



TM351

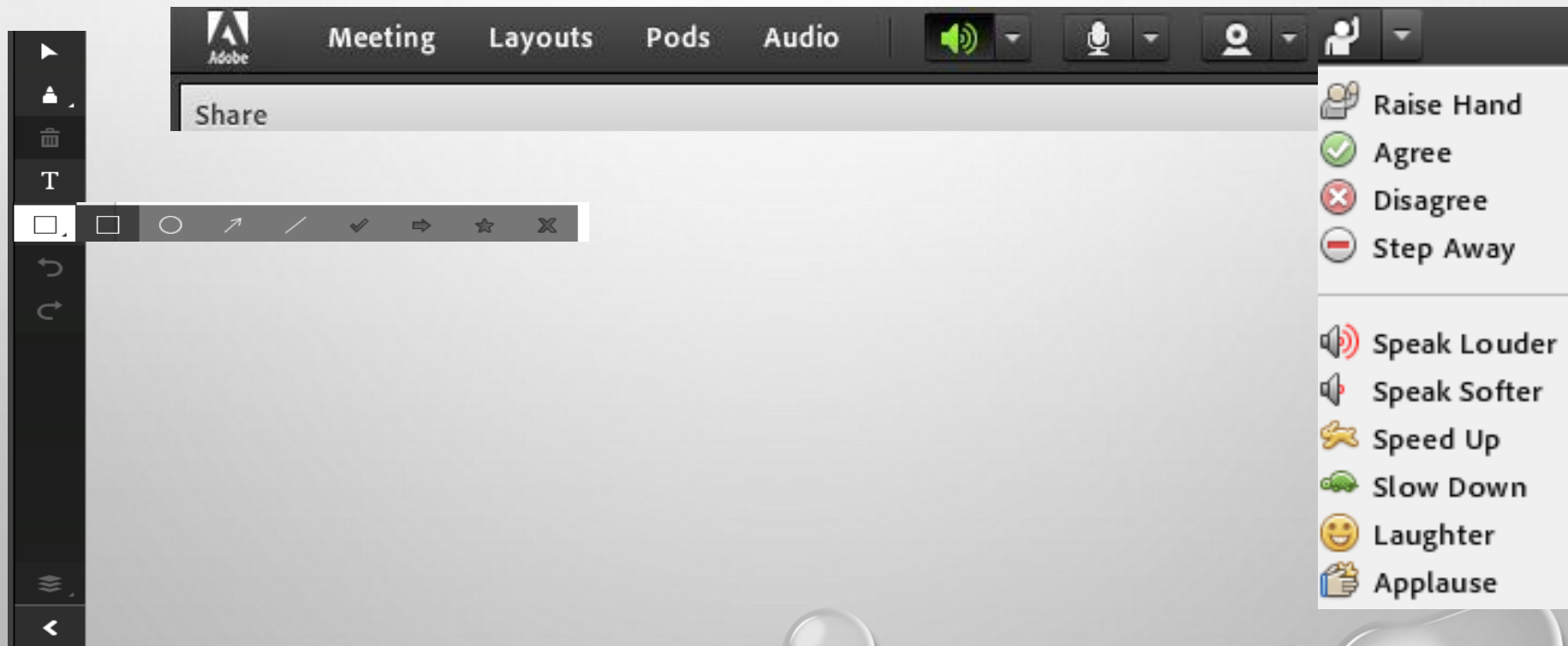
DATA MANAGEMENT AND ANALYSIS

Jo Buxton, 2017

GET INVOLVED...


- EVERY SO OFTEN I'LL ASK YOU TO VOTE OR CONFIRM, USE THE ICONS TO DO SO
- CLICK TALK IF YOU WANT TO SPEAK (MAX 4 SPEAKING AT ANY TIME)
- YOU CAN ALSO TEXT QUESTIONS AS WE GO ALONG AND I'LL TRY AND RESPOND
- WE'LL EXPERIMENT WITH FEATURES OF ADOBE CONNECT AS WE GO!
- WE WILL HAVE A GENERAL DISCUSSION AT THE END OF EACH SECTION

ADOBE CONNECT – A QUICK OVERVIEW!





WHAT WE'LL COVER TODAY...

- MODULE WEBSITE
 - SOFTWARE AND THE VM
 - NOTEBOOKS
 - OVERVIEW OF THE COURSE MODULE
 - ASSESSMENT: ICMAS, TMAS AND EMA.
 - TUTOR CONTACT AND TUTORIALS
- 

CLUSTER GROUP

- JO BUXTON
- SHARON DAWES
- MARION EDWARDS
- ROGER SHAW
- KEITH HASTELEY
- AVON HUXOR
- STEVEN SELF

-
- YOU CAN ATTEND ANY OF THE TUTORIALS IN YOUR CLUSTER.
 - MIXTURE OF FACE TO FACE AND ONLINE

WHICH TUTOR GROUP ARE YOU IN?

Jo Buxton

Sharon Dawes

Keith Hasteley

Steven Self

Marion Edwards

Roger Shaw

Avon Huxor

The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes, primarily located in the top-left, top-right, and bottom-right corners. The droplets have highlights and shadows, giving them a three-dimensional appearance.

MODULE WEBSITE

MODULE MATERIAL

- MATERIALS (PARTS 1 – 26)
 - NOTEBOOKS
 - ICMAS
-
- EACH PART CAN BE VIEWED AS A SINGLE PAGE AND SAVED AS PDF FOR THOSE THAT LIKE TO HAVE AN OFF-LINE VERSION OR PRINT OFF SECTIONS.

