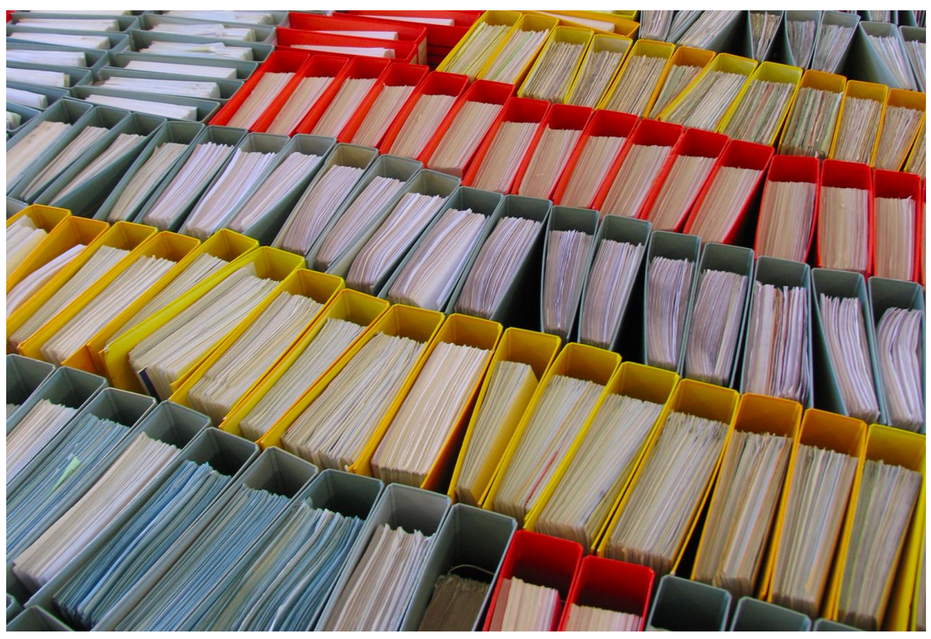
Research Data Management Techniques

2.5 hours | No Prerequisites | At your campus | $ No cost to members



Why do this course?

Are you drowning in research data? Do you want to know where you should be storing your data? Are you required to comply with funding body data management requirements, but don't know how?

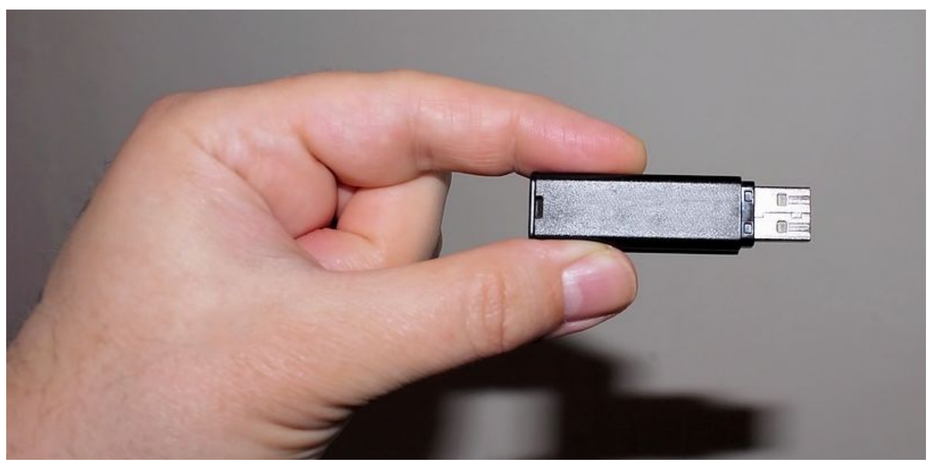
This workshop is ideal for researchers who want to know how research data management can support project success and are interested in research data management services and support available at their institution. Combining slide-based background material, discussions, and case studies this workshop will equip participants with best practices for managing their valuable research data.

You'll learn about:

- How to manage research data according to legal, statutory, ethical, funding body and university requirements.
- Approaches to planning, collecting, organising, managing, storing, backing up, preserving, and sharing your data.
- Services supporting research data at your institution.

Preparation

Bring along your laptop and any questions you may have on research data management.



The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

ands AUSTRALIAN NATIONAL DATA SERVICE

Developed in collaboration with the Australian National Data Service.

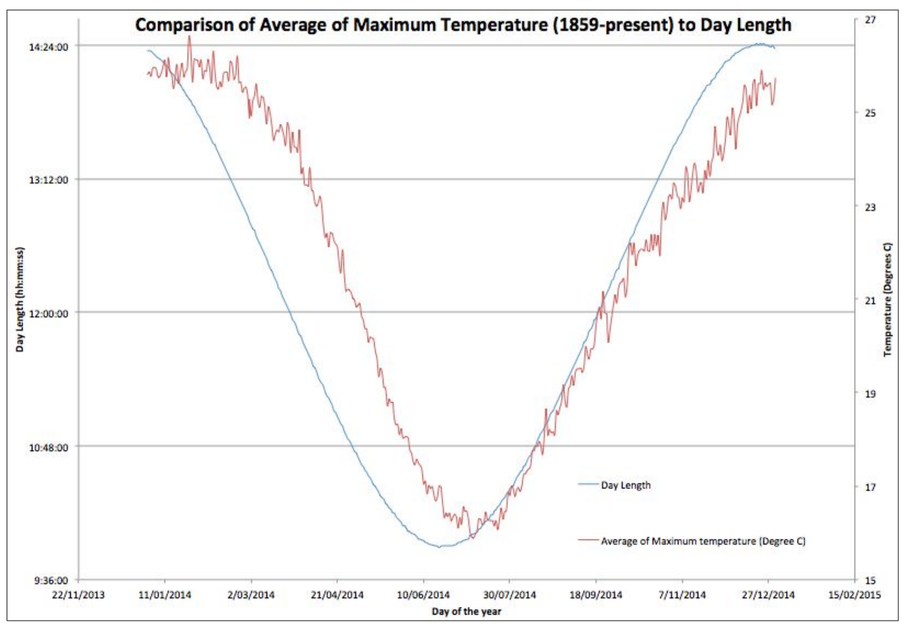
For more information visit
Learn.intersect.org.au

INTERSECT

Learn .intersect.org.au

Excel For Researchers

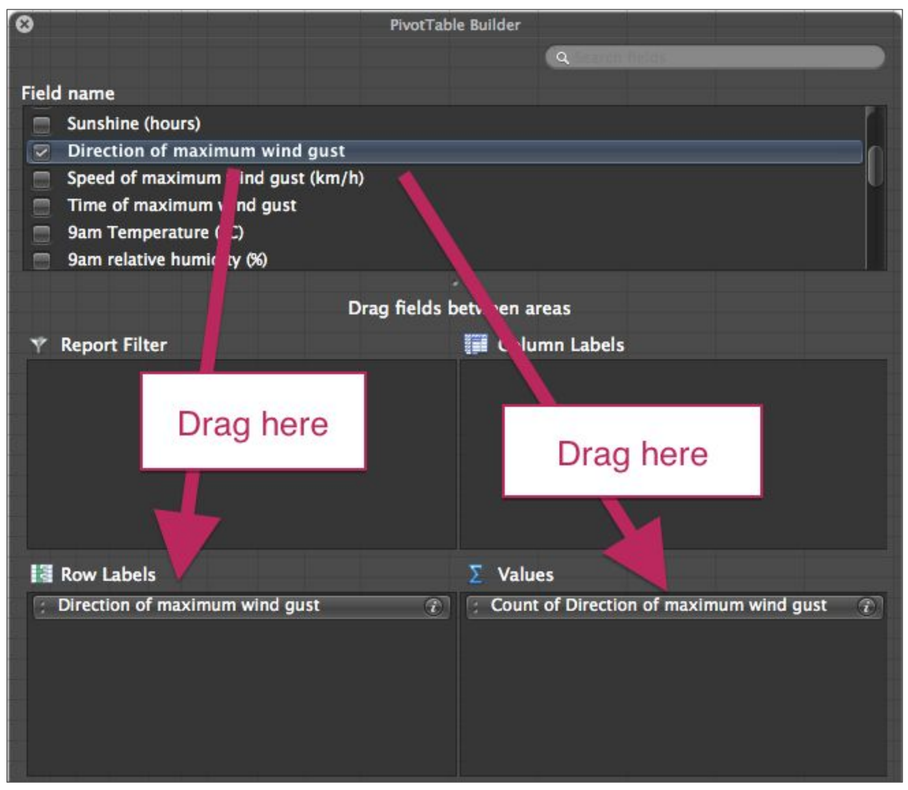
1 day | No Prerequisites | At your campus | No cost to members



Why do this course?

