**Installation Document**

Comprehensive Data Management for Microscopy Research Datasets

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**Document Change Log**

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## Introduction

### Purpose

The purpose of this document is to outline the installation steps for the various components for this project. Component details are given below

* OMERO Server
* OMERO clients – Insight, Importer and Editor
* Monash metadata server

This document addresses installation and configuration details of the above and not the detailed implementation details for each component.

Other related documents:

* High Level Business Requirements located at <https://confluence-vre.its.monash.edu.au/display/ANDSMonashDataCapture/EIF036+-+MMI>

### Acronyms, Abbreviations, Terms and Definitions

Please refer to Appendix A for a list of all acronyms and abbreviations.

## Installation Steps

### Client Components

OMERO provides the following client components for the processing and manipulation of the data within the OMERO environment.

**OMERO.Importer** – Enables import and cataloging of images from microscopes.

**OMERO.Editor** – Allows users to document experimental procedures to be later attached to OMERO content as metadata.

**OMERO.Insight** – Insight is a browser for the OMERO data store, it allows filtering and searching of images.

**OMERO.Web** – Provides OMERO with a web accessible interface for manipulating and sharing images.

#### Environment Setup

The source code for the OMERO client is maintained in Github. If you are new to Github, an introduction to this service is available at [Git usage for OMERO developers](https://trac.openmicroscopy.org.uk/ome/wiki/WorkingWithOmero/UsingGit).

1. Download the source code from <https://github.com/emilda/openmicroscopy> and clone the project.

*git clone https://emilda@github.com/emilda/openmicroscopy.git*

1. Set the environment variable OMERO\_HOME to the installation location
2. Download Ice 3.4.2 from <http://www.zeroc.com/> and set the environment variable ICE\_HOME to the installation location
3. Add Ice.jar to the classpath,   
   *Export* ***CLASSPATH****=$ICE\_HOME/lib/Ice.jar:$CLASSPATH*
4. Add the binaries to the path  
   *Export* ***PATH****=$PATH:$ICE\_HOME/bin:$OMERO\_HOME/bin*
5. Other variables to set
   1. $ICE\_HOME/lib to DYLD\_LIBRARY\_PATH  
      *Export DYLD\_LIBRARY\_PATH =$DYLD\_LIBRARY\_PATH:$ICE\_HOME/lib*
   2. Set PYTHONPATH  
      *Export* ***PYTHONPATH****=$ PYTHONPATH:$OMERO\_HOME/lib/python*
6. Edit container\*.xml and andspublish.xml in the folder *components/insight/config* to update the hostName and token elements

#### Building Client Code

1. To clean and build all the Client components:

*Cd $OMERO\_HOME*

*./build.py clean*

*./build.py*

1. To build only the OMERO.Insight Client component:

*./build.py build-insight*

1. After successful compilation, the various client components will be in the folder: *components/insight/OUT/dist/*

### Monash Metadata Server

The Metadata Registration Server makes the microscopy research collections available for harvesting by ANDS and also maintains the details of registered collection in the database.

#### Environment Setup

The source code for the Metadata Registration Server is maintained in Githut.

1. Download the source code from https://github.com/emilda/monashmie and clone the project.

*git clone https://emilda@github.com/emilda/* monashmie*.git*

1. Create datastore directory for saving the generated RIF-CS xml files   
   *Mkdir /opt/datastore*
2. NFS mount the above folder to LaRDS which in turn is mounted to the OAI-PMH data provider
3. Change the ownership to Tomcat user  
   *Chown –R tomcat:tomcat /opt/datastore*

#### Build and Deploy

1. Change the configuration file under the conf folder to your system values
2. Build the source using Ant  
   ant
3. Upon successful build copy the omeromd.war file to the Tomcat webapps folder and restart tomcat server

# Appendix A: Acronyms, Abbreviations, Terms and Definitions

|  |  |
| --- | --- |
| ARDC | Australian Research Data Commons |
| ANDS | Australian National Data Service |
| OAI-PMH | Open Archives Initiative – Protocol for Metadata Harvesting |
| RIF-CS | Registry Interchange Format – Collections and Services |
| LaRDS | Large Research Data Store |
| SOE | Standard Operating Environment |
| VM | Virtual Machine |