MODULE WEBSITE

The screenshot displays the TM351 17J module website. At the top is a dark blue navigation bar with links for 'Assessment', 'Tutorials', 'Forums', 'Resources', 'News', and 'Help ?'. A search bar on the right contains the text 'Search TM351-17J'. Below the navigation bar, the main content area has a light blue background. On the left, a white box contains the text 'TM351 17J' and 'Data management and analysis', with a progress bar below it showing '0%' and a question mark icon. To the right of this box is a 3D wireframe graphic of a grid. Below the grid, there are two tabs: 'Current weeks' (active) and 'All weeks'. A 'COLLAPSE ALL ^' button is located to the right of the tabs. The 'Current weeks' tab is expanded, showing a 'Welcome' section with the text 'Welcome to the TM351 module website.' and a paragraph about the module's focus on data management and analysis. To the right of the 'Welcome' section, a blue box indicates '0 of 1 completed' with an upward arrow. Further right, a light blue box titled 'Module website open' contains the text: 'This module has not yet started. You can access your website study planner and resources but some content and activities may not be available for use until the start of the module.' and 'Start date: 7 Oct 2017'.

TM351-17J Ho... Assessment Tutorials Forums Resources News Help ? Search TM351-17J

TM351 17J | Data management and analysis

0% ?

Current weeks All weeks

COLLAPSE ALL ^

Welcome

0 of 1 completed ^

Welcome to the TM351 module website.














In this module, you gain a practical understanding of how to access, query and manage data collections. You will learn how to organise and analyse data collections to answer questions about the world, as well as developing an appreciation of open needs surrounding data systems.

Module website open ^

This module has not yet started. You can access your website study planner and resources but some content and activities may not be available for use until the start of the module.

Start date: 7 Oct 2017


CONTENTS













<div>WEEK</div> <div>1</div>	Introducing data management and analysis 7–13 October	0 of 7 completed	^
	Begin by working through the Module Guide and Software Guide – these contain information that is essential to the successful study of TM351.		
	 Module Guide		
	 Software Guide		
	 Part 1 Introducing data management and analysis		
	 Notebooks		
	 iCMA 41		
	 2017J_TMA01.zip		
	Assignment: iCMA 41 (open date 7 Oct)		
	Introduction (TM351-17J Online tutorial room, 9 Oct at 19:00 for 2 hours)		
<div>WEEK</div> <div>2</div>	Acquiring and representing data 14–20 October	0 of 2 completed	v

FORUMS


[TM351-17J Home](#) [Assessment](#) [Tutorials](#) **[Forums](#)** [Resources](#) [News](#) [Help ?](#)


[TM351-17J Home](#) > [Forums](#)

 **Forums**


Forum	Unread discussions	Last post	Location
 TM351 Discussion	 14	5/10/17, 15:08	
 TM351 Technical help	 42	5/10/17, 14:39	
 TM351 Café	 4	2/10/17, 13:31	
 TM351 Assessment	 1	18/09/17, 23:20	
 Tutor group			
 Cluster group	 1	4/10/17, 11:02	
 Quarantine			

Forum settings ^

 [Edit settings](#)

 [Online appearance](#)


Forums advice ^


 [Conduct and content online](#)


RESOURCES


[TM351-17J Home](#) [Assessment](#) [Tutorials](#) [Forums](#) **[Resources](#)** [News](#) [Help ?](#)

TM351-17J Home > Resources


 **Resources**


 [Glossary](#)


 [Errata and clarifications](#)


 [OpenStudio](#)


Guides

 [Module Guide](#)


 [Software Guide](#)


 [Accessibility Guide](#)

 [Downloads >](#)

 [Library resources >](#)

Resources advice


 [Conduct and content online](#)

 [Copyright when working online](#)

TUTORIALS

[TM351-17J Home](#) [Assessment](#) [Tutorials](#) [Forums](#) [Resources](#) [News](#) [Help ?](#)


[TM351-17J Home](#) > [Tutorials](#)





Tutorials


Event calendar

Date	Name	Time	Venue
9 Oct	Introduction	19:00 for 2 hours	TM351-17J Online tutorial room
13 Nov	TMA 01 preparation	19:00 for 1 hour 30 mins	TM351-17J Online tutorial room
18 Dec	Practical skills development - SQL	19:00 for 1 hour	TM351-17J Online module-wide room
15 Jan	taking stock	19:00 for 2 hours	TM351-17J Online tutorial room
19 Feb	TMA 02 preparation	19:00 for 1 hour 30 mins	TM351-17J Online tutorial room
14 May	EMA support	19:00 for 2 hours	TM351-17J Online tutorial room


 [TM351-17J Online tutorial room](#)

 [TM351-17J Online tutor group room](#)

 [TM351-17J Online module-wide room](#)

 [Online rooms – Adobe Connect](#)

Tutorials advice

 [Conduct and content online](#)

The background of the slide is a light gray gradient. In the top-left and bottom-right corners, there are several realistic-looking water droplets of various sizes, rendered with soft shadows and highlights to give them a three-dimensional appearance.