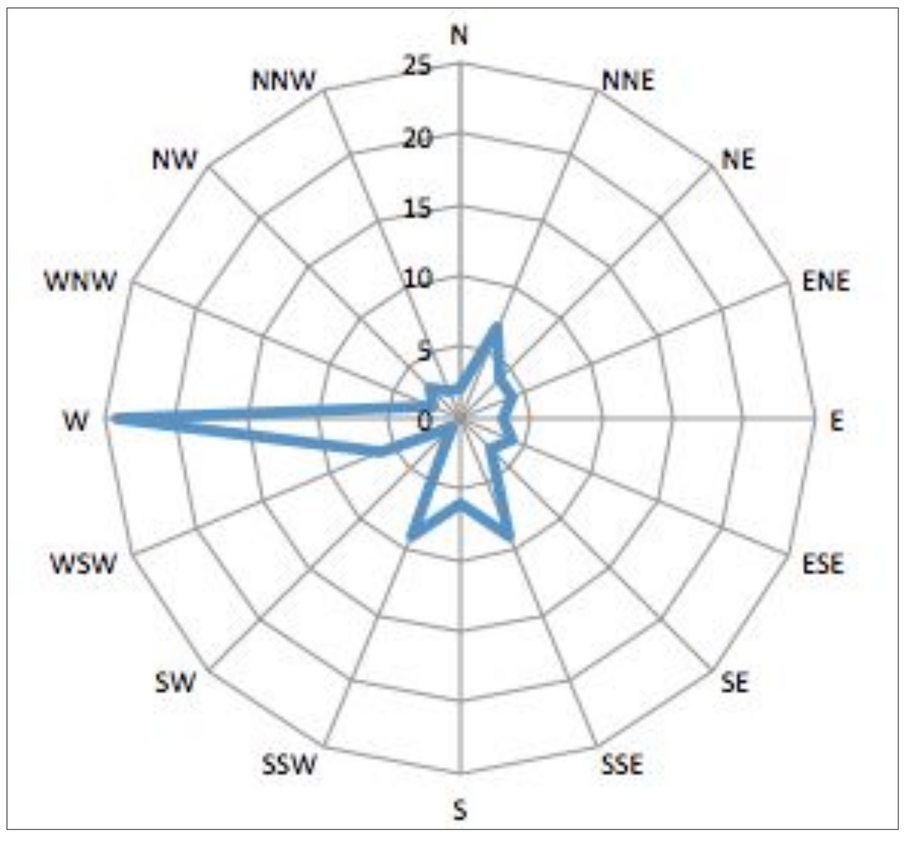
Data rarely comes in the form you require. Often it is messy. Sometimes it is incomplete. And sometimes there's too much of it. Frequently, it has errors. We'll use one of the most widespread data wrangling tools, Microsoft Excel, to import, sort, filter, copy, protect, transform, summarise, merge, and visualise research data.

While aimed at novice Excel users, most attendees will walk away with new tricks to work more efficiently with their research data.



You'll learn how to:

- Find, import and ‘clean up’ messy research data
- Organise, format and name your data in Excel
- Analyse your data (answer research questions)
- Interpret your data (filtering, conditional formatting)
- Perform calculations on your data (max, min, average)
- Extract significant findings from your data (pivot tables)
- Manipulate your data (data conversion, dates and times)
- Create graphs and charts to visualise your data



The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

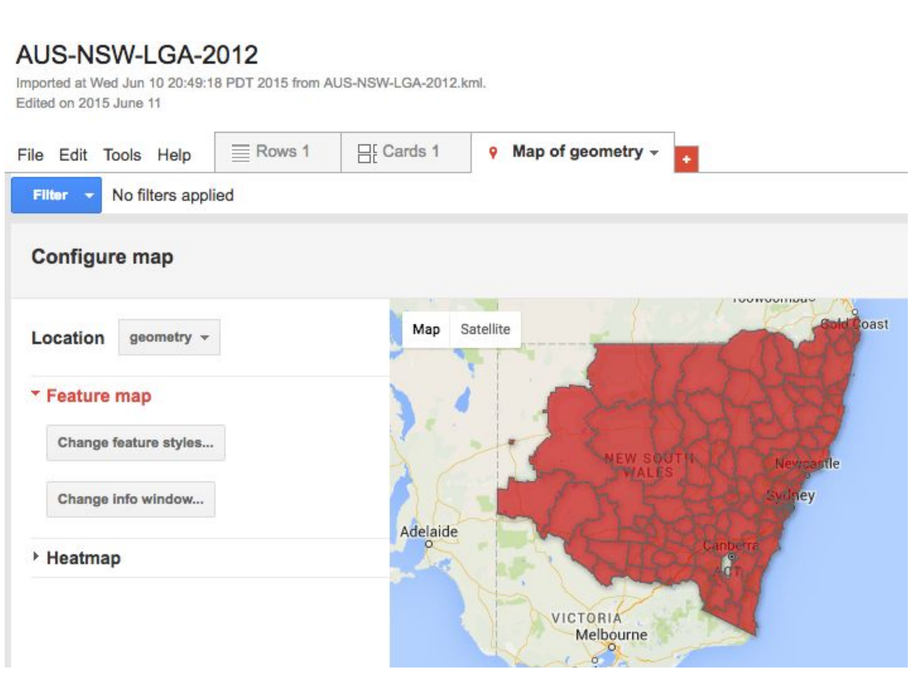
For more information visit
Learn.intersect.org.au

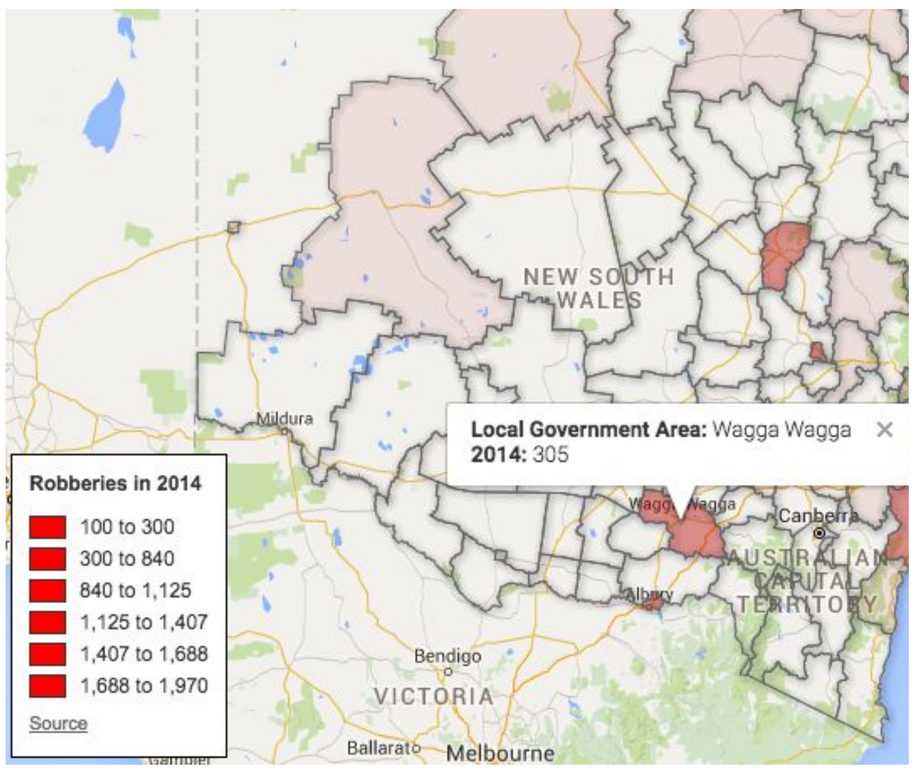
INTERSECT

Learn
.intersect.org.au

Data Visualisation with Google Fusion Tables

2.5 hours | No Prerequisites | At your campus | No cost to members





Why do this course?

Have you got data in different forms that you want to compare directly? Do you want to show your data on a map to improve your research message?

This workshop is an introduction to data visualisation techniques using hands-on activities in Google Fusion Tables. The course is ideal for participants who work with large data sets and want to convey their research outcomes clearly and persuasively in a visual manner. By merging geospatial data and crime statistics to create a heat map, participants will gain skills in visualisation that they can apply to their research.

You'll learn how to:

- Import data into Google Fusion Tables
- Merge multiple data sets in Fusion Tables
- Create interactive heatmaps on a Google Map
- Vary the way the visualisation is presented in Fusion Tables

Preparation

Google Fusion Tables is an experimental Google Drive app. A personal Gmail account is required to participate in this course. Institutional accounts, such as those at universities, will not work.

