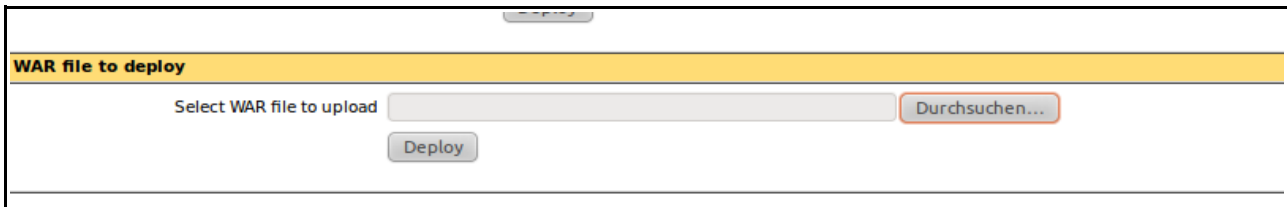
Second step is the installation of the tomcat web server.

We used PHP My Admin to run the database scripts. With the actual \*.war file it is not necessary to run scripts, the war file creates the database.

Path	Display Name	Running	Sessions	Commands
/		false	0	Start Stop Reload Undeploy
/host-manager	Tomcat Manager Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/labmatica-0.1.0		true	1	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/manager	Tomcat Manager Application	true	1	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes

*Here you see a Tomcat Server with the installed labmatica.*

## Labmatica 2.1



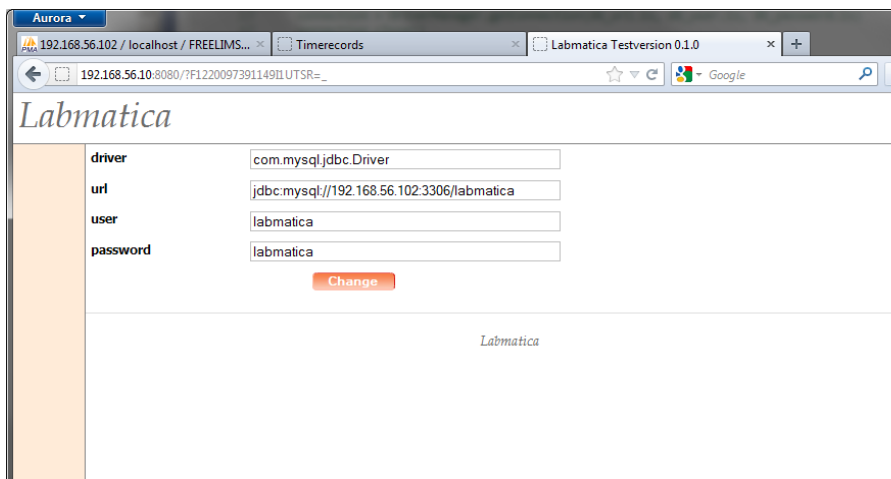
The screenshot shows a web interface for deploying a WAR file. At the top, there is a yellow header with the text "WAR file to deploy". Below this, there is a text input field labeled "Select WAR file to upload" and a "Durchsuchen..." button. Below the input field, there is a "Deploy" button.

*Select the war file and click on deploy.*

Then you have to install the labmatica.war file in your web server. You find the deploy function in the lower parts of the screen. Select the labmatica.war file and click on deploy. It may take a while before you see the installs application in the list.

After that you may have to change the default.properties file. Usually you must not change the default.properties!

Then you start labmatica with the following link: <http://localhost:8080/labmatica-0.1.0/>. You can also use the IP address of your server.



