

# Installation of SSL certificates on OSX for use with MBF-Biolucida Viewer and LRZ-Histologia Server

Prof. Dr. med. Stefan Milz

Anatomische Anstalt, Ludwig-Maximilians-Universität München



Certificates are used to securely encrypt the internet traffic between server and end user.

This document describes how to install and use the certificates on OSX operating systems (including osx "Catalina").

It is intended only for use in teaching with the LRZ-Histologia server. It should only be used by LMU-students and academic teachers.

1. Download of certificate files
2. Installation on OSX operating system (iMac or compatible). Administrator privileges are necessary.
3. Installation of MBF-biolucida viewer



LUDWIG-  
MAXIMILIANS-  
UNIVERSITÄT  
MÜNCHEN

Download of certificate files



1. Open safari browser
2. Go to the following page:  
[https://pki.pca.dfn.de/dfn-ca-global-g2/cgi-bin/pub/pki?cmd=getStaticPage;name=index;id=2&RA\\_ID=3230](https://pki.pca.dfn.de/dfn-ca-global-g2/cgi-bin/pub/pki?cmd=getStaticPage;name=index;id=2&RA_ID=3230)
3. Download the two certificates marked with red arrows in the following picture
4. Then close Safari browser



https://pki.pca.dfn.de/dfn-ca-global-g2/cgi-bin/pub/pki?cmd=getStaticPage;name=index;id=2&RA\_ID=3230

... Suchen

Zertifikate **CA-Zertifikate** Gesperrte Zertifikate Policies Hilfe Beenden  
Wurzelzertifikat DFN-PCA-Zertifikat DFN-CA Global G2 Zertifikat Zertifikatkette anzeigen

#### Schnittstelle für Nutzer und Administratoren - CA-Zertifikate

Hier können Sie das Wurzelzertifikat, das DFN-PCA-Zertifikat und das CA-Zertifikat in Ihrem Browser installieren oder alle Zertifikate in einer Datei speichern.

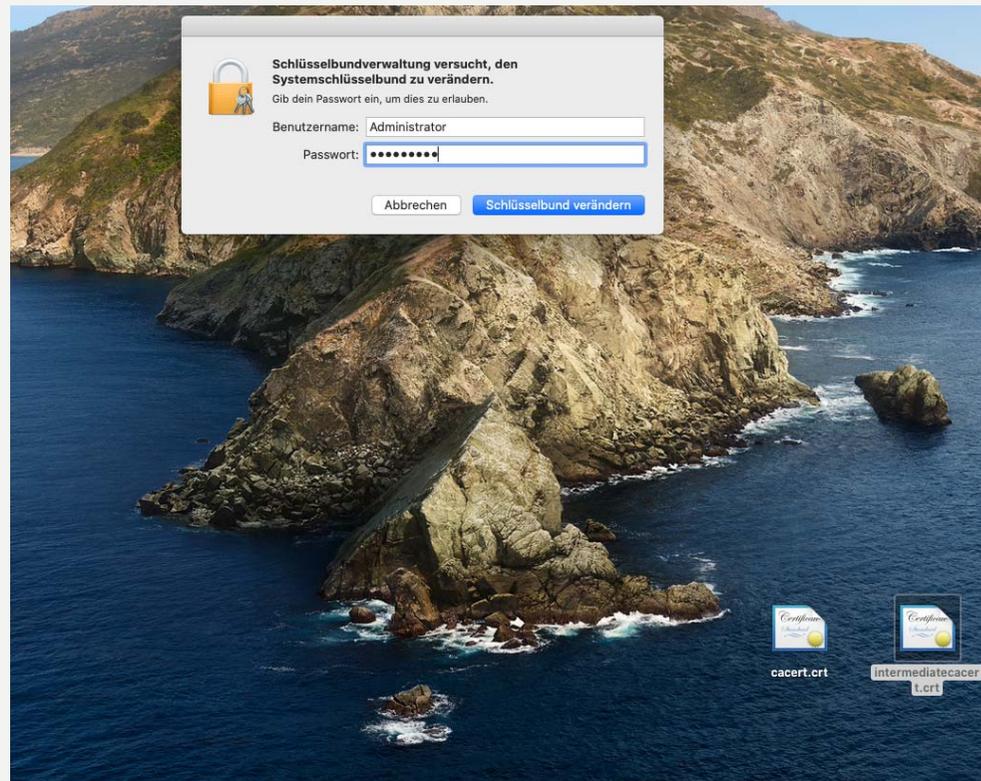
- Wählen Sie "Wurzelzertifikat", "DFN-PCA-Zertifikat" bzw. "DFN-CA Global G2-Zertifikat" um das jeweilige Zertifikat in Ihrem Browser zu installieren.
- Wählen Sie "Zertifikatkette anzeigen", wenn Sie die Zertifikate in einer Datei speichern möchten (PEM-Format).