The Intersect approach to training

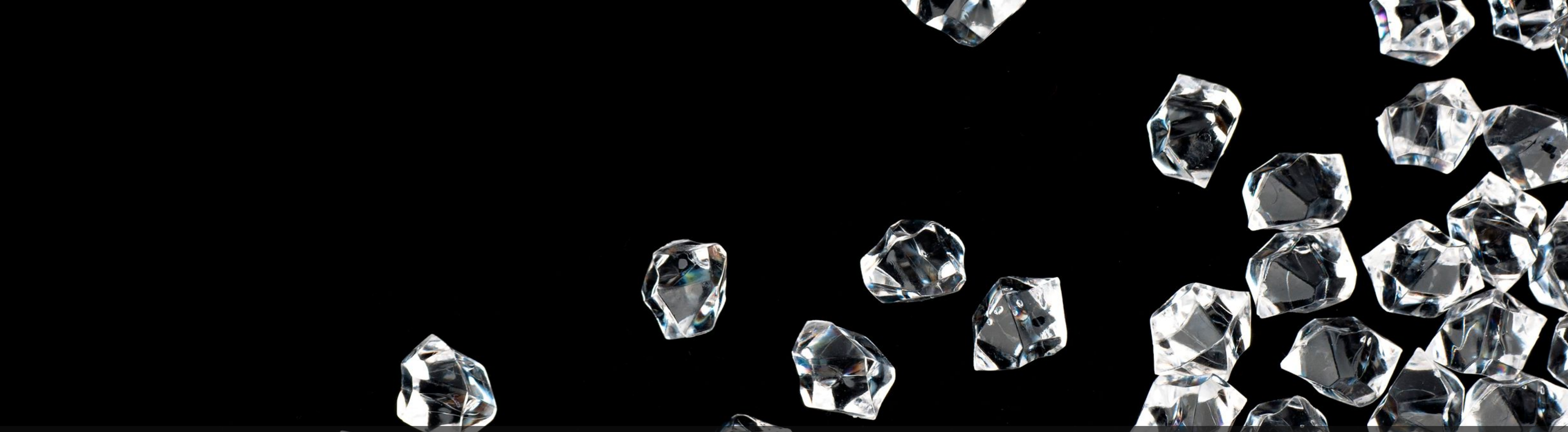
At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

For more information visit
Learn.intersect.org.au

INTERSECT

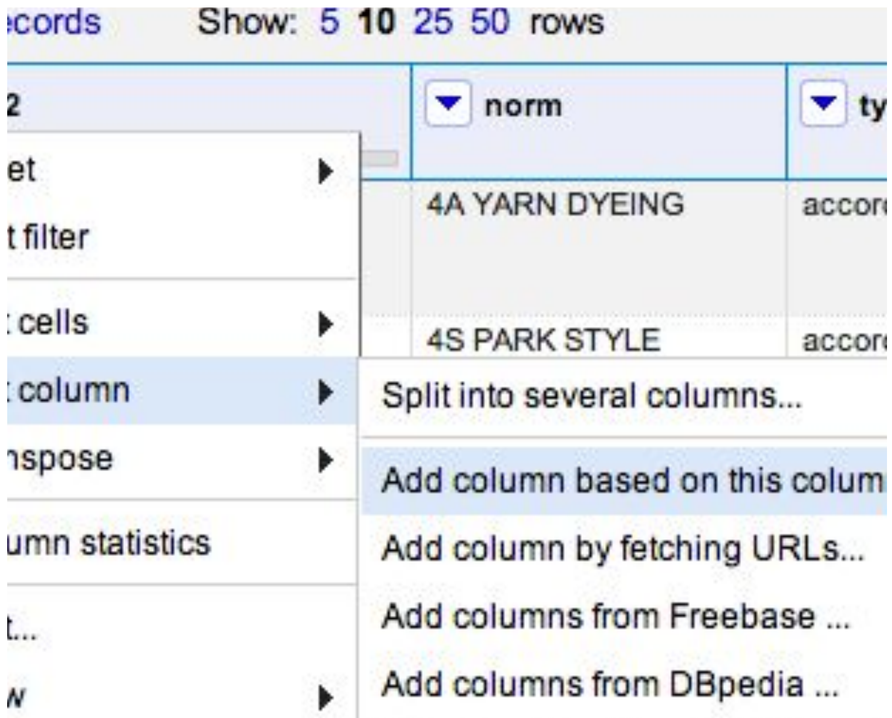
Learn
.intersect.org.au



Cleaning & Exploring Your Data with

Open Refine

3 hours | No Prerequisites | At your campus | $ No cost to members



Why do this course?

Do you have messy data from multiple inconsistent sources, or open-responses to questionnaires? Do you want to improve the quality of your data by refining it and using the power of the internet?

Open Refine is the perfect partner to Excel. It is a powerful, free tool for exploring, normalising and cleaning datasets, and extending data by accessing the internet through APIs. In this course we'll work through the various features of Refine, including importing data, faceting, clustering, and calling remote APIs, by working on a fictional but plausible humanities research project.

You'll learn how to:

- Download, install and run Open Refine
- Import data from csv, text or online sources and create projects
- Navigate data using the Open Refine interface
- Explore data by using facets
- Clean data using clustering
- Parse data using GREL syntax
- Extend data using Application Programming Interfaces (APIs)
- Export project for use in other applications

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

For more information visit
Learn.intersect.org.au

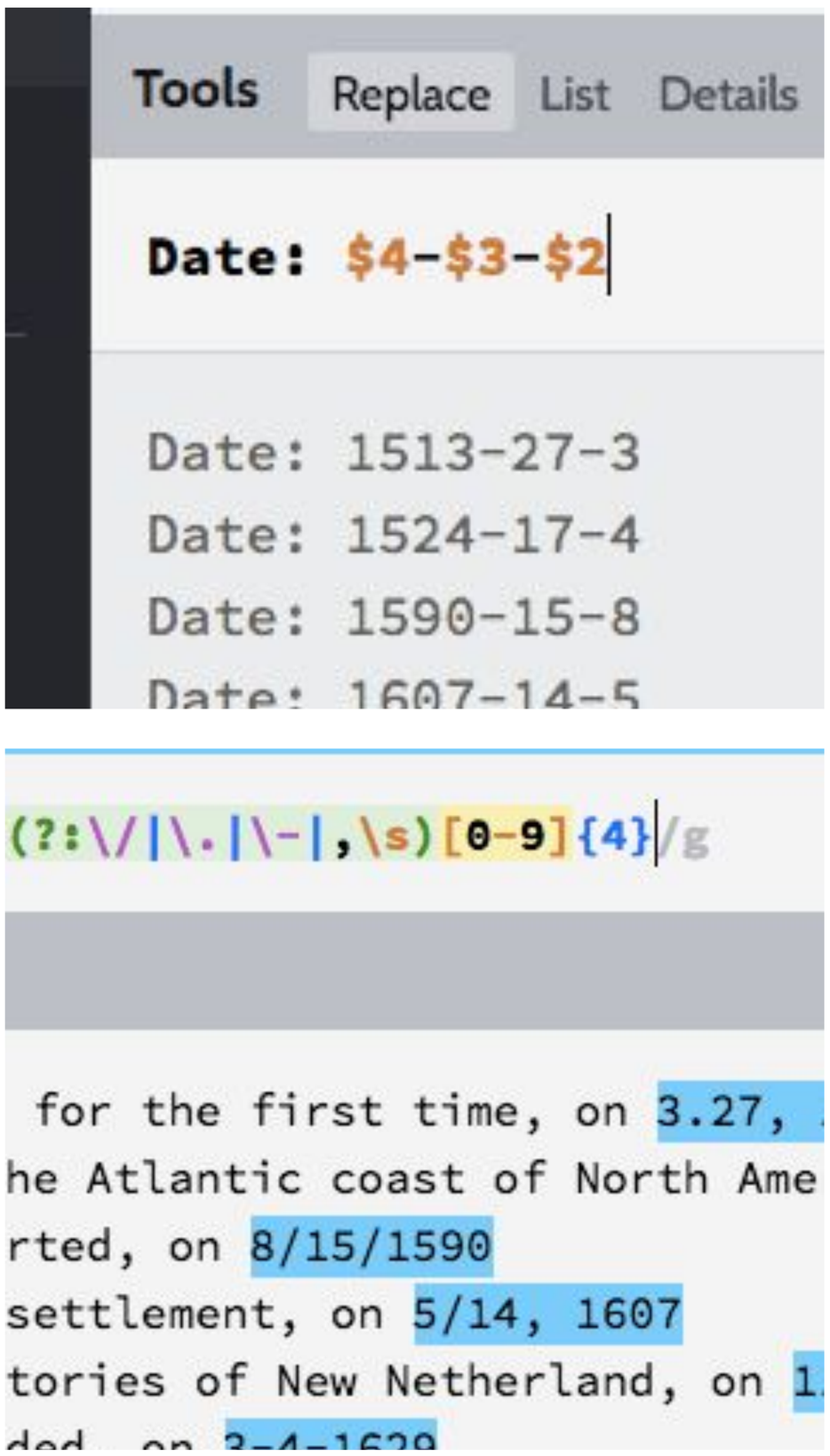
INTERSECT

Learn
.intersect.org.au

Powerful Text Searching & Matching with

Regular Expressions

2.5 hours | No Prerequisites | At your campus | $ No cost to members



Why do this course?