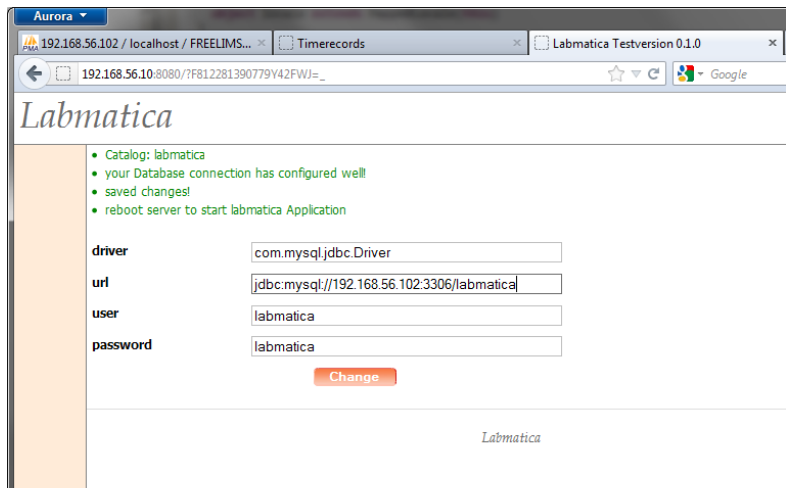
The screenshot shows a web browser window displaying the Labmatica database configuration page. The page title is "Labmatica". The configuration fields are as follows:

driver	com.mysql.jdbc.Driver
url	jdbc:mysql://192.168.56.102:3306/labmatica
user	labmatica
password	labmatica

Below the fields, there is a "Change" button. The page also displays the "Labmatica" logo at the bottom.

*After deployment of the labmatica war file and first time starting the system a screen appears to enter database information. Click on Change and the system tests the database connection.*

## Labmatica 2.1

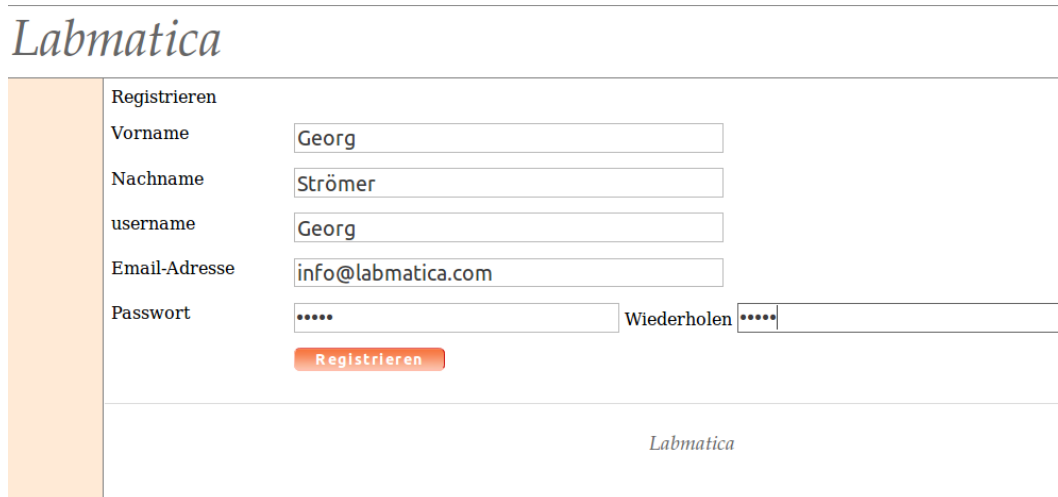


*Labmatica gives feedback if the database is found.*

**Keep in mind! Legal notice: LIMS at work GmbH is not responsible for any loss of data when using the labmatica LIMS when there is no existing support contract! Setup all systems very careful and save data in short regular intervalls.**

### 3. Login/ Register

First you register on your labmatica startpage:



The screenshot shows the registration page of Labmatica. The page has a light orange header with the 'Labmatica' logo. Below the header, there is a registration form with the following fields: 'Registrieren' (a button), 'Vorname' (Georg), 'Nachname' (Strömer), 'username' (Georg), 'Email-Adresse' (info@labmatica.com), and 'Passwort' (two fields with masked characters and a 'Wiederholen' label). A 'Registrieren' button is located below the password fields. The footer of the page contains the 'Labmatica' logo.

