



# MELBOURNE BUSINESS ANALYTICS DATATHON



**Melbourne Business School's  
Business Analytics Datathon  
Saturday 24<sup>th</sup> August**



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BUSINESS  
ANALYTICS  
DATATHON



# Welcome

**Melbourne Business School's**  
***Business Analytics Datathon's***  
mission is to celebrate and showcase  
how advanced analytics can  
transform decision making.



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# Centre for Business Analytics (I)

MBS's Master of Business Analytics is the top program in Australia ranked and #16 globally

**QS WORLD UNIVERSITY RANKINGS** QS Business Masters Rankings: Business Analytics

Discover the top master's degrees in business analytics with the **QS World University Rankings: Masters in Business Analytics Rankings 2019**.

[Read more](#)

**Meet the Top 10**

Rank	School	Location
10	Minnesota (Carlson) Master of Science in Business Analytics	Minneapolis (MN) United States
11	SMU - School of Information Systems Master of IT in Business	Singapore Singapore
12	Purdue (Krannert) MS Business Analytics & Information Management	West Lafayette (IN) United States
13	UCD (Smurfit) MSc in Business Analytics	Dublin Ireland
14+	IIM Calcutta Post Graduate Diploma in Business Analytics (PGDBA)	Kolkata Joka India
14+	NUS Business School Master of Science in Business Analytics	Singapore Singapore
16	Melbourne Master of Business Analytics	Melbourne Australia



**SINCE 1955**



Melbourne Business School is Australia's oldest and best MBA and ranked 12<sup>th</sup> globally outside of the USA

Rank	School	Overall rank change since 2016						Ranking index score			
		▲ Positive change	▼ Negative change	● No change	○ New in 2017	Employer survey rank (25%)	Alumni survey rank (30%)	Student survey rank (15%)	Salary rank (10%)	Job placement rank (10%)	
1	INSEAD	▲				1	1	3	7	18	100.0
2	London Business School	▼				2	6	6	4	5	93.6
3	IESE Business School	▲				4	10	1	11	4	88.1
4	Oxford (Saïd)	▼				3	3	11	15	24	81.0
5	IMD	▲				15	8	5	1	19	76.3
6	Cambridge (Judge)	▼				7	5	14	14	12	75.3
7	SDA Bocconi	▲				17	11	4	8	14	72.9
8	IE	▼				16	2	20	10	13	72.1
9	ESADE	▲				8	4	8	31	17	71.8
10	HEC Paris	▲				14	12	9	9	8	70.5
11	Western (Ivey)	▼				6	13	17	18	20	69.0
12	Melbourne	▼				10	28	2	13	2	65.3
13	Imperial College London	▲				13	19	10	20	10	61.9
14	Mannheim	▲				24	18	16	6	1	58.9



# Centre for Business Analytics (II)

Centre's Advisory board members



Premium corporate members



Standard corporate members



SIEMENS

Student Scholarships

Founding Centre Sponsor





# Centre for Business Analytics (III)

Companies host 5 week Masters Analytics Lab internships

Woolworths

AUSTRALIA  
POST

VICINITY  
CENTRES

forethought®

EY

SUNCORP

TELSTRA

TANARRA

QUANTUM

nab

coles

Deloitte.

ZETARIS

seek

W

ANZ

Converge  
international  
incorporating resolutionsRTK

bp

KPMG

agl

VICTORIA  
State Government

Brightstar™

Downer  
Relationships creating success

AT Kearney

Companies recruiting our Masters students

nab

amazon

KPMG

aws

Deloitte.

sas

apple

accenture  
High performance. Delivered.