Kontaktinformationen für Rückfragen finden Sie unter "Hilfe".

1. Go to downloads and drag the two certificate files to the desktop.



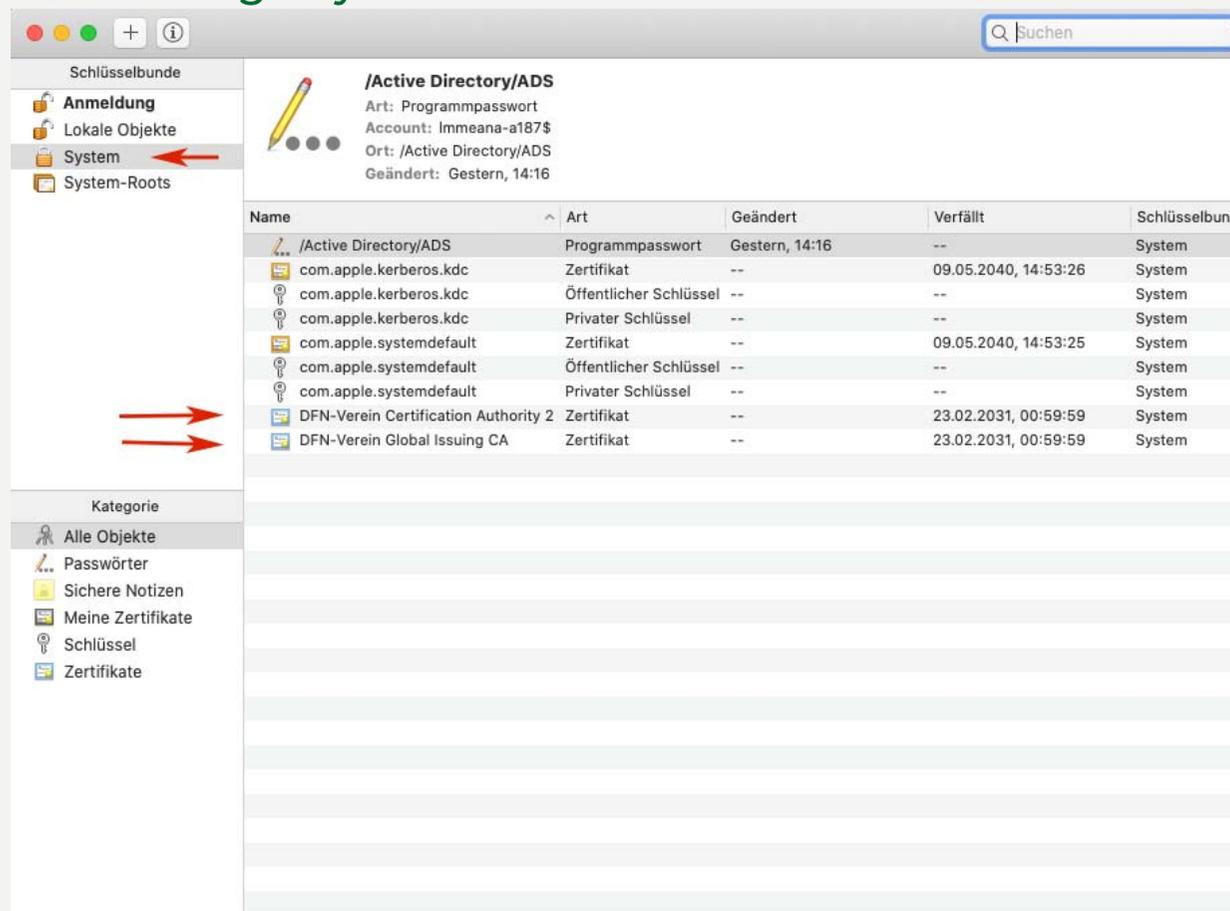
## 2. Open one after another and integrate them into the keychain



You will be asked to login as administrator (your accountname will be different) and you will have to enter your password. Depending on security level this may happen even twice.



## 2. Make sure that the certificate is integrated in the 'system' category.





### 3. Close keychain.

The screenshot shows the macOS Keychain Access application window. The menu bar at the top includes 'Schlüsselbundverwaltung', 'Ablage', 'Bearbeiten', 'Darstellung', 'Fenster', and 'Hilfe'. The 'Schlüsselbundverwaltung' menu is open, showing options like 'Über Schlüsselbundverwaltung', 'Einstellungen ...', 'Zertifikatsassistent', 'Ticket-Viewer', 'Dienste', 'Schlüsselbundverwaltung ausblenden', 'Andere ausblenden', 'Alle einblenden', and 'Schlüsselbundverwaltung beenden'. A red arrow points to the 'Schlüsselbundverwaltung beenden' option.