SOFTWARE AND THE VM

SOFTWARE

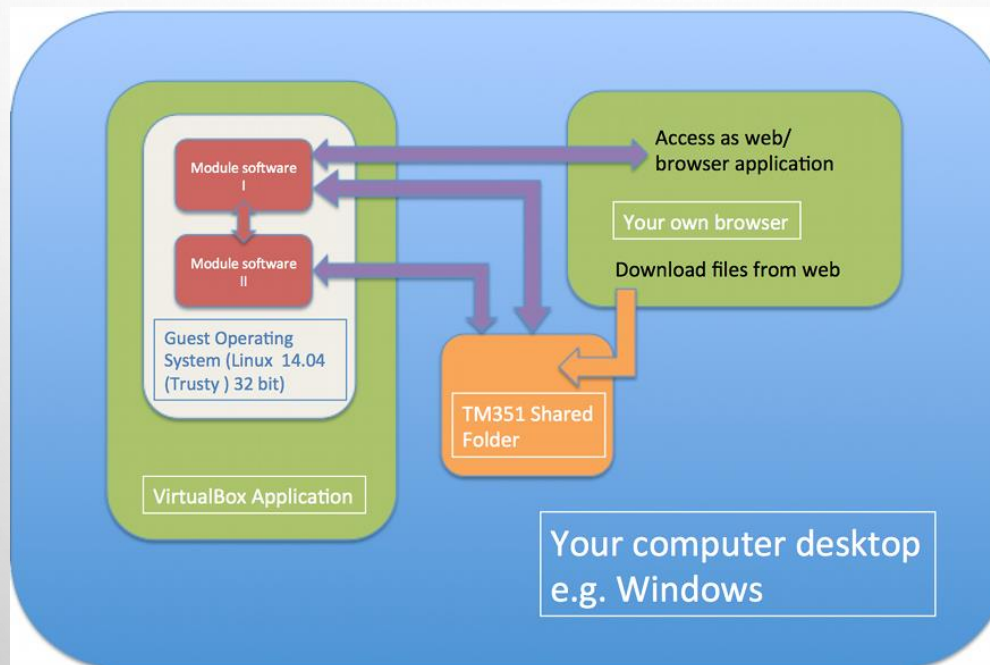
• SOFTWARE	VERSION	DOCUMENTATION
• PANDAS	0.20.2	HTTP://PANDAS.PYDATA.ORG/
• PYTHON	3.5.2	HTTPS://DOCS.PYTHON.ORG/
• POSTGRESQL	9.5.7	HTTP://WWW.POSTGRESQL.ORG/DOCS/
• MONGODB	3.4.4	HTTPS://DOCS.MONGODB.ORG/MANUAL/
• OPENREFINE	2.7	HTTP://OPENREFINE.ORG/DOCUMENTATION.HTML