Woolworths

SUNCORP

zendesk

coles

seek

Aon

AT Kearney

iSelect

Morgan Stanley

bp

GE

EY

c3

RUBIX.

the SOURCE

pwc

azurium

sportsbet  
.com.au

CHE  
proximity

Latitude  
Financial Services

veda  
ADVANTAGE

connexity

forethought®

COTTON ON GROUP

medibank  
For Better Health

MSD

QUANTUM

# Sponsors and Partners



# Datathon Logistics





# Datathon Format

Saturday 24 <sup>th</sup> August	
8:00am	Check-In Opens
9:00am	Welcome Introductions & Logistics Challenge and Data Presentation, Q&A
11:00am	Hacking Begins and Morning Tea
1:00pm	Lunch Break
3:00pm	Afternoon Tea
5:30pm	Networking Drinks
7:00pm	MBS Venue Closes Hacking Continues Offsite from Sat 7pm to Sun 11.59pm
Sunday 25 <sup>th</sup> August (Day 2)	
11:59pm	Hacking Ends and Datathon Platform Shut Down

Thursday 29 <sup>th</sup> August	
6:00pm	Final Slide Deck Submissions Due
Friday 30 <sup>th</sup> August	
5:00pm	Finalists Announced
Tuesday 3 <sup>rd</sup> September	
4:00pm	Finalists Pitch at Melbourne Business School's Business Analytics Conference
5:30pm	Winners Announced Networking Drinks to follow at 5.30pm

← Datathon Weekend →

← Submissions and Finals →



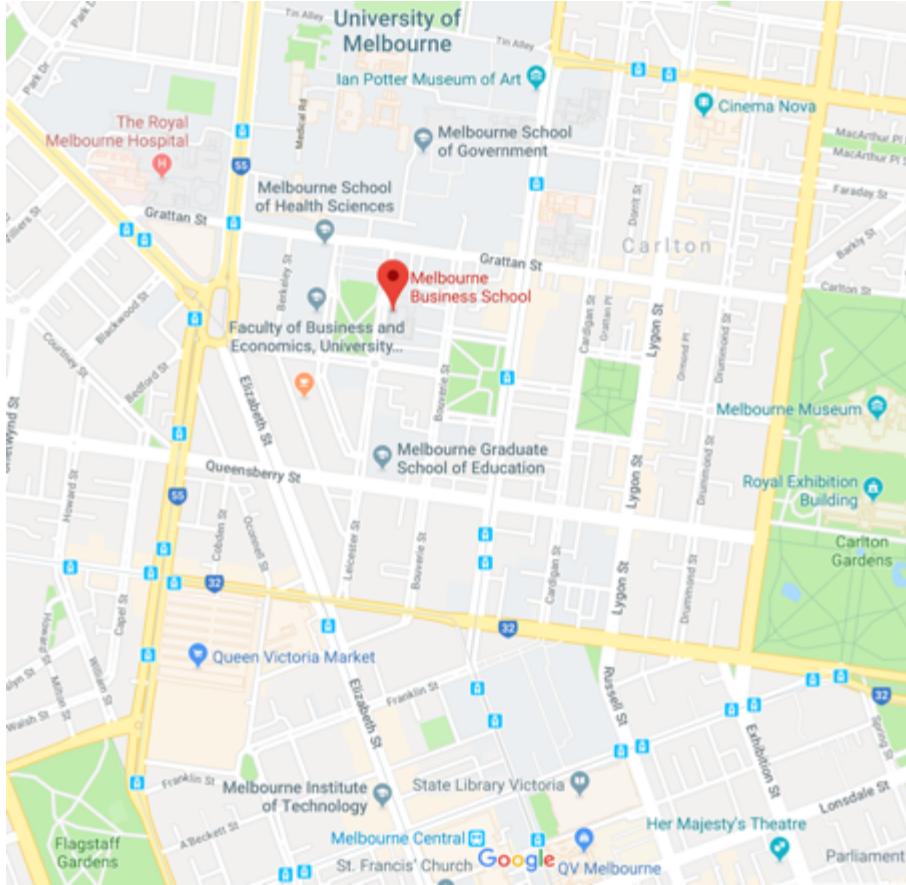


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Melbourne Business School  
200 Leicester Street  
Carlton, VIC 3053

# Onsite logistics



# MBS Datathon Slack Group



We have set up a group on Slack for efficient communication throughout the Datathon event for all participants and organisers. Through the Slack group:

- receive all event notifications;
- reach out to organisers and mentors;
- chat with other participants.