The main window displays the details for the selected keychain, '/Active Directory/ADS'. The details include:

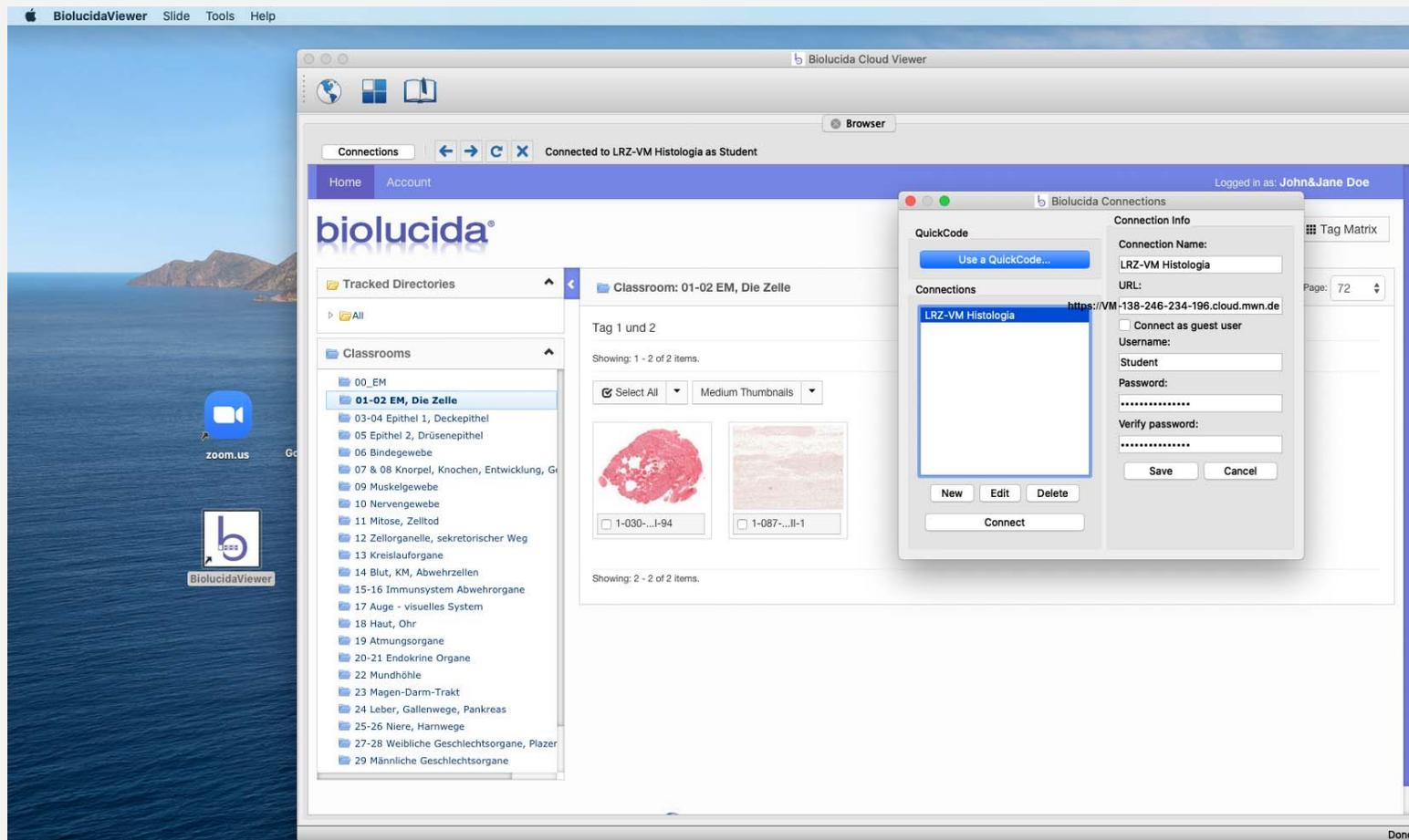
- Art: Programmpasswort
- Account: Immeana-a187\$
- Ort: /Active Directory/ADS
- Geändert: Gestern, 14:16

Below the details is a table listing the items in the keychain:

Name	Art	Geändert	Verfällt	Schlüsselbund
/Active Directory/ADS	Programmpasswort	Gestern, 14:16	--	System
com.apple.kerberos.kdc	Zertifikat	--	09.05.2040, 14:53:26	System
com.apple.kerberos.kdc	Öffentlicher Schlüssel	--	--	System
com.apple.kerberos.kdc	Privater Schlüssel	--	--	System
com.apple.systemdefault	Zertifikat	--	09.05.2040, 14:53:25	System
com.apple.systemdefault	Öffentlicher Schlüssel	--	--	System
com.apple.systemdefault	Privater Schlüssel	--	--	System
DFN-Verein Certification Authority 2	Zertifikat	--	23.02.2031, 00:59:59	System
DFN-Verein Global Issuing CA	Zertifikat	--	23.02.2031, 00:59:59	System