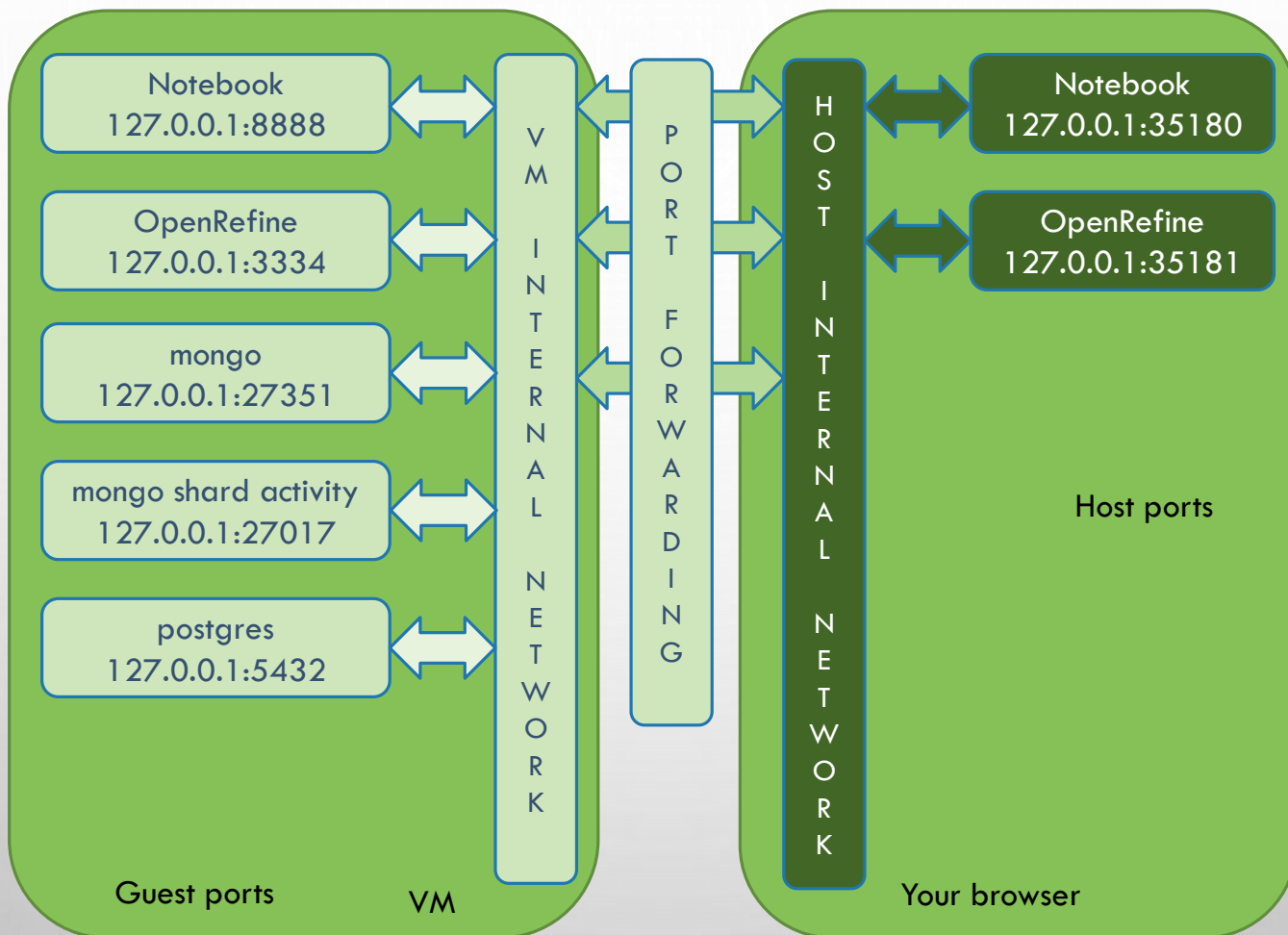


INTRODUCTION

- INSTALL THE VM AND NOTEBOOKS
 - OVERVIEW OF THE COURSE
 - ASSESSMENT
- 

VM AND SOFTWARE

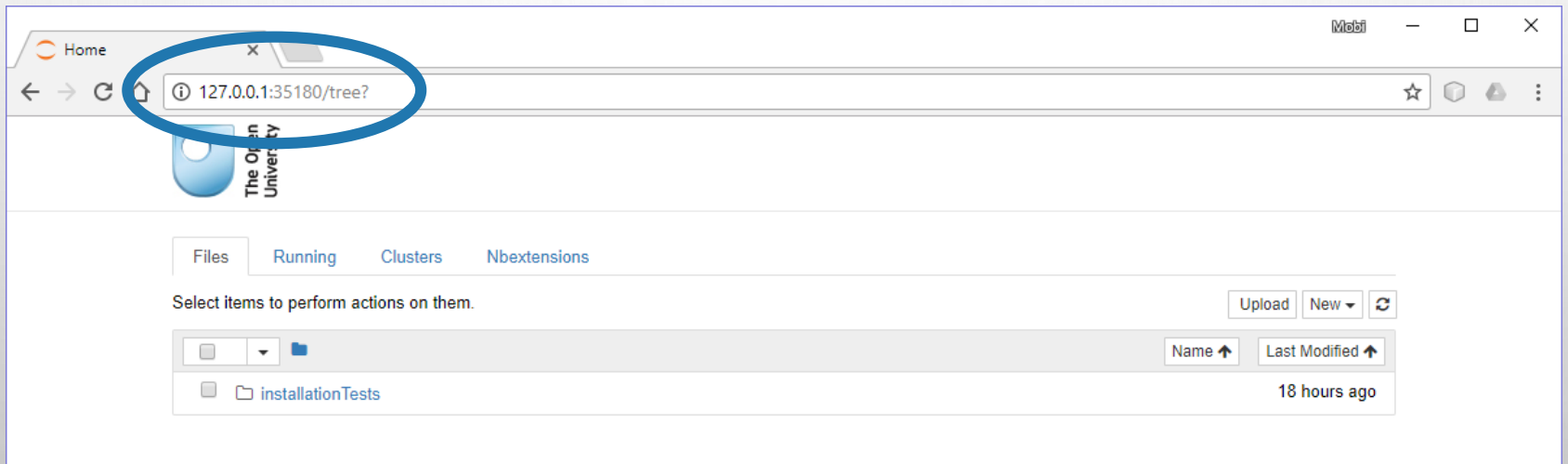




The background of the slide is a light gray gradient. In the top-left and bottom-right corners, there are several realistic water droplets of various sizes, rendered with soft shadows and highlights to give them a three-dimensional appearance. The word "NOTEBOOKS" is centered in the middle of the slide in a bold, black, sans-serif font.

NOTEBOOKS

NOTEBOOKS



NAVIGATE TO
INSTALLATION TEST
AND FOLLOW
INSTRUCTIONS TO
MAKE SURE
EVERYTHING IS
RUNNING OK

▼ TM351 VM Installation Test

This notebook provides a series of tests to ensure that the virtual machine is running correctly.

Run each cell in turn by clicking the play button or keyboard shortcut shift-return. (A full list of keyboard shortcuts can be found from the *Help* menu or via the keyboard shortcut ESC-h.)

The cells should run without error.

▼ Versions

Display the VM build version and build time, as well as database service versions and pandas version.

```
In [1]: !cat /opt/version.txt
```

```
Version: TM351_17J_0.01 - build time: 2017-06-07/09:31.03.
```

```
In [2]: psql --version
```

```
psql (PostgreSQL) 9.5.7
```

```
In [3]: mongod --version
```

```
db version v3.4.4  
git version: 888390515874a9debd1b6c5d36559ca86b44babd  
OpenSSL version: OpenSSL 1.0.2g 1 Mar 2016  
allocator: tcmalloc  
modules: none  
build environment:  
  distmod: ubuntu1604  
  distarch: x86_64  
  target_arch: x86_64
```

```
In [4]: import pandas as pd  
d.__version__
```