**Join the Datathon Slack Group:**

[https://join.slack.com/t/mbsdatathon2019/shared\\_invite/enQtNzI2OTk1ODYyNDgxLWViYmE4M2U5YWlwMWE2ZGNjNWEwZGU4YTI1ZmVmZDlyZWE3YjM5Zml0ZGNiNjM5MTNkM2I3OWUzODViYjNkYzQ](https://join.slack.com/t/mbsdatathon2019/shared_invite/enQtNzI2OTk1ODYyNDgxLWViYmE4M2U5YWlwMWE2ZGNjNWEwZGU4YTI1ZmVmZDlyZWE3YjM5Zml0ZGNiNjM5MTNkM2I3OWUzODViYjNkYzQ)

# Datathon Rules



# Datathon Rules (I)

- No external data set/s are allowed to be used in the Datathon (only data sets on Zetaris' platform).
- Teams need to declare the data set/s used as a footnote on each page of their submission to enable cross-referencing, verification and validation.
- Any insights derived, or recommendations made, using external data will not be considered in your submission and those insights and recommendations will be excluded from judging.
- Teams are being provided with access to data in good faith for the purposes of this Datathon. Teams who use data to develop submissions which discredit, defame or negatively attack Data Contributors at this event will be disqualified.
- All participants in all teams must have signed and agreed to the Datathon Participant Agreement before they are eligible to compete in the Datathon.

# Datathon Rules (II)

- You can only enter teams of 3-6 participants. You can only be a member of one team. You can't enlist any help from anyone outside your team.
- To be eligible to win the student-only prize, all team members must provide student numbers to register, and valid student cards need to be visualised (no exceptions).
- Teams from sponsors are not eligible to win prize money, although they can be judged finalists.
- Teams from data contributors are eligible to win prize money as long as they don't exclusively use their own data, and their own data does not represent more than 25% of the data used for analyses.
- In the event of any dispute regarding the rules, conduct, results and all other matters, the decision of the judges shall be final and no correspondence or discussion shall be entered into. Melbourne Business School reserves the right to make final decisions.

# Datathon Judging



# \$25,000 Cash Prizes



<b>1<sup>st</sup> Place Team</b>	= \$12,500
<b>2<sup>nd</sup> Place Team</b>	= \$5,000
<b>3<sup>rd</sup> Place Team</b>	= \$2,500
<b>Top Student Team</b>	= \$5,000

# Judging Criteria

The mission of MBS' Centre for Business Analytics is to 'Transform decision-making through business analytics' so the judging criteria will be focused on both generating valuable and actionable insights through analytics that can transform decision-making, and also effectively communicating those insights to influence decision-making and create real value.

Judging will be based on three criteria:



## GENERATE INSIGHT FROM ANALYTICS

- Have the teams generated valuable and actionable insights from analytics?
- Is the analytics methodology valid and appropriate?
- Are relevant assumptions and data sources specified?
- Does the team understand limitations of data sets?



## EFFECTIVE COMMUNICATION

- Have the teams effectively visualised their insights?
- Do analytically-driven insights justify and support the recommendations made?
- Is there a logical storyline?
- Can the team effectively pitch their recommendations?



## REAL IMPACT

- Have the teams made impactful, feasible and actionable recommendations?
- Have the teams identified any innovative solutions?