After that you can login to your labmatica:



The screenshot shows the login page of Labmatica. The page has a dark gray background with a light orange login box. The login box contains the 'Labmatica' logo, 'Username' (input field), 'Passwort' (input field), 'Language' (dropdown menu set to 'English'), and a 'Log In' button.

After registration you have no functions in labmatica. First the admin has to give you permissions. Login as admin. Please ask for username and password by mail (sales@labmatica.com).

### Main Menu



Samples



Sample Types, Study Types, Parameter and Standards



User-, and Groupadministration



Studies, Sample Collections and Addresses

Above you see the first screen after login as admin.

Labmatica | Administration | Administrator

Users **Groups**

Group:

Page	permit
Sample	<input checked="" type="checkbox"/>
Sample Type	<input type="checkbox"/>
Parameter	<input type="checkbox"/>
Standard	<input type="checkbox"/>
Study Type	<input type="checkbox"/>
Sample Collection	<input type="checkbox"/>
Study	<input type="checkbox"/>
Address	<input type="checkbox"/>
Administration	<input type="checkbox"/>

Labmatica

Choose the button User- and Groupadministration and after that you can give permissions to the groups.

Labmatica | Administration | Administrator

Users **Groups**

User	Locale	Groups	
Administrator (admin)	en	Administrators, Lab Executives, Office Executives, Control Executives	<input type="button" value="x"/>
Dennis Völker (dvoelker)	de_DE	Administrators, Lab Executives, Office Executives, Control Executives	<input type="button" value="x"/>
Esther Boltz (eboldt)	en	Office Executives	<input type="button" value="x"/>
Foo Bar (limsguest)	en	Lab Executives, Office Executives, Control Executives	<input type="button" value="x"/>
Georg Strömer (Georg)	de_DE		<input type="button" value="x"/>
saber abk (saber)	en_US	Lab Executives	<input type="button" value="x"/>

Labmatica

The list of users shows you the actual state of the users. Click on a single user and the screen will open and show more details.

Labmatica | Administration | Administrator

Users Groups

Last Name: Völker  
 First Name: Dennis  
 username: dvoelker  
 Email Address: dvoelker@limsatwork.de

Group	permit
Administrators	<input checked="" type="checkbox"/>
Lab Executives	<input checked="" type="checkbox"/>
Office Executives	<input checked="" type="checkbox"/>
Control Executives	<input checked="" type="checkbox"/>

Update Cancel

User	Locale	Groups	
Administrator (admin)	en	Administrators, Lab Executives, Office Executives, Control Executives	<input checked="" type="checkbox"/>
Dennis Völker (dvoelker)	de_DE	Administrators, Lab Executives, Office Executives, Control Executives	<input checked="" type="checkbox"/>
Esther Boltz (eboldt)	en	Office Executives	<input checked="" type="checkbox"/>
Foo Bar (limsguest)	en	Lab Executives, Office Executives, Control Executives	<input checked="" type="checkbox"/>
Georg Strömer (Georg)	de_DE		<input checked="" type="checkbox"/>
saber abk (saber)	en_US	Lab Executives	<input checked="" type="checkbox"/>

In this complete screen you can change details.

## 4. Using Labmatica

After your next sign in you will see screens and data.