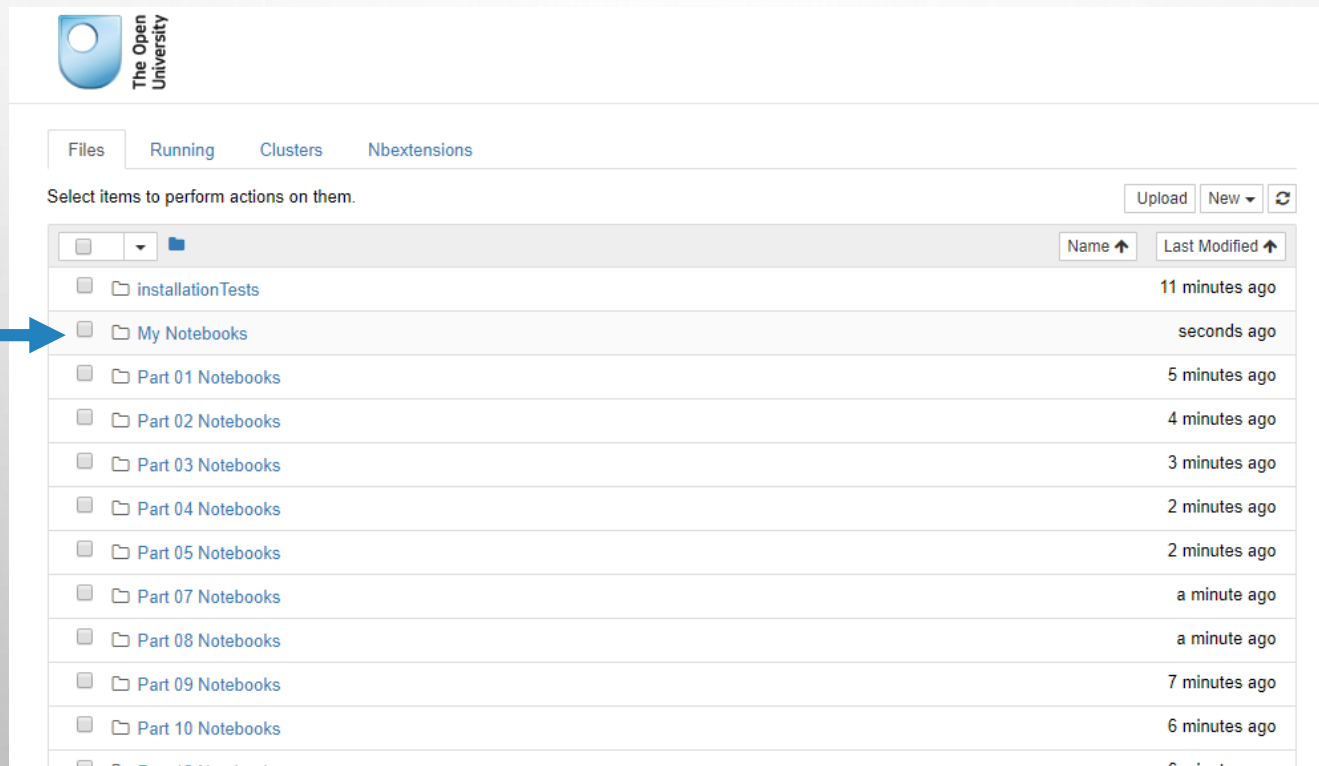
```
Out[4]: '0.20.2'
```

▼ Test Core Packages

DOWNLOAD AND INSTALL NOTEBOOKS

- LINK TO NOTEBOOKS ZIPS FROM WEEK 1
- MUST INSTALL TO THE TM351VM\NOTEBOOKS FOLDER (SHARED WITH VM)
- UNZIP /CREATE FOLDERS IF NEEDED

ADD PERSONAL FOLDER



The screenshot shows the JupyterLab interface for The Open University. The 'Files' tab is active, displaying a list of folders. A blue arrow points to the 'My Notebooks' folder, which is highlighted. The list includes folders like 'installationTests', 'My Notebooks', 'Part 01 Notebooks', 'Part 02 Notebooks', 'Part 03 Notebooks', 'Part 04 Notebooks', 'Part 05 Notebooks', 'Part 07 Notebooks', 'Part 08 Notebooks', 'Part 09 Notebooks', and 'Part 10 Notebooks'. The 'Last Modified' column shows the time since the folder was last modified.

Name	Last Modified
installationTests	11 minutes ago
My Notebooks	seconds ago
Part 01 Notebooks	5 minutes ago
Part 02 Notebooks	4 minutes ago
Part 03 Notebooks	3 minutes ago
Part 04 Notebooks	2 minutes ago
Part 05 Notebooks	2 minutes ago
Part 07 Notebooks	a minute ago
Part 08 Notebooks	a minute ago
Part 09 Notebooks	7 minutes ago
Part 10 Notebooks	6 minutes ago

OPENREFINE

127.0.0.1:35181/project?project=2311806485888

Refine Isle of Wight Council Feb March 14 Permalink

Open... Export Help

Facet / Filter Undo / Redo 3

24717 rows

Extensions: undefined

Show as: rows records Show: 5 10 25 50 rows

« first « previous 1 - 10 next » last »