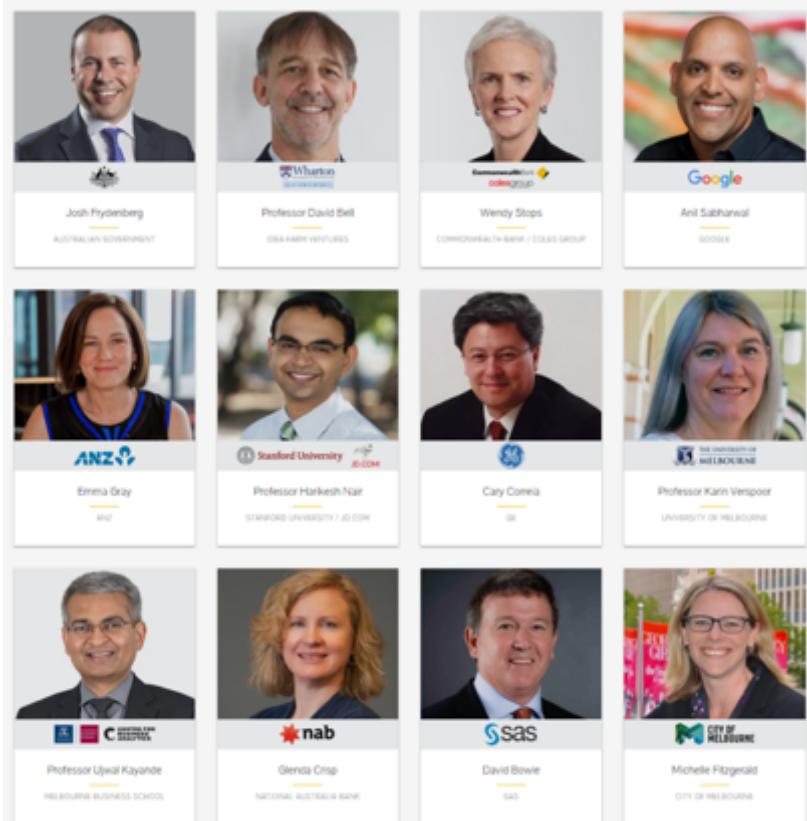


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# Finalists Teams & Awards



## Finals Presentations and Awards Ceremony

Top 4 Open teams and 2 Student teams will be showcased with 800+ people at MBS' prestigious Business Analytics Conference on Tuesday 3<sup>rd</sup> September 2019 at the Melbourne Convention and Exhibition Centre, 1 Convention Centre Place, South Wharf. Teams will present their solutions on stage at 4pm, followed by the presentations of prizes for the winning teams at 5.30pm.

MBS' Business Analytics Conference is the premiere Data and Analytics conference in Australia.



2019 Melbourne Business Analytics Conference  
4pm, Tuesday 3<sup>rd</sup> September 2019  
Melbourne Convention and Exhibition Centre  
1 Convention Centre Place, South Wharf



# Presentation Guidelines



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# SLIDE PRESENTATION TEMPLATE

## PRESENTATION TITLE

### Team name

- Team member 1
- Team member 2
- .....
- .....
- .....
- .....



You have strictly 8 content slides plus the title slide so 9 slides in total. Any more slides will be ignored by judges.

# SLIDE PRESENTATION TEMPLATE

Slide text

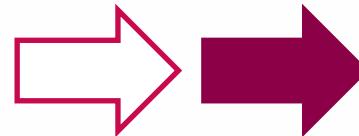
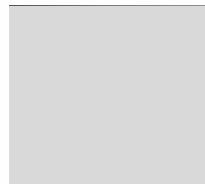
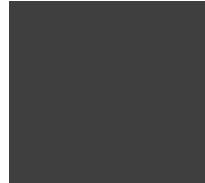
Email submission to [cfba@mbs.edu](mailto:cfba@mbs.edu) by  
6:00pm Thursday 29<sup>th</sup> August

- PDF file

**File naming convention:**

- MBSDatathon\_Teamname

Slide colours





# Submission and Pitch Guidelines

- **1 title slide + strictly 8 content slides only (9<sup>th</sup> slide onwards will be ignored by judges)**
  - Must use slide templates
  - Title slide must include team name, team members & title of presentation
  - No logos are to be added to the slides (ie companies, tools, services, products)
- **Email submission to [cfba@mbs.edu](mailto:cfba@mbs.edu) by 6:00pm Thursday 29<sup>th</sup> August**
  - PDF file
- **File naming convention:**
  - MBSDatathon\_Teamname

# Datathon Challenge



# Challenge (I)

This Datathon brings together a wide range of sporting data sets and sports opinion survey data from Australians.

Whilst we have some prescriptive challenges specific to some of the data sets, we encourage you to use creativity to identify challenges, solutions and insights that your team is interested in exploring.

# Challenge (II)

Your team is to apply advanced analytics to any, some or all of the data sets to derive insights and make recommendations that demonstrate how data can transform decision-making for the **sports industry** and its key stakeholders.

# Challenge (III)

Topics to consider include (but are not limited to):

## Sports Performance

1. What variables lead to good individual and team performances in sport?
2. How can individual player and team performance be optimised?
3. How does team line up affect the probability of winning?
4. Are there “dream teams” to optimise match outcomes?
5. What can we learn about the importance of racquet choice for elite tennis performance and how might this impact the power of shots?