Have you ever wanted to extract phone numbers out of a block of unstructured text? Or email addresses. Or find all the words that start with “e” and end with “ed”, no matter their length? Or search through DNA sequences for a pattern? Or extract coordinates from GPS data?

Regular Expressions (regexes) are a powerful way to handle a multitude of different types of data. They can be used to find patterns in text and make sophisticated replacements. Think of them as **find and replace on steroids**. Come along to this workshop to learn what they can do and how to apply them to your research.

You’ll learn how to:

- Comprehend and apply the syntax of regular expressions
- Use the http://regexr.com tool to test a regular expression against some text
- Construct simple regular expressions to find capitalised words; all numbers; all words that start with a specific set of letters, etc. in a block of text
- Craft and test a progressively more complex regular expression
- Find helpful resources covering regular expressions on the web

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

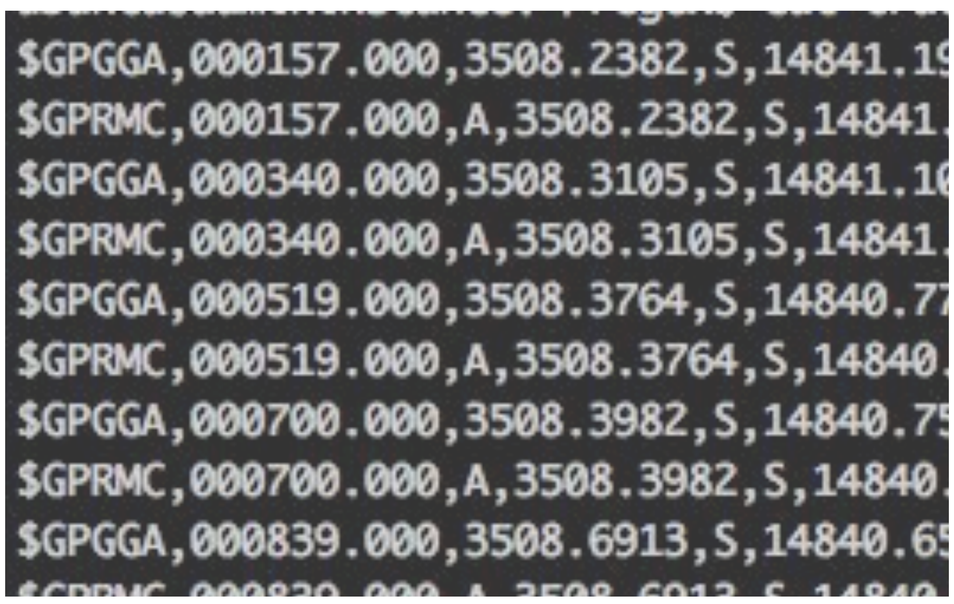
For more information visit
Learn.intersect.org.au

INTERSECT

Learn .intersect.org.au

Regular Expressions on Command

3 hours | Prerequisites (see below) | At your campus | $ No cost to members

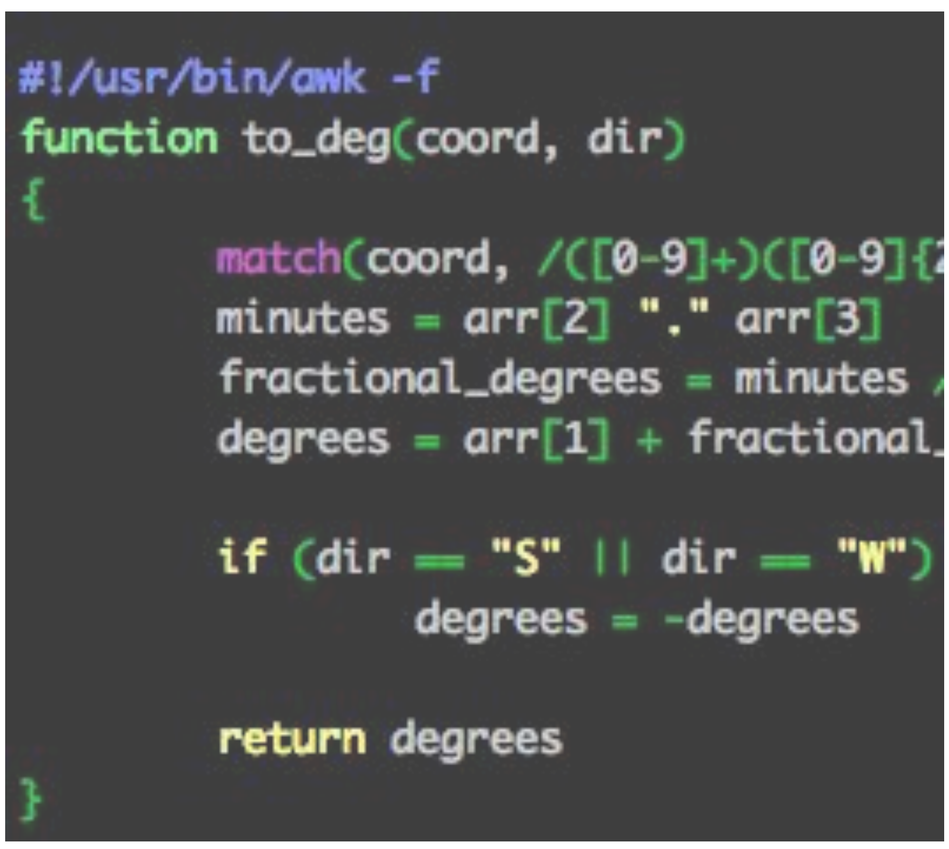


Why do this course?

Would you like to use regular expressions with the classic command line utilities `find`, `grep`, `sed` and `awk`? These venerable Unix utilities allow you to search, filter and transform large amounts of text (including many common data formats) efficiently and repeatably.

You'll learn how to use:

- `find` to locate files and directories matching regexes.
- `grep` to filter lines in files based on pattern matches.
- `sed` to find and replace using regular expressions and captures.
- `awk` to work with row- and column-oriented data.



```
#!/usr/bin/awk -f
function to_deg(coord, dir)
{
        match(coord, /([0-9]+)([0-9]{
        minutes = arr[2] "." arr[3]
        fractional_degrees = minutes /
        degrees = arr[1] + fractional_

        if (dir == "S" || dir == "W")
                degrees = -degrees

        return degrees
}
```

Prerequisites

This course assumes prior knowledge of the basic syntax of regular expressions. If you're new to regular expressions or would like a refresher, take our **Powerful Text Searching & Matching with Regular Expressions** course first.

This course also assumes basic familiarity with the Bash command line environment found on GNU/Linux and other Unix-like environments. Take our **Introduction to Unix** course to get up to speed quickly.