	File	Date	Capital or Revenue	Directorate	Transaction Number	Supplier Name	Service Area	Expenses Type	Amount
1.	https://www.iwight.com/documentlibrary/download/transparency-data-march-2014-csv	26.03.2014	Revenue	Community Wellbeing & Social Care	5105660936	REDACTED PERSONAL DATA	Drug Misuse - Adults	Charges from Independent Providers	120.00
2.	https://www.iwight.com/documentlibrary/download/transparency-data-march-2014-csv	26.03.2014	Revenue	Community Wellbeing & Social Care	5105659660	REDACTED PERSONAL DATA	Leaseholds by LA	Accommodation Costs - Leaseholder Payments	695.89
3.	https://www.iwight.com/documentlibrary/download/transparency-data-march-2014-csv	26.03.2014	Revenue	Community Wellbeing & Social Care	5105659660	REDACTED PERSONAL DATA	Leaseholds by LA	Accommodation Costs - Leaseholder Payments	695.89
4.	https://www.iwight.com/documentlibrary/download/transparency-data-march-2014-csv	26.03.2014	Revenue	Community Wellbeing & Social Care	5105659660	REDACTED PERSONAL DATA	Leaseholds by LA	Accommodation Costs - Leaseholder Payments	695.89
5.	https://www.iwight.com/documentlibrary/download/transparency-data-march-2014-csv	26.03.2014	Revenue	Community Wellbeing & Social Care	5105659660	REDACTED PERSONAL DATA	Leaseholds by LA	Accommodation Costs - Leaseholder Payments	695.89
6.	https://www.iwight.com/documentlibrary/download/transparency-data-march-2014-csv	26.03.2014	Revenue	Community Wellbeing & Social Care	5105659660	REDACTED PERSONAL DATA	Leaseholds by LA	Accommodation Costs - Leaseholder Payments	695.89
7.	https://www.iwight.com/documentlibrary/download/transparency-data-march-2014-csv	07.03.2014	Revenue	Community Wellbeing & Social Care	5105656875	REDACTED PERSONAL DATA	Public Health Core	Payment to Private Contractors	3,000.00
8.	https://www.iwight.com/documentlibrary/download/transparency-data-march-2014-csv	26.03.2014	Revenue	Community Wellbeing & Social Care	5105659830	REDACTED PERSONAL DATA	Warm Homes Healthy People DoH	Operational Equipment	113.40
9.	https://www.iwight.com/documentlibrary/download/transparency-data-march-2014-csv	12.03.2014	Revenue	Economy & Environment	5105657598	AARON RUDD CREATIVE	Corporate Campaigns	Professional Services	990.00
10.	https://www.iwight.com/documentlibrary/download/transparency-data-march-2014-csv	12.03.2014	Revenue	Economy & Environment	5105657574	AARON RUDD CREATIVE	Corporate Campaigns	Professional Services	820.00

Using facets and filters

Use facets and filters to select subsets of your data to act on. Choose facet and filter methods from the menus at the top of each data column.

Not sure how to get started?
[Watch these screencasts](#)

The background of the slide is a light gray gradient. In the top-left and bottom-right corners, there are several realistic-looking water droplets of various sizes, some overlapping. In the center of the slide, there is a faint, circular watermark logo. The logo features a globe with latitude and longitude lines, and the text "UNIVERSITY OF" is visible at the top of the circle.

THE MODULE

SMALL, BIG AND EVEN BIGGER DATA!

CONTENT

Subject	Weeks	Parts
Introduction	1	1
Small data	2-7	2-7
Bigger data	8-25	8-23
Even bigger data	26-31	24-26

Small flat-file data (e.g. Excel) ✓	Small Relational Databases (e.g. Access) ✓	Large Relational Databases (e.g. SQL Server, Oracle) ✓
Non-Relational/NoSQL databases (e.g. MongoDB) ✓	Data Warehousing/ Data Mining ✓	Semantic Web ✓

SMALL DATA

- INTRODUCING DATA MANAGEMENT & ANALYSIS
- ACQUIRING AND REPRESENTING DATA
- DATA PREPARATION
- DATA ANALYSIS
- PRESENTATION: TELLING THE STORY
- WITH DATA COME RESPONSIBILITY
- WHEN SPREADSHEETS FAIL

BIGGER DATA

- DATABASES
- RELATIONAL DATABASES
- NORMALISATION
- DATA INTEGRITY
- ALTERNATIVES TO RELATIONAL DATABASES
- DOCUMENT DATABASES
- COMPLEX QUERIES AND ANALYSIS



...BIGGER DATA

- SCALING OUT: REPLICATION AND SHARDING
 - DISTRIBUTED TRANSACTIONS
 - DATA WAREHOUSING
 - DATA MINING: CLASSIFICATION
 - DATA MINING: CLUSTERING
- 

EVEN BIGGER DATA

- LINKED DATA ON THE SEMANTIC WEB
- QUERYING AND MANIPULATING LINKED DATA
- APPLICATION OF SEMANTIC WEB DATA

The background is a light gray gradient. It is decorated with several realistic water droplets of various sizes, some in the top-left, top-right, and bottom-right corners. In the center, there is a faint, circular logo or watermark that is not clearly legible.