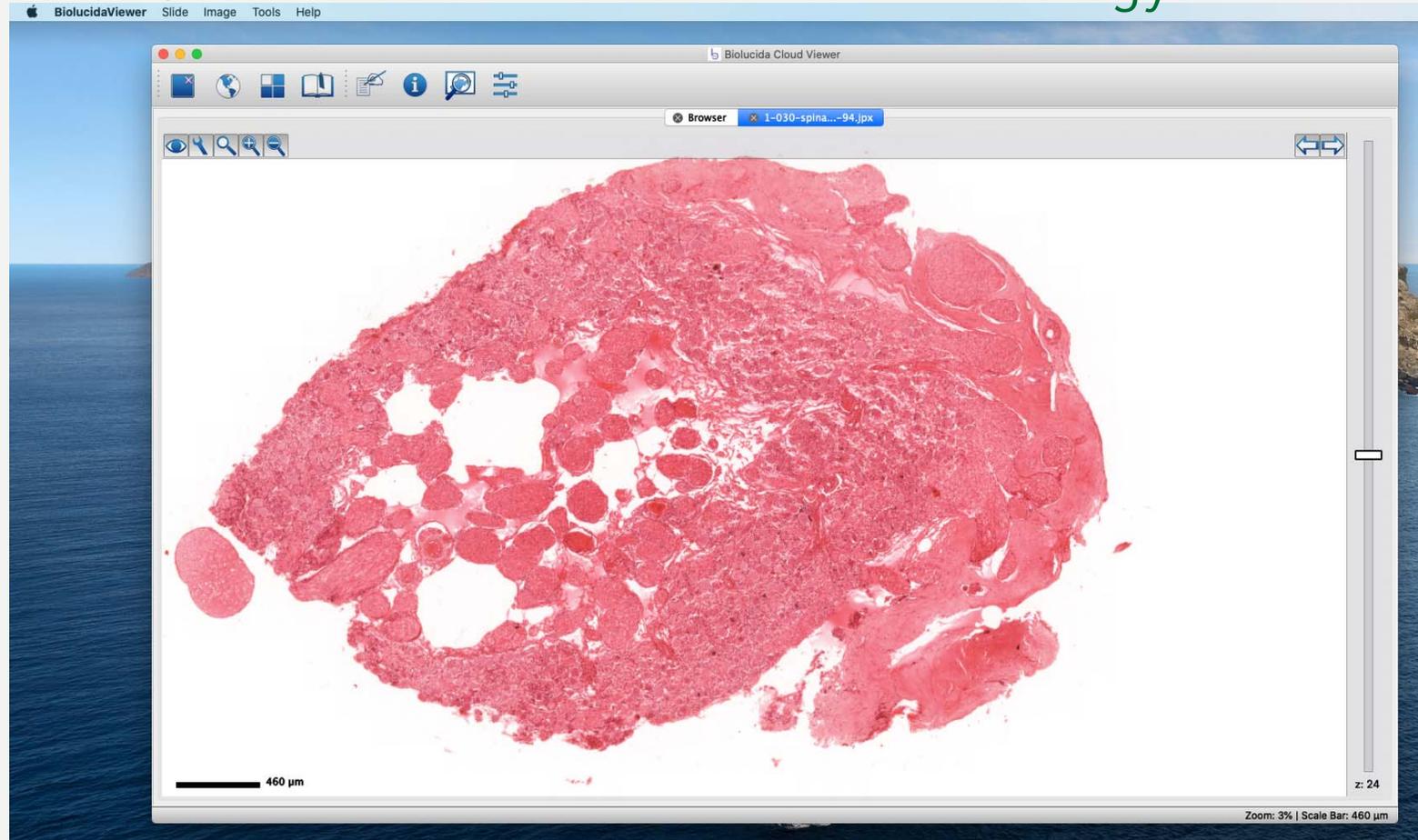
At the bottom of the window, there are two certificate icons: 'cacert.crt' and 'intermediatecacert.crt'.

## 4. Open Biolucida viewer (if already installed).



5. Check connection. Login data have been sent with previous mails to authorized users.

## 6. Use Biolucida viewer to learn Histology.



7. Recognize the specific features of a spinal ganglion using focus and magnification tools.

1. In case you have not yet downloaded and installed MBF-Biolucida viewer, use Safari and go to:  
<https://VM-138-246-234-196.cloud.mwn.de>
2. Enter Login data (User: Student and password)
3. Open Slide and download Biolucida viewer