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

For more information visit
Learn.intersect.org.au

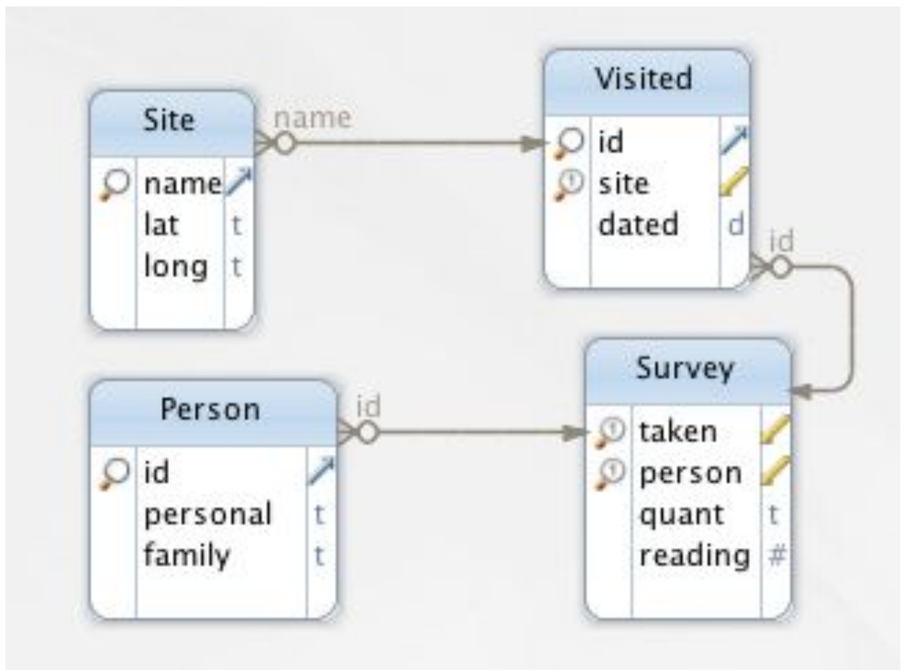
INTERSECT

Learn
.intersect.org.au

Using Databases & SQL

3 hours | No Prerequisites | At your campus | $ No cost to members

```
sqlite> SELECT * FROM visited;
id          site        dated
----------  ----------  ----------
619         DR-1        1927-02-08
622         DR-1        1927-02-10
734         DR-3        1939-01-07
735         DR-3        1930-01-12
751         DR-3        1930-02-26
752         DR-3
837         MSK-4       1932-01-14
844         DR-1        1932-03-22
```




```
sqlite> SELECT site.name, dated, survey.quan
": " || survey.reading AS reading, person.id
 site
   ...> JOIN visited ON visited.site = site
   ...> JOIN survey ON visited.id = survey.
   ...> JOIN person ON person.id = survey.pe

name   dated                reading  id
-----  -----------  ---------------  -----
DR-1   1927-02-08          rad: 9.82  dyer
DR-1   1927-02-08          sal: 0.13  dyer
DR-1   1927-02-10           rad: 7.8  dyer
DR-1   1927-02-10          sal: 0.09  dyer
DR-1   1932-03-22         rad: 11.25  roe
DR-3   1939-01-07          sal: 0.05  lake
DR-3   1939-01-07          rad: 8.41  pb
DR-3   1939-01-07        temp: -21.5  pb
DR-3   1930-01-12          rad: 7.22  pb
```

Why do this course?

A relational database is an extremely efficient, fast and widespread means of storing structured data, and Structured Query Language (SQL) is the standard means for reading from and writing to databases. Databases use multiple tables, linked by well-defined relationships, to store large amounts of data without needless repetition while maintaining the integrity of your data.

Moving from spreadsheets and text documents to a structured relational database can be a steep learning curve, but one that will reward you many times over in speed, efficiency and power.

Developed using the researcher-focused training modules from the highly regarded Software Carpentry Foundation (software-carpentry.org).

You'll learn how to:

- Understand and compose a query using SQL
- Use the SQL syntax to select, sort and filter data
- Calculate new values from existing data
- Aggregate data into sums, averages, and other operations
- Combine data from multiple tables
- Design and build your own relational databases

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

For more information visit
Learn.intersect.org.au

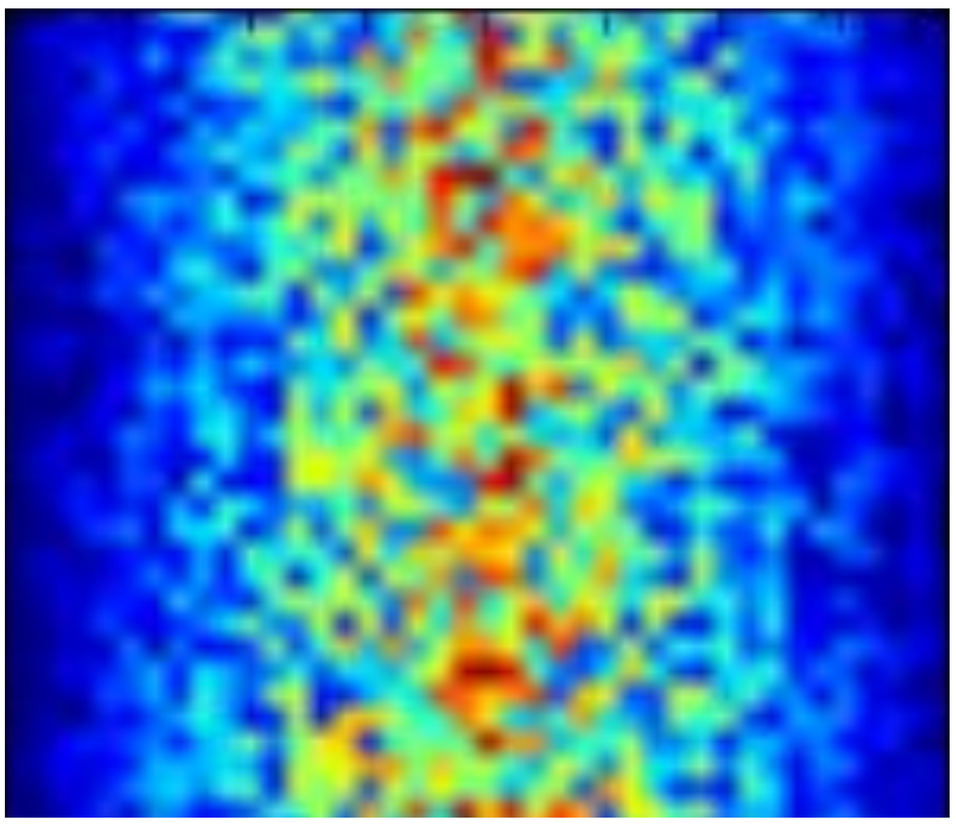
INTERSECT

Learn
.intersect.org.au

Learn the command line, programming fundamentals and version control at an Intersect organised

Software Carpentry Workshop

2 days | No Prerequisites | At your campus | $ No cost to members



A workshop for the University of Sydney OSA/SPIE Student Chapter

Day 1

A solid grounding in the Unix command line
Get started with programming in Python, R or MATLAB

Day 2

Going further with programming
Versioning your code and data with Git

Why do this course?

Seeking a friendly introduction to programming or the Unix command line? Already writing scripts but want to fill in the blanks in your knowledge of programming? New to Python, R or MATLAB and would like to get a sense of its capabilities? Have you mistakenly overwritten programs or data and want to learn techniques to avoid doing it again?

Join us for this live coding workshop where we write programs that produce results, using the researcher-focused training modules from the highly regarded Software Carpentry Foundation (software-carpentry.org).

Every attendee is given access to their own dedicated Linux virtual machine for the duration of the workshop, with all required software and data fully loaded and ready to run.

Please refer to registration page for details of which language — **Python**, **R** or **MATLAB** — will be taught

You'll learn:

- How to automate repetitive analysis using the command line.
- Programming concepts and techniques.
- Basic syntax, control structures and data types in Python, R or MATLAB.
- How to never lose a thing with version control.

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

For more information visit
Learn.intersect.org.au

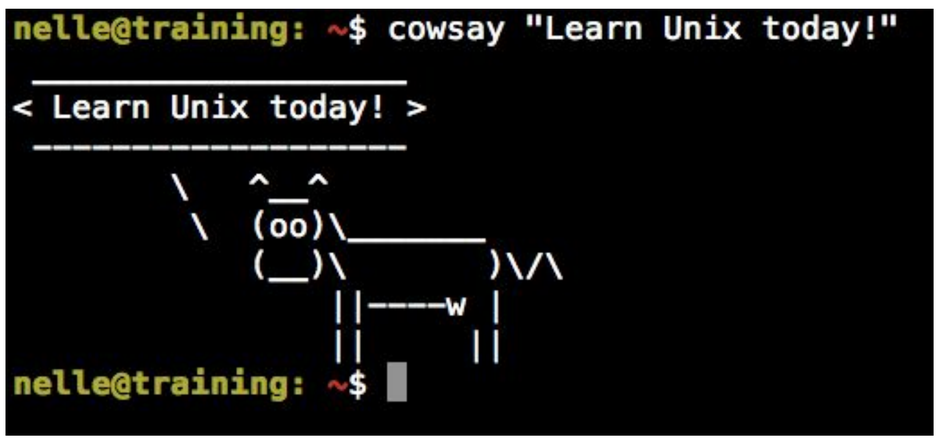
INTERSECT

Learn
.intersect.org.au

Photo credit: flickr.com/photos/arthurjohnpicton/5364226117

Introduction to Unix

3 hours | No Prerequisites | At your campus | $ No cost to members



Why do this course?

The Unix environment is incredibly powerful but quite daunting to the newcomer. Command line confidence unlocks powerful computing resources beyond the desktop, including virtual machines and High Performance Computing. It enables repetitive tasks to be automated. And it comes with a swag of handy tools that can be combined in powerful ways. Getting started is the hardest part, but our helpful instructors are there to demystify Unix as you get to work running programs and writing scripts on the command line.