# Challenge (IV)

Topics to consider include (but are not limited to):

## Business Performance

1. Can sporting club member retention and acquisition be optimised?
2. What are the key indicators that put a customer at risk of not renewing their club membership?
3. How do factors such as broadcast audience, match attendance and match results affect membership renewal or acquisition rates, or subsequent match attendance?
4. How do we maximise game attendance and TV viewership in determining the AFL fixture schedule?

# Data Contributors



# Data Contributors





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# Roy Morgan Research



ROY  
MORGAN



ROY  
MORGAN  
LIVE

# Melbourne Business School

Datathon



# Roy Morgan Single Source: An Overview

- Interviewing 50,000 Australians per annum aged 14+
- Continuous interviewing (50 weeks per year) covering all states and territories, inner cities and country areas
- Interviewing conducted face to face (CAPI), supplemented with a self completion diary that is subsequently matched back to a respondent providing a single view of a person
- Results weighted to reflect geographic, age and sex distribution of the population according to the latest ABS statistics

# Roy Morgan Single Source

Australia-wide survey providing an unparalleled 360 degree view of Australian consumers



# MBS Datathon: Scope of data provided

<b>AFL</b> Team Supported and Team Membership including AFL Membership	<b>Sport Attendance</b> Professional Cricket, AFL and Tennis events	<b>Sports Participation</b> Regular & Occasional participation in Cricket, Australian Rules Football and Tennis
<b>Sports Watched on TV</b> Regular and Occasionally viewing of Cricket, AFL and Tennis	<b>Favourite Sports on TV</b> 15 "Especially choose to watch" Sports TV programs across Cricket, AFL and Tennis	<b>Major Demographics</b> 6 Major demographics such as Household Life Cycle
<b>Helix Personas</b>  Geo-psychographic behavioural segmentation 54 unique mindsets across the Australian population		

*All information provided is based on population 14+ and data 3 years to June 2019*

# HELIX PERSONAS

A psychographic segmentation that divides the Australian population into 54 distinct Mindsets, incorporating values, beliefs & attitudes which are the best predictors of consumer behaviour.



## 100 Leading Lifestyles

High income, highly educated, progressive and success and career focused, people in the Leading Lifestyles Community enjoy cultured city living to the max.

[Browse](#)

101 Bluechip

102 Smart Money

103 Social Progressives

104 Having It All

105 Visible Success

106 Self-made Lifestylers

107 Domestic Bliss

108 Career Achievers

109 Humanitarians

110 Worldly and Wise

111 Success Matters

112 Savvy Self-starters

113 Cultured Epicureans



## 200 Metrotechs

Highly educated, socially aware, hard-working, ambitious and culturally diverse young singles typically renting apartments in the inner city and inner suburbs

[Browse](#)

201 Young and Platinum

202 Healthy, Wealthy and Wise

203 Culture Leaders

204 High Life

205 Libertarians

206 Fit and Fab

207 Seasoned Lifestylers

208 Future Focus

209 Sociable Trendsetters

210 Academic Optimists



## 300 Aspirationals

Ambitious, up-and-coming, culturally diverse young families, young singles and couples committed to creating a successful future.

[Browse](#)

301 Savvy Shoppers

302 Getting Ahead

303 Prosperous Future

304 Lifestyle Seekers

305 Trend Hunters

306 Fad-tastic

307 Experience Seekers



## 400 Hearth and Home

Closest to the average Australian, life revolves around the home for these contented families and empty nesters, who see their homes as an expression of status and achievements.

[Browse](#)

401 Home Improvers

402 Working Hard

403 Rustic Heartland

404 Traditional Values

405 Safe and Secure

406 Building Security

407 House Proud

408 Cautious Conservatives

409 Relaxed Living



## 500 Doing Fine

A mix of household types and ages including many young migrants and some older Australians, happily making their way through life on modest incomes across Australia.

[Browse](#)

501 Making Ends Meet

502 Tech Life

503 Fun First

504 Home Entertainment

505 Faith and Wellbeing

506 Making the Rent

507 Active Social

508 Frugal Living



## 600 Fair Go

A mix of ages and household types, including those living alone and single parents, Fair Go are low income Australians looking for a better deal in life.