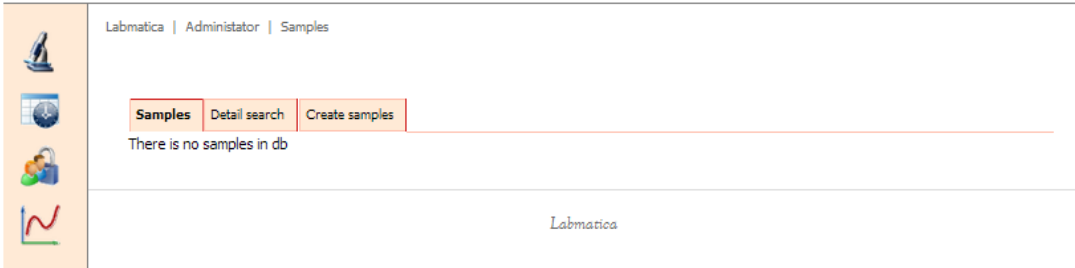
Control Menu

- Sample Types
- Parameter
- Standards
- Study Types

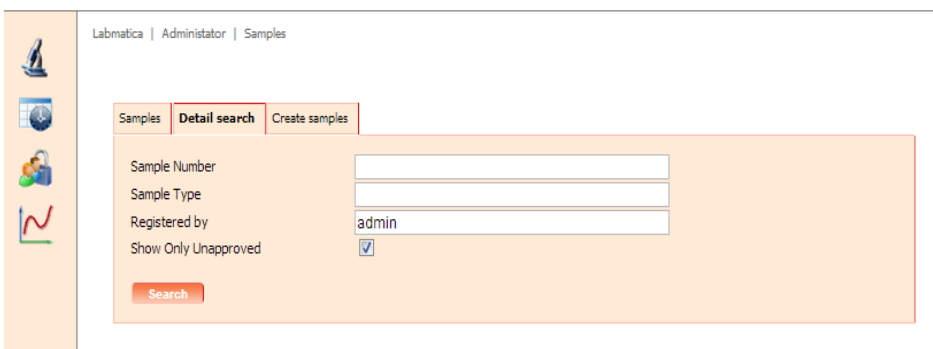
Labmatica

The screen of a lab manager and office manager in the control menu.





Here you see the sample site of the admin user. As far as the admin hasn't registered a sample at first glance he sees no data.



Registered by „admin“ and “show only open samples” is preselected.

Sample Number	Sample Type	Registered by	Status
2013010800004	Bacterial detection	limsguest	Open (Green checkmark)
2013010800003	Water Quality	limsguest	Open (Green checkmark)
2013010800002	Bacterial detection	limsguest	Released (Yellow warning triangle)
2013010800001	Bacterial detection	limsguest	Released (Yellow warning triangle)
2013010400003	Destr. metal test	limsguest	Released (Yellow warning triangle)
2013010400002	Water Quality	limsguest	Released (Yellow warning triangle)

The head of a list of every sample of any user. You can derive from the icons which sample is open and which sample is released.

Labmatica | Sample Detail | 2012020800001 | Ackerboden | Registered on 2012-02-08 13:37:48.0 by gst

Probenparameter Detail Freigabe

Parameter	Ergebnis	Einheit	Min	Max	Methode	Typ	Status
pH-value	<input type="text" value="7.0"/>	-lg(aH3O+)	5.80000000	6.80000000	Indicator	N	>Max <input type="button" value="✕"/>
Nitrate	<input type="text" value="25.0"/>	mg/l				N	ok <input type="button" value="✕"/>
Nitrite	<input type="text" value="40.0"/>	mg/l				N	ok <input type="button" value="✕"/>

PARAMETER

Labmatica

With one click on the sample number you have access to the sample details.

Labmatica

Logout

Labmatica | Sample Detail | 2013010800003 | Water Quality | Registered on Tue, 8 Jan 2013 11:19:23 GMT | Registered by limsguest

Parameter Detail Approving

Remarks

Collection

Price

Standard

Add Parameter

Klick on the tab details and you see some additional information of the sample. Many fields are not shown in the test environment but can be made available.

Labmatica | Administrator | Sample Types New

Sample Types Detail search

Name	Description	Remarks	Lab	Product	Project	Registered by
Bacterial detection	Detection of the most important bacteria					limsguest
Destr. metal test	-					limsguest
DNA Gelelectroph.	-					limsguest
EGSL	AOC		bgl		1209513	limsguest
Non-gender hematop.	Contains only gender unspecific parameters					limsguest
Nutritional values	-					limsguest
Soil analysis	Simple soil analysis					limsguest
Total Glycerin	ASTM			B100		limsguest

You always find detailed information when you click on the name of a single data set like sample type.