Every attendee is given a dedicated training environment for the duration of the workshop, with all software and data fully loaded and ready to run.

We teach this course within a **GNU/Linux** environment. This is best characterised as a **Unix-like** environment. We teach how to run commands within the **Bash Shell**. The skills you'll learn at this course are generally transferable to other Unix environments.

You'll learn how to:

- navigate and work with files and directories (folders).
- use a selection of essential tools.
- combine data and tools to build a processing workflow.
- automate repetitive analysis using the command line.

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

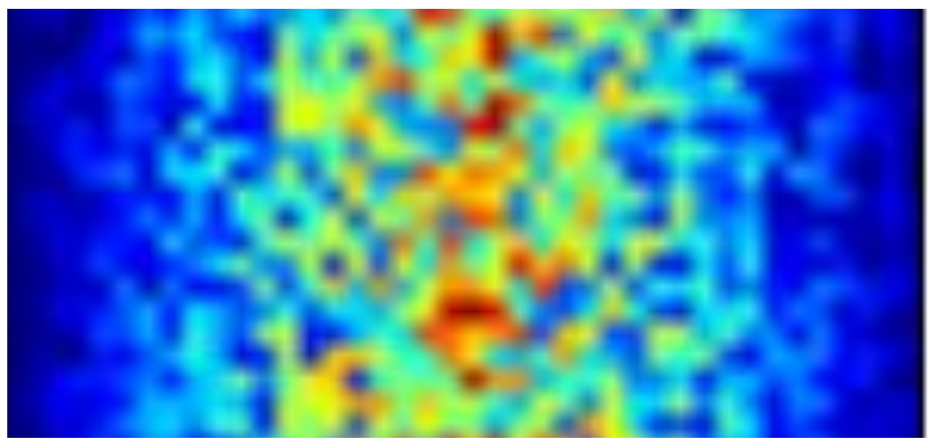
For more information visit
Learn.intersect.org.au

INTERSECT

Learn
.intersect.org.au

Introduction to Programming in Python

1 day | No Prerequisites | At your campus | $ No cost to members



Intersect Software Courses

Software Carpentry Workshop	Introduction to Unix
	Introduction to Programming in Python
	Introduction to Programming in R
	Introduction to Programming in MATLAB
	Introduction to Version Control with Git

This programming course can be taken on its own or as part of an Intersect organised **Software Carpentry Workshop**

Why do this course?

Python has deservedly become a popular language for scientific computing. It has all the friendly features and conveniences you'd expect of a modern programming language. And it boasts a rich set of libraries for working with data.

We teach using Jupyter notebooks, which allow program code, results, visualisations and documentation to be blended seamlessly. Perfect for sharing insights with others while producing reproducible research.

Join us for this live coding workshop where we write programs that produce results, using the researcher-focused training modules from the highly regarded Software Carpentry Foundation (software-carpentry.org).

You'll learn:

- Programming concepts and techniques.
- Basic syntax, control structures and data types in Python.
- How to import powerful libraries that support numerical analysis (NumPy) and visualisation (Matplotlib)
- Approaches to debugging, testing and defensive programming.
- How to blend code, output and documentation with Jupyter notebooks

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

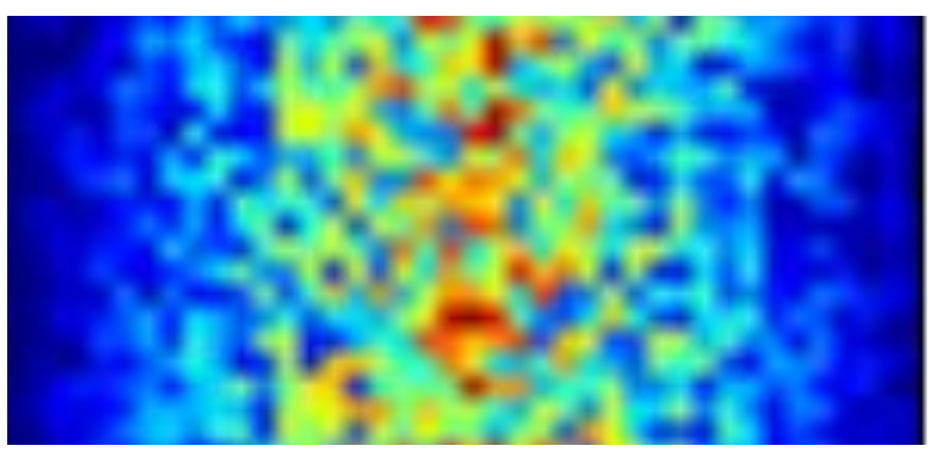
For more information visit
Learn.intersect.org.au

INTERSECT

Learn .intersect.org.au

Introduction to Programming in R

1 day | No Prerequisites | At your campus | $ No cost to members



Intersect Software Courses

Software Carpentry Workshop	Introduction to Unix
	Introduction to Programming in Python
	Introduction to Programming in R
	Introduction to Programming in MATLAB
	Introduction to Version Control with Git

This programming course can be taken on its own or as part of an Intersect organised **Software Carpentry Workshop**

Why do this course?

R is quickly gaining popularity as a programming language of choice for statisticians, data scientists and researchers. It has an excellent ecosystem including the powerful RStudio development environment and the Shiny web application framework.

But getting started with R can be challenging, particularly if you've never programmed before. That's where this introductory course comes in.

Join us for a live coding workshop where we write programs that produce results, using the researcher-focused training modules from the highly regarded Software Carpentry Foundation (software-carpentry.org).

You'll learn:

- Programming concepts and techniques.
- Basic syntax, control structures and data types in R.
- How to load external data into R.
- Ways to visualise data.
- How to use factors for category data.
- Best practices for writing code in R.

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

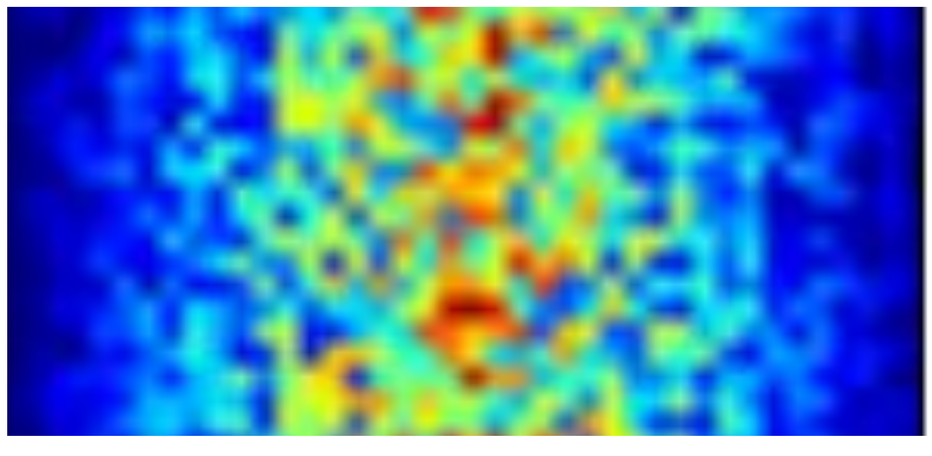
For more information visit
Learn.intersect.org.au

INTERSECT

Learn
.intersect.org.au

Introduction to Programming in MATLAB

1 day | No Prerequisites | At your campus | $ No cost to members



Intersect Software Courses

Software Carpentry Workshop	Introduction to Unix
	Introduction to Programming in Python
	Introduction to Programming in R
	Introduction to Programming in MATLAB
	Introduction to Version Control with Git

This programming course can be taken on its own or as part of an Intersect organised **Software Carpentry Workshop**

Why do this course?

MATLAB is an incredibly powerful programming environment with a rich set of analysis toolkits. But what if you're just getting started – with MATLAB and, more generally, with programming?

Nothing beats a hands-on, face-to-face training session to get you past the inevitable syntax errors!

So join us for this live coding workshop where we write programs that produce results, using the researcher-focused training modules from the highly regarded Software Carpentry Foundation (software-carpentry.org).

You'll learn:

- Programming concepts and techniques.
- Basic syntax, control structures and data types in MATLAB.
- How to load external data into MATLAB.
- Ways to visualise data.
- Defensive programming techniques for avoiding errors.