[Browse](#)

601 Simple Living

602 Tough Times

603 Quiet Home Life

604 Budget Living

605 Filling Time

606 Basic Lifestyle

607 Raw Deal

# Important Note

- Dataset contains 43,751 Survey unit records (Respondents) that are weighted to 20,292,809 Australians aged 14+
- When using our survey data at a unit record (Respondent) level there are two important points to note
  - Each Respondent has a weight. The sum of the weights equals 20,292,809 Australians aged 14+
  - Some questions were not asked for the entire three year period. These are identified in the Data Dictionary and require a filter and a time weighting factor.

Stephen Gibson  
Head of Strategic Projects  
[Stephen.Gibson@roymorgan.com](mailto:Stephen.Gibson@roymorgan.com)



# Cricket Australia





CRICKET  
AUSTRALIA

Melbourne Business School Datathon

# CRICKET AUSTRALIA DATA DICTIONARY



Kylie Thomas

HP Information Systems Coordinator

[Kylie.Thomas@cricket.com.au](mailto:Kylie.Thomas@cricket.com.au)



- Ball by Ball v Score Card
  - Pros
- Scorecard image
  - Ball by Ball Data
  - WBBL and BBL data
    - 2011/12 (8 seasons)
      - last 2 hawk eye
    - 2015/16 ( 4 seasons)
  - 1INNINGS
  - DRAW → SUPER OVER
  - 1 OVER PER TEAM

# MATCH SET-UP & RESULTS



**Match Details**

Match | Melbourne Renegades (M) | Melbourne Stars (M) | Options | Result

Season:	2018-19	...	OK
Series:	Domestic T20 M	...	Cancel
Length:	Twenty20	<input type="checkbox"/> day/night match	From: 17-Feb-2019 1:45 PM
Venue:	Marvel (Etihad) Stadium	...	To: 17-Feb-2019 5:00 PM
Team A:	Melbourne Renegades (M)	...	<input checked="" type="radio"/> At home <input type="radio"/> Away
Team B:	Melbourne Stars (M)	...	<input type="radio"/> At home <input checked="" type="radio"/> Away
Toss won by:	<input type="radio"/> Team A <input checked="" type="radio"/> Team B <input type="radio"/> Unknown	Decision:	Will Bowl
Umpire 1:	Abood, G	...	1st: Melbourne Renegades (M)
Umpire 2:	Nogański, S	...	2nd: Melbourne Stars (M)
Umpire 3:	Unknown, A	...	3rd: Not started
Umpire 4:	Craig, S	...	4th: Not started
TV Umpire:	Fry, S	...	Curator: Unknown, An
Match Referee:	Stratford, B	...	Ball type: Kookaburra white
Analyst:	White, C	...	<input checked="" type="checkbox"/> Coding required Data source: HawkEye

**Teams & Players**

Match | Melbourne Renegades (M) | Melbourne Stars (M) | Options | Result

Select and right-click to change									
Pos1	Mins1	Num	Bat	BH	BST	WK	C		
1	13	21	LHB	R	OS				
2	44	5	RHB	L	OS				
3	12	6	RHB	R	OS				
4	26	7	RHB	R	WS				
5	26	3	LHB	R	M				
6	84	26	RHB	R	OS				
7	65	54	RHB	R	FM				
8	0	13	RHB	R	WS				
9	0	55	RHB	R	FM				
10	0	34	RHB	R	FM				
11	0	11	RHB	L	FM				
12	0	10	RHB	R	M				
13	0	18	RHB	L	OS				

Selected Players

Ashkenazi, B
Beaton, T
Buchanan, M
Crone, X
Drew, B
du Plessis, F
Evans, ZK
Fekete, AL
Fraser-McGurk, J
Gale, M
Haberfield, J
Harris, DJ
Harwood, S
Hauritz, N
Heal, A
Hodge, BJ
Hogg, GB
Lawford, T
Ludemann, T
Manou, G
McDonald, BM
Mennie, J
Mire, SM
Nabi, M
Narine, SP
O'Brien, A
Pattinson, D