ASSESSMENT

ICMAS, TMAS & EMA

ICMAS

iCMA	Cut off date
iCMA41	26 Oct 2017
iCMA42	23 Nov 2017
iCMA43	11 Dec 2017
iCMA44	1 Feb 2018
iCMA45	1 Mar 2018
iCMA46	20 Apr 2018
iCMA47	10 May 2018

- DO NOT COUNT TO FINAL COURSE MARK BUT
- MUST PASS 5/7 TO PASS THE MODULE
- 30% PASS MARK
- CAN RETAKE AS MANY TIMES AS YOU LIKE
- QUESTIONS WILL CHANGE
- NO EXTENSIONS, MUST SUBMIT BY THE DEADLINE

ICMA QUESTIONS

Questions



[Finish attempt...](#)

Question 6

Not complete

Marked out of 10.00

Flag question

Select all the statements you think are true in the following sentences about visualisation:

Select one or more:

- ☐ a. *Example statement*
- ☒ b. *Example statement*
- ☒ c. *Example statement*
- ☒ d. *Example statement*
- ☐ e. *Example statement*

Check

Your answer is partially correct.

You have correctly selected 2.

Try again

ICMA QUESTIONS

Question 2

Tries remaining: 2

Marked out of 10.00

Flag question

Drag and drop terms form the list below to complete the following sentences.

text text t text text text text text text text text text text text text text text text text text text te
text text text text text text text text text te text text text text text text text text text text te:
 is text text text text text text text text .
text text text text te combine text text text text text t text text text text text text text text text te
 text te
text text te text text text text text text text text text ttext text text text text text text text text text text text te

theta-join	output	joins	aggregation	inner	combine
cartesian product	inequality	equi-join	false	equality	full-outer
select	left-outer	project	true	horizontal	condition

Check

Next

TMAS/EMA

TMA/EMA	Cut off date
TMA 01	07 Dec 2017
TMA 02	08 Mar 2018
EMA	04 Jun 2018

- NEED 40% OVER THE TWO TMAS
- 40% ON THE EMA

FULL ASSESSMENT DATE LIST

Assessment	Cut off date
iCMA41	26 Oct 2017
iCMA42	23 Nov 2017
TMA 01	07 Dec 2017
iCMA43	11 Dec 2017
iCMA44	01 Feb 2018
iCMA45	01 Mar 2018
TMA 02	08 Mar 2018
iCMA46	20 Apr 2018
iCMA47	10 May 2018
EMA	04 Jun 2018

The background is a light gray gradient. It is decorated with several realistic water droplets of various sizes, some in the top-left, top-right, and bottom-right corners. In the center, there is a faint, circular logo or watermark that is not clearly legible.

TUTORIALS

FACE TO FACE AND ONLINE

LEARNING EVENTS (TUTORIALS)

- INTRODUCTION
- PRACTICAL SKILLS DEVELOPMENT – PYTHON
- PRACTICAL SKILLS DEVELOPMENT – PANDAS
- TMA01 PREPARATION
- PRACTICAL SKILLS DEVELOPMENT – SQL
- TAKING STOCK
- TMA02 PREPARATION
- EMA SUPPORT

TUTORIAL TYPES

- ONLINE AND FACE TO FACE
- CLUSTER AND MODULE WIDE
- THREE ROOMS:
 - ONLINE TUTORIAL ROOM - FOR CLUSTER TUTORIALS
 - ONLINE TUTOR GROUP FORUM – FOR ONLINE MEETINGS WITH YOUR TUTOR
 - ONLINE MODULE-WIDE ROOM – FOR MODULE TUTORIALS

MY TUTORIALS

Date	Name	Time	Venue
9 Oct	Introduction	19:00 for 2 hours	TM351-17J Online tutorial room
13 Nov	TMA 01 preparation	19:00 for 1 hour 30 mins	TM351-17J Online tutorial room
18 Dec	Practical skills development - SQL	19:00 for 1 hour	TM351-17J Online module-wide room
15 Jan	Taking stock	19:00 for 2 hours	TM351-17J Online tutorial room
19 Feb	TMA 02 preparation	19:00 for 1 hour 30 mins	TM351-17J Online tutorial room
14 May	EMA support	19:00 for 2 hours	TM351-17J Online tutorial room

FACE TO FACE TUTORIALS (CLUSTER)

Description	Tutor	Date	Time	Location	Site
Taking stock	Keith Hasteley	Sat 16 Dec 17	11:00	Reading	Reading College
Taking stock	Marion Edwards	Sat 13 Jan 18	10:30	London	Kings College Waterloo Campus
Taking stock	Sharon Dawes	Sat 20 Jan 18	10:30	Brighton	University of Brighton
Taking stock	Roger Shaw	Sat 03 Feb 18	10:30	London South East	Kings College Waterloo Campus
Taking stock	Avon Huxor	Sat 03 Feb 18	11:00	Bristol	St Mary Redcliffe School
Taking stock	Steven Self	Sat 24 Feb 18	11:00	Southampton	Richard Taunton Sixth Form College