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

For more information visit
Learn.intersect.org.au

INTERSECT

Learn
.intersect.org.au

Photo credit: flickr.com/photos/katerha/4545627892

Introduction to Version Control with Git

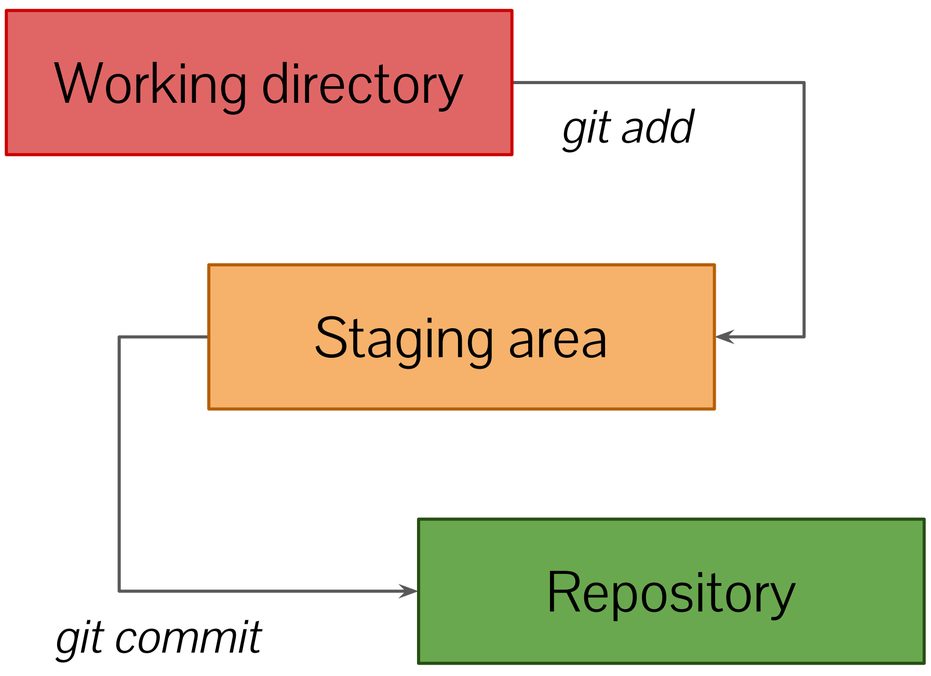
3 hours | Prerequisites (see below) | At your campus | $ No cost to members

```
nelle@training:~/repository$ git init
Initialized empty Git repository in /home/nelle/rep
nelle@training:~/repository$ touch hello.txt
nelle@training:~/repository$ git add hello.txt
nelle@training:~/repository$ git commit -m "first c
[master (root-commit) 705e172] first commit
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 hello.txt
nelle@training:~/repository$ echo "a change" >> hel
nelle@training:~/repository$ git add hello.txt
nelle@training:~/repository$ git commit -m "a small
[master ea15efc] a small change
 1 file changed, 1 insertion(+)
nelle@training:~/repository$ git log
commit ea15efcddd2e87accd71418983f2eee51644a996
Author: Nelle <nelle@intersect.org.au>
Date:   Thu Aug 4 04:37:10 2016 +0000

    a small change

commit 705e172aa79b5ffd94598f91221008d07f794ee0
Author: Nelle <nelle@intersect.org.au>
Date:   Thu Aug 4 04:36:33 2016 +0000

    first commit
nelle@training:~/repository$
```



Why do this course?

Have you mistakenly overwritten programs or data and want to learn techniques to avoid repeating the loss? Version control systems are one of the most powerful tools available for avoiding data loss and enabling reproducible research. While the learning curve can be steep, our trainers are there to answer all your questions while you gain hands on experience in using Git, one of the most popular version control systems available.

Join us for this workshop where we cover the fundamentals of version control using the researcher-focused training modules from the highly regarded Software Carpentry Foundation (software-carpentry.org).

You'll learn how to:

- keep versions of data, scripts, and other files
- examine commit logs to find which files were changed when
- restore earlier versions of files
- compare changes between versions of a file
- push your versioned files to a remote location, for backup and to facilitate collaboration

Prerequisites

This course assumes basic familiarity with the Bash command line environment found on GNU/Linux and other Unix-like environments. Take our **Introduction to Unix** course to get up to speed quickly.

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

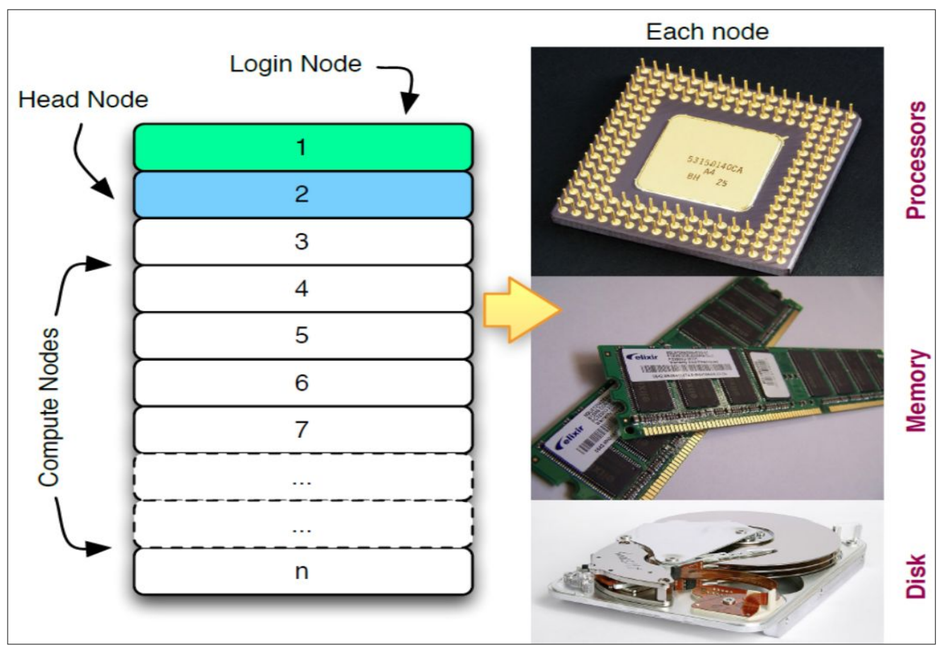
For more information visit
Learn.intersect.org.au

INTERSECT

Learn .intersect.org.au

Unix for HPC

2 days | No Prerequisites | At your campus | No cost to members




```
 1 #!/bin/bash
 2 # Request resources
 3 # * 10 minutes wall time to run
 4 #PBS -l walltime=00:10:00
 5 # * 1 node, 1 processor
 6 # * 100 megabytes physical memory allocated t
 7 #PBS -l select=1:ncpus=1:mem=100mb
 8 # Specify a project code (for accounting)
 9 #PBS -P a40
10 # Set email address
11 #PBS -M nobody@intersect.org.au
12 # Send an email when jobs
13 # begins (b), gets aborted (a)
14 # and ends (e)
15 #PBS -m abe
16 # Move to directory job was submitted in
17 cd $PBS_O_WORKDIR
18 # Specify the job to be done
19 date
20 sleep 60
21 date
```

Why do this course?

Is your computer's limited power throttling your research ambitions? Are your analysis scripts pushing your laptop's processor to its limits? Is your software crashing because you've run out of memory? Would you like to unleash to power of the Unix command line to automate your analysis and then apply those skills to run your analysis on supercomputers that you can access for free?

High-Performance Computing (HPC) allows you to accomplish your analysis faster by using many parallel CPUs and huge amounts of memory simultaneously. This 2-day course will introduce you to the Unix environment and show you how to transfer your data onto, and run software on HPC infrastructure.

You'll learn how to:

- Use the the Unix command line to work with HPC
- Get your data onto a supercomputer
- Run analysis on a supercomputer using batch jobs
- Access the facilities available to you as a researcher

Even if you're not ready to use HPC yet, the course makes a great primer for anyone wanting to start using GNU/Linux and other Unix-like systems

Day 1

Get a solid grounding in the Unix command line

Day 2

Transfer data to a supercomputer
Write and run scripts to analyse data
Learn how to apply for ongoing access