Labmatica | Sample Type Detail | Water Quality | Registered on 2008-12-16 17:09:09.0 by limsguest

Parameter Detail

Save Print Certificate Close

Parameter	Units	Min	Max	Method	P Type	Action
pH-value	-lg(aH3O+)	<input type="text"/>	<input type="text"/>	Indicator	N	
Nitrate	mg/l	<input type="text"/>	<input type="text"/>		N	
Nitrite	mg/l	<input type="text"/>	<input type="text"/>		N	

PARAMETER  Add

Labmatica

If you want to add a parameter to a sample type you can only do this once for any parameter. If you need the same parameter twice with different methods you have to create a second parameter with a different name.

## 5. New Feature: Studies

Labmatica

Logout

Labmatica | Administrator | Studies Add

Studies Search

Name	Test Type	
2012 Kottenforst		X
Brentanobad 2012		X
LED 012013		X
Soil Projekt LWK NRW 2012		X
Soil Vineyard		X
SoilProject NRW		X

First screen is a list with all the studies.

Labmatica | Study Detail | Registered on Thu, 13 Dec 2012 16:07:55 GMT by admin

Details Samples Sample Creation Form Chart List of Parameters

Save Close

Name

Test Type

A click on one study shows the name and the related test type.

Labmatica | Study Detail | Registered on Thu, 13 Dec 2012 16:07:55 GMT by admin

Details **Samples** Sample Creation Form Chart List of Parameters

Save Close

Sample No.	Sample Type	Status	Action
2012121300013	Soil analysis		X
2012121300014	Soil analysis		X
2012121300015	Soil analysis		X

The next tab shows a list of samples that belong to this study.

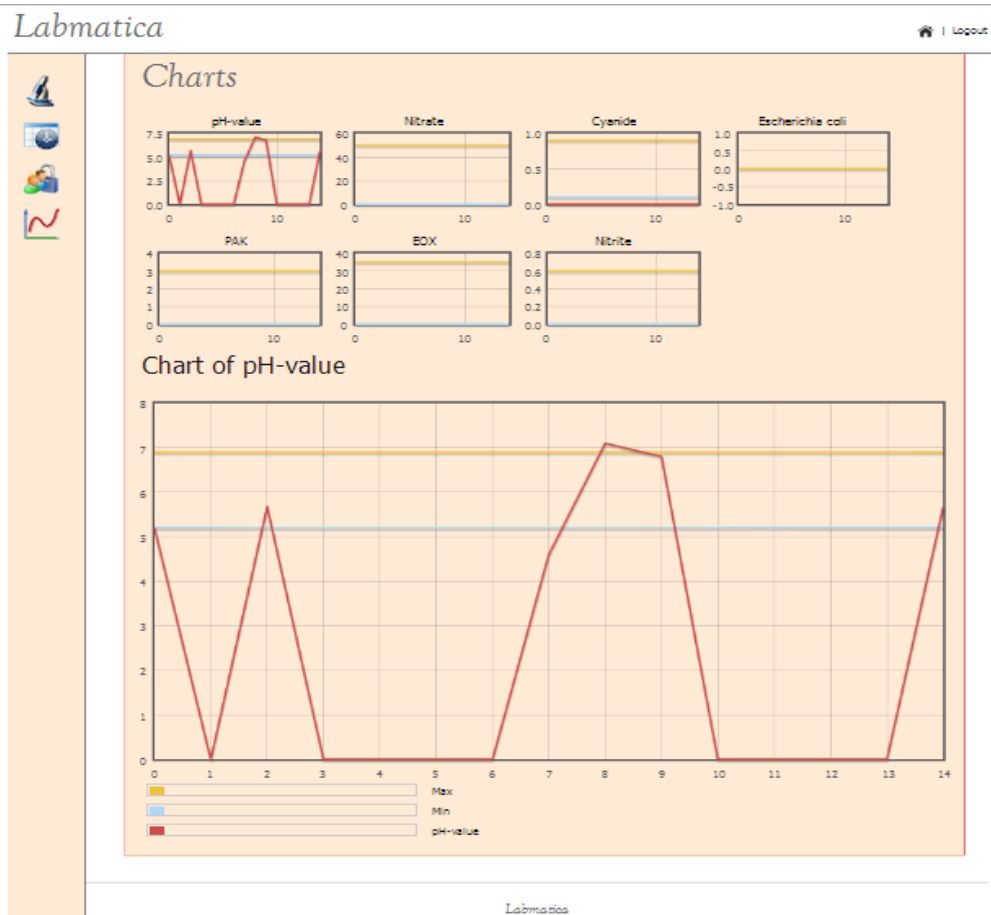
Details Samples **Sample Creation Form** Chart List of Parameters