New  Include inactive Up Down Fix Pos1 Load Prev Coach: McDonald, A

# DATA CAPTURE PROCESS & DETAIL

**Striker Events**

Select one or many -

- DRS Bowler Won
- DRS Bowler Lost
- DRS Bowler Lost: Umpire call
- DRS Striker Won
- DRS Striker Lost
- DRS Striker Lost: Umpire Call
- Play and miss
- Outside edge
- Inside edge
- Contact Error
- Opportunity
- Hit on pads
- Hit on body
- Hit on head
- Appeal
- Retired hurt
- Bowler Variation
- Batter Movement
- Sweep Shot
- Reverse Sweep/Switch Hit
- Ramp/Paddle Shot
- Umpire Referral
- Coding review reqd
- 50 runs
- 100 runs
- 150 runs
- 200 runs
- 250 runs
- 300 runs
- 50 partnership
- 100 partnership
- 150 partnership
- 200 partnership
- 250 partnership
- 300 partnership

**OK**   **Cancel**

**Fielder Events**

Select one or many -

- Pressure field
- Throw
- Good
- Error
- Throw hit
- Throw miss
- Was backed up
- Was not backed up
- Dive stop
- Dive misfield
- Slide stop
- Slide miss
- Extra effort
- Missed stumping
- Misfield
- Fumble
- Assist
- Catch
- Catch dropped
- Catch assist
- Runout
- Runout missed
- Runout assist
- Runout assist missed

Grade 1    Grade 2    Grade 3

In field    Out field

Runs Saved:  1  2  3  4  5  6

Runs Cost:  1  2  3  4  5  6

North    South

**OK**   **Cancel**

**Delivery Detail**

Bowler: - Khan, Z   Over: 1   Fair Ball: 5   Ball: 5

Over    Round    Over complete

**Beehive / Wall**

**Wagon Wheel**

**Dismissal Details**

How Out: Not Out

Batter Out: - None -

Batter runs: 2   No Balls: 0

Wides: 0   Byes: 0

Leg Byes: 0   Penalties: 0

To WK   Batters Swapped

**Outcome**

**Fielders Information**

Keeper: - David, RS    Keeper Up?

Fielder(s): - None -    Fielder

Events:  Fielder    Keeper

Change to: - None -





## Match Result

Match: Melbourne Renegades (M) vs Melbourne Stars (M) | Options | Result

Closures:

Renegades 1st Innings	Stars 1st Innings
<input type="radio"/> Declared	<input type="radio"/> Declared
<input type="radio"/> All out	<input type="radio"/> All out
<input type="radio"/> Unfinished	<input type="radio"/> Unfinished
<input checked="" type="radio"/> Compulsory closure	<input checked="" type="radio"/> Compulsory closure
<input type="radio"/> Not started	<input type="radio"/> Not started

Renegades 2nd Innings

<input type="radio"/> Declared	<input type="radio"/> Declared
<input type="radio"/> All out	<input type="radio"/> All out
<input type="radio"/> Unfinished	<input type="radio"/> Unfinished
<input type="radio"/> Compulsory closure	<input type="radio"/> Compulsory closure
<input checked="" type="radio"/> Not started	<input checked="" type="radio"/> Not started

Results:

Renegades 1st Innings	Renegades Match Result		
<input checked="" type="radio"/> Led	<input type="radio"/> Won on first innings	<input type="radio"/> Lost on first innings	<input type="radio"/> Drawn
<input type="radio"/> Tied	<input type="radio"/> Won outright	<input type="radio"/> Lost outright	<input type="radio"/> Tied
<input type="radio"/> Behind	<input type="radio"/> Won by one day rules	<input type="radio"/> Lost by one day rules	<input type="radio"/> Abandoned
<input type="radio"/> Abandoned	<input checked="" type="radio"/> Won by 20/20 rules	<input type="radio"/> Lost by 20/20 rules	
<input type="radio"/> Unknown	<input type="radio"/> Won by Duckworth-Lewis	<input type="radio"/> Lost by Duckworth-Lewis	
	<input type="radio"/> Won by forfeit	<input type="radio"/> Lost by forfeit	<input type="radio"/> Unknown

OK Cancel