Event Type	Description	Tutor	Date	Time	Location
Cluster	Introduction	Jo Buxton	Mon 09 Oct 17 (Mon)	19:00	Online
Cluster	Introduction	Roger Shaw	Thu 12 Oct 17 (Thu)	19:30	Online
Cluster	Introduction	Sharon Dawes	Sat 14 Oct 17 (Sat)	16:00	Online
Module	Practical skills development – Python	Roger Shaw	Mon 16 Oct 17 (Mon)	19:30	Online
Cluster	Introduction	Keith Hasteley	Tue 17 Oct 17 (Tue)	19:30	Online
Module	Practical skills development – Pandas	Chris Thomson	Thu 19 Oct 17 (Thu)	19:30	Online
Module	Practical skills development – Python	Steve Abbott	Sat 21 Oct 17 (Sat)	10:00	Online
Cluster	Introduction	Avon Huxor	Sun 22 Oct 17 (Sun)	16:00	Online
Cluster	Introduction	Marion Edwards	Wed 25 Oct 17 (Wed)	19:30	Online
Module	Practical skills development – Pandas	Joanne Dunster	Thu 26 Oct 17 (Thu)	19:00	Online
Module	Practical skills development – Python	Sharon Dawes	Sun 29 Oct 17 (Sun)	16:00	Online
Cluster	Introduction	Steven Self	Wed 01 Nov 17 (Wed)	19:00	Online
Module	Practical skills development – Pandas	Marion Edwards	Wed 01 Nov 17 (Wed)	19:30	Online
Module	Practical skills development – Python	Avon Huxor	Sat 04 Nov 17 (Sat)	10:30	Online
Module	Practical skills development – Pandas	Andrew Gargett	Sun 05 Nov 17 (Sun)	14:00	Online
Cluster	TMA 01 preparation	Jo Buxton	Mon 13 Nov 17 (Mon)	19:00	Online
Cluster	TMA 01 preparation	Keith Hasteley	Tue 14 Nov 17 (Tue)	19:30	Online
Cluster	TMA 01 preparation	Roger Shaw	Thu 16 Nov 17 (Thu)	19:00	Online
Cluster	TMA 01 preparation	Sharon Dawes	Sat 18 Nov 17 (Sat)	16:00	Online
Cluster	TMA 01 preparation	Marion Edwards	Wed 22 Nov 17 (Wed)	19:30	Online
Cluster	TMA 01 preparation	Avon Huxor	Sun 26 Nov 17 (Sun)	16:00	Online
Module	Practical skills development – SQL	Mary Garvey/Charly Lowndes	Tue 28 Nov 17 (Tue)	19:00	Online
Cluster	TMA 01 preparation	Steven Self	Wed 29 Nov 17 (Wed)	19:00	Online
Module	Practical skills development - SQL	Colin Gallagher	Mon 04 Dec 17 (Mon)	19:30	Online

Event Type	Description	Tutor	Date	Time	Location
Module	Practical skills development - SQL	Colin Gallagher	Mon 04 Dec 17 (Mon)	19:30	Online
Module	Practical skills development - SQL	Keith Hasteley	Sat 09 Dec 17 (Sat)	19:00	Online
Cluster	Taking stock	Keith Hasteley	Sat 16 Dec 17 (Sat)	11:00	Reading
Module	Practical skills development - SQL	Jo Buxton	Mon 18 Dec 17 (Mon)	19:00	Online
Module	Practical skills development - SQL	Steven Self	Wed 20 Dec 17 (Wed)	19:00	Online
Cluster	Taking stock	Marion Edwards	Sat 13 Jan 18 (Sat)	10:30	London South East
Cluster	Taking stock	Jo Buxton	Mon 15 Jan 18 (Mon)	19:00	Online
Cluster	Taking stock	Sharon Dawes	Sat 20 Jan 18 (Sat)	10:30	Brighton
Cluster	Taking stock	Roger Shaw	Sat 03 Feb 18 (Sat)	10:30	London South East
Cluster	Taking stock	Avon Huxor	Sat 03 Feb 18 (Sat)	11:00	Bristol
Cluster	TMA 02 preparation	Sharon Dawes	Sat 10 Feb 18 (Sat)	15:00	Online
Cluster	TMA 02 preparation	Keith Hasteley	Tue 13 Feb 18 (Tue)	19:30	Online
Cluster	TMA 02 preparation	Jo Buxton	Mon 19 Feb 18 (Mon)	19:00	Online
Cluster	TMA 02 preparation	Marion Edwards	Wed 21 Feb 18 (Wed)	19:30	Online
Cluster	TMA 02 preparation	Roger Shaw	Thu 22 Feb 18 (Thu)	19:30	Online
Cluster	Taking stock	Steven Self	Sat 24 Feb 18 (Sat)	11:00	Southampton
Cluster	TMA 02 preparation	Avon Huxor	Sun 25 Feb 18 (Sun)	16:00	Online
Cluster	TMA 02 preparation	Steven Self	Wed 28 Feb 18 (Wed)	19:00	Online
Cluster	EMA support	Sharon Dawes	Sat 07 Apr 18 (Sat)	15:00	Online
Cluster	EMA support	Keith Hasteley	Tue 08 May 18 (Tue)	19:00	Online
Cluster	EMA support	Avon Huxor	Sun 13 May 18 (Sun)	16:00	Online
Cluster	EMA support	Jo Buxton	Mon 14 May 18 (Mon)	19:00	Online
Cluster	EMA support	Marion Edwards	Wed 16 May 18 (Wed)	19:30	Online
Cluster	EMA support	Roger Shaw	Sat 19 May 18 (Sat)	11:00	Online
Cluster	EMA support	Steven Self	Wed 23 May 18 (Wed)	19:00	Online



PRACTICAL DEMONSTRATION

- SCREEN SHARE – PYTHON NOTEBOOKS AND OPENREFINE
- 

Q&A

TUTOR HELP

- EMAIL ME J.BUXTON@OPEN.AC.UK
- TUTOR GROUP FORUM
- TEXT ON: 07900 783316
- MONDAY BETWEEN 19:00 AND 21:00