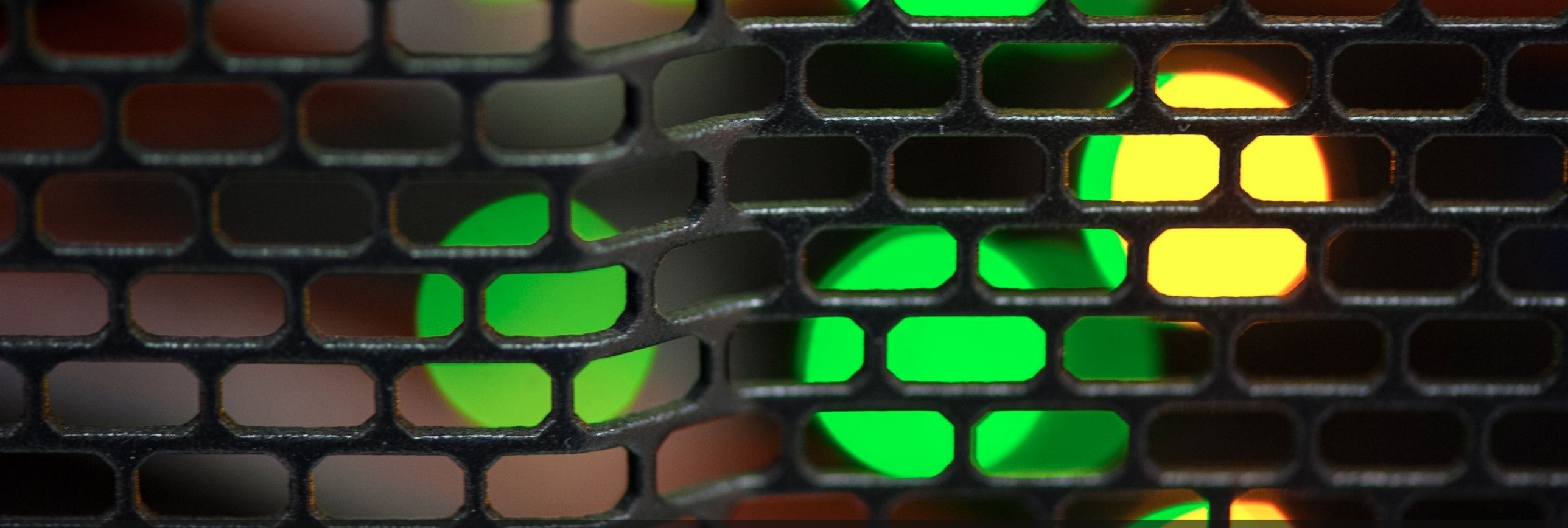
The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

For more information visit
Learn.intersect.org.au

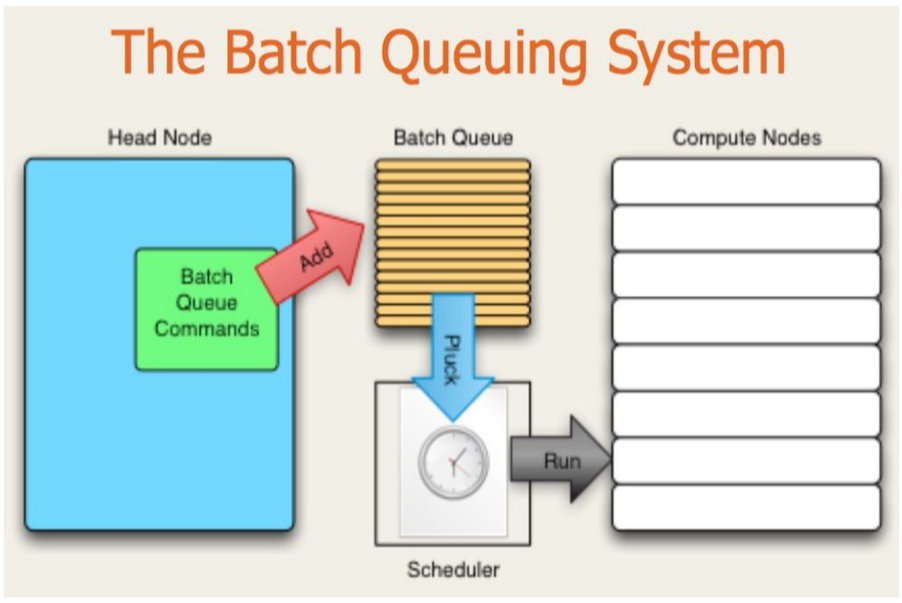
INTERSECT

Learn
.intersect.org.au



Intermediate HPC

3 hours | Prerequisites (see below) | At your campus | $ No cost to members



Intersect HPC courses

Unix for HPC	Introduction to Unix (Intersect)
	Data Transfer from PC to HPC
	Intermediate HPC
Parallel Programming for HPC	

"Intermediate HPC" can be taken as its own course or as part of the comprehensive "Unix for HPC" course. The choice is yours!

Why do this course?

High-Performance Computing (HPC) allows you to accomplish your analysis faster by using many parallel CPUs and huge amounts of memory simultaneously. This short course provides a hands on introduction to running software on HPC infrastructure.

You'll learn how:

- HPC systems differ from traditional Unix environments
- to apply for ongoing access of an HPC machine
- the scheduler and batch systems work in HPC
- to submit a job and check its progress to completion
- to retrieve the results of your program

Prerequisites

This course assumes basic familiarity with the Bash command line environment found on GNU/Linux and other Unix-like environments. It also assumes knowledge of how to transfer files between computers using `ssh` and `sftp`.

If you lack these skills, consider taking "Unix for HPC" which blends "Intermediate HPC" with a primer on Unix and moving data around.

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

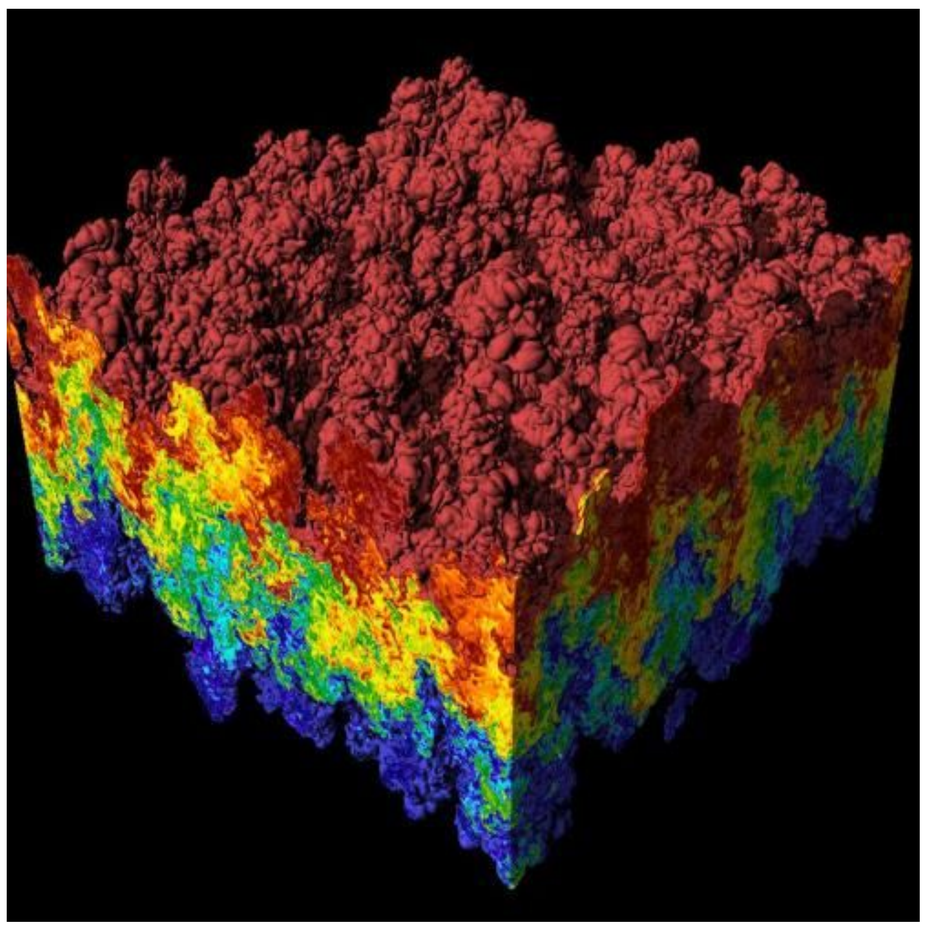
For more information visit
Learn.intersect.org.au

INTERSECT

Learn .intersect.org.au

Parallel Programming for HPC

6 hours | Prerequisites (see below) | At your campus | $ No cost to members



Why do this course?

You have written, compiled and run functioning programs in C and/or Fortran. You know how HPC works and you've submitted batch jobs.

Now you want to move from writing single-threaded programs into the parallel programming paradigm, so you can truly harness the full power of High Performance Computing.

You'll learn how to program with:

- **OpenMP** (Open Multi-Processing): a widespread method for shared memory programming
- **MPI** (Message Passing Interface): a leading distributed memory programming model

Prerequisites

To do this course you need to have:

- a good working knowledge of HPC. Consider taking our **Unix for HPC** course to come up to speed beforehand.
- prior experience of writing programs in either C or Fortran.

Intersect HPC courses

- Unix for HPC
- Introduction to Unix (Intersect)
- Data Transfer from PC to HPC
- Intermediate HPC
- **Parallel Programming for HPC**

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

For more information visit
Learn.intersect.org.au

INTERSECT

Learn
.intersect.org.au