Save Close

Number of new samples

Create

You can create new samples.



The tab “Chart” shows charts of the numerical values in your studie.

## 6. Jasper Reports

At the moment we use Jasper Reports as standard reporting tool. Some reports are predefined. Labmatica is open for further development, please ask for details.

The screenshot shows the Labmatica web application interface. The browser address bar indicates the URL: localhost:8080/labmatica-0.1.0/sample\_types/sample\_type\_detail?F12819631050781BOBLI. The page title is "Labmatica" and the user is logged in as "leo". The main content area displays a "Sample Type Detail" for "Water Quality", registered on 2008-12-16 17:09:09.0 by Doe. The page includes a "Parameter" tab and a "Detail" sub-tab. Below the tabs are buttons for "Save", "Print Certificate", and "List". A table lists parameters with columns for "Parameter", "Units", "Min", "Max", "Method", "P Type", and "Action". The table contains three rows: "pH-v", "Nitro", and "Nitri". A dialog box titled "Öffnen von 1" is overlaid on the table, asking the user to download a PDF document (2,3 KB) from http://localhost:8080. The dialog offers options to "Öffnen mit" (Open with) "Dokumentenbetrachter (Standard)", "Datei speichern" (Save file), or "Für Dateien dieses Typs immer diese Aktion ausführen" (Always perform this action for files of this type). The "OK" button is highlighted.

Parameter	Units	Min	Max	Method	P Type	Action
pH-v				Indicator	N	✕
Nitro				Photometer	N	✕
Nitri				Photometer	N	✕

You click on „print certifikate“ and a pdf document will be created.

The screenshot displays the Labmatica 2.1 software interface. At the top, there are navigation buttons for 'Vorherige' (Previous) and 'Nächste' (Next), a page indicator '(1 von 1)', and a window management button 'Auf Seitenbreite einpassen'. Below this is a 'Vorschaubilder' (Thumbnail) section showing a small preview of the report. The main content area is titled 'Sample Type Report' and contains the following information:

Sample	Water Quality		
Registered by	Doe	Registered on	16.12.08 17:09
Description	Simple water quality analysis	Remarks	ertzedf
Text1	These	Text6	meanings
Text2	of these	Text7	fields
Text3	can	Text8	be
Text4	flexibly	Text9	adjusted
Text5	by the	Text10	translation files.
<b>Parameter pH-value</b>			
Units	-lg(aH <sub>3</sub> O <sup>+</sup> )		
Type	N		
Method	Indicator		
Expected	null		
Min	null		
Max	null		
<b>Parameter Nitrate</b>			
Units	mg/l		
Type	N		
Method	Photometer		
Expected	null		
Min	null		
Max	null		
<b>Parameter Nitrite</b>			
Units	mg/l		
Type	N		
Method	Photometer		
Expected	null		
Min	null		
Max	null		

## 7. General Information

If you need any other functionality or additional reports please ask for details: [info@labmatica.com](mailto:info@labmatica.com)

All intellectual property rights of the labmatica<sup>®</sup> LIMS and freelims<sup>®</sup> in Version 2.0 are owned by the LIMS at work GmbH, Bonn, Germany!

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