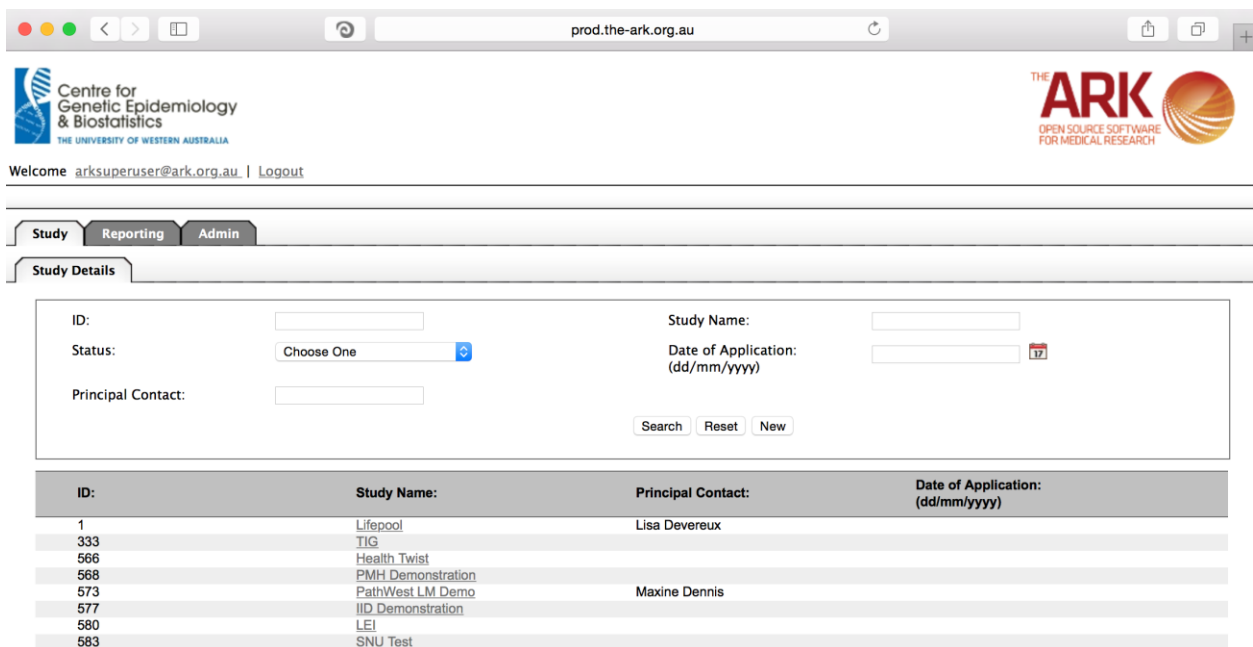


# The Ark Documentation.

## Computation

Log in and select your study by clicking the hyperlink corresponding to the name of your study.

Once you have chosen your study we will be able to adjust study details or select modules and functions available in that study (for which you have privileges).



The screenshot shows the Ark web application interface. At the top, there is a browser window with the URL 'prod.the-ark.org.au'. The page header includes the logo for the Centre for Genetic Epidemiology & Biostatistics at The University of Western Australia, and the Ark logo with the text 'THE ARK OPEN SOURCE SOFTWARE FOR MEDICAL RESEARCH'. A welcome message reads 'Welcome arksuperuser@ark.org.au | Logout'.

Below the header, there are three tabs: 'Study', 'Reporting', and 'Admin'. The 'Study' tab is selected, and a sub-tab 'Study Details' is active.

The 'Study Details' section contains a search form with the following fields:

- ID:
- Status:
- Principal Contact:
- Study Name:
- Date of Application:  (with a calendar icon)

Buttons for 'Search', 'Reset', and 'New' are located below the search fields.

Below the search form is a table of studies:

ID:	Study Name:	Principal Contact:	Date of Application: (dd/mm/yyyy)
1	Lifepool	Lisa Devereux	
333	TIG		
566	Health Twist		
568	PMH Demonstration		
573	PathWest LM Demo	Maxine Dennis	
577	IID Demonstration		
580	LEI		
583	SNU Test		

Alternatively if you have a very long list of studies under your management you may use the search palette/panel at the top of the page. You can search/filter by id, name, principal contact, status of the study or date of application. Once you have added your filtering criteria, click the search button;

prod.the-ark.org.au

Centre for Genetic Epidemiology & Biostatistics  
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THE ARK  
OPEN SOURCE SOFTWARE FOR MEDICAL RESEARCH

Welcome arksuperuser@ark.org.au | Logout

Study Reporting Admin

Study Details

ID:  Study Name: pedigree

Status: Choose One Date of Application: (dd/mm/yyyy)  17

Principal Contact:

Search Reset New

ID:	Study Name:	Principal Contact:	Date of Application: (dd/mm/yyyy)
1	Lifepool	Lisa Devereux	
333	TIG		
566	Health Twist		
568	PMH Demonstration		
573	PathWest LM Demo	Maxine Dennis	
577	IID Demonstration		
580	LEI		
583	SNU Test		
584	random_new		
585	IMRC_Test		

As you can see the filter has helped us find our chosen study and we can click the hyperlinked study name as discussed before;

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Study Reporting Admin

Study Details

ID:  Study Name: pedigree

Status: Choose One Date of Application: (dd/mm/yyyy)  17

Principal Contact:

Search Reset New

ID:	Study Name:	Principal Contact:	Date of Application: (dd/mm/yyyy)
579	Pedigree WIP	Dr Adrian Bickerstaffe	07/02/2014

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\* indicates a child study

Once you have chosen your study we will be able to adjust study details or select modules and functions available in that study (for which you have privileges). The module we wish to select is Genomics – Computation.

Genomics module is created with the intention of allowing collaborating researchers to administer the existing GWAS datasets and execute GWAS analysis inside High-performance computing sources via a single web user interface.

This simple page is for controlling the list of available GWAS analysis algorithms (These algorithms declare the available GWAS analysis methods and given opportunity to researchers to select specific analysis package to deploy in selected micro service). As you can see the same standard lay out of a list and filterable fields starts us off.

**Study: spark**

Study Subject Datasets LIMS Reporting Work Tracking Disease **Genomics** Global Search Admin

Micro Service Data Centre **Computation** Analysis

ID:  Algorithm Name:

ID:	Algorithm Name:	Micro Service:	Status:				
5	<a href="#">Plink-QC</a>	spark-local	Processed	<input type="button" value="Download"/>	<input type="button" value="Upload"/>	<input type="button" value="Compile"/>	<input type="button" value="Available"/>
6	<a href="#">Basic_Association_Analysis</a>	spark-local	Uploaded	<input type="button" value="Download"/>	<input type="button" value="Upload"/>	<input type="button" value="Compile"/>	<input type="button" value="Available"/>
7	<a href="#">Plink_Dist</a>	spark-local	Uploaded	<input type="button" value="Download"/>	<input type="button" value="Upload"/>	<input type="button" value="Compile"/>	<input type="button" value="Available"/>

<< 1 >>

We will now add a new Algorithm. Start by clicking the new button. The following will appear; The fields are all self-explanatory. The only note is that any field with a “\*” is required/compulsory.

**Study: spark**

Study Subject Datasets LIMS Reporting Work Tracking Disease Genomics Global Search Admin

Micro Service Data Centre Computation Analysis

ID: <input type="text"/>	Algorithm Name: <input type="text"/>
Description: <input type="text"/>	Micro Service: <input type="text" value="Choose One"/>
Status: <input type="text"/>	Algorithm Package: <input type="button" value="Browse..."/> No file selected.
Available: <input type="checkbox"/>	
<input type="button" value="Save"/> <input type="button" value="Cancel"/> <input type="button" value="Delete"/>	

Then click save;

If you have no issues and it has correctly saved, then you will have the green message at the top of the page telling you so. If there were any issues (rare on this page), a message will show up in red describing what you have done wrong.

Click on Cancel button will return to the Computational search list screen.

Computational tab search lists the existing algorithms with the Id, Algorithm Name, selected Micro Service, and Status fields. In addition, Download, Upload, Compile, and Available buttons in the right corner.

**Study: spark**

Study Subject Datasets LIMS Reporting Work Tracking Disease Genomics Global Search Admin

Micro Service Data Centre Computation Analysis

ID: <input type="text"/>	Algorithm Name: <input type="text"/>
<input type="button" value="Search"/> <input type="button" value="Reset"/> <input type="button" value="New"/>	

ID:	Algorithm Name:	Micro Service:	Status:				
5	Plink-QC	spark-local	Processed	<input type="button" value="Download"/>	<input type="button" value="Upload"/>	<input type="button" value="Compile"/>	<input type="button" value="Available"/>
6	Basic_Association_Analysis	spark-local	Uploaded	<input type="button" value="Download"/>	<input type="button" value="Upload"/>	<input type="button" value="Compile"/>	<input type="button" value="Available"/>
7	Plink_Dist	spark-local	Uploaded	<input type="button" value="Download"/>	<input type="button" value="Upload"/>	<input type="button" value="Compile"/>	<input type="button" value="Available"/>
<< 1 >>							

There, click on the Download button will download the attached algorithm source as a ZIP archive.

Click on the Upload button will start the background process to upload the algorithm to selected micro service.

Click on the compile button will start preprocessing the upload the algorithm source for analysis.

Click on the Available button will mark the uploaded algorithm is ready for analysis

There, uploaded algorithms are not allowed to delete from the system to avoid data integrity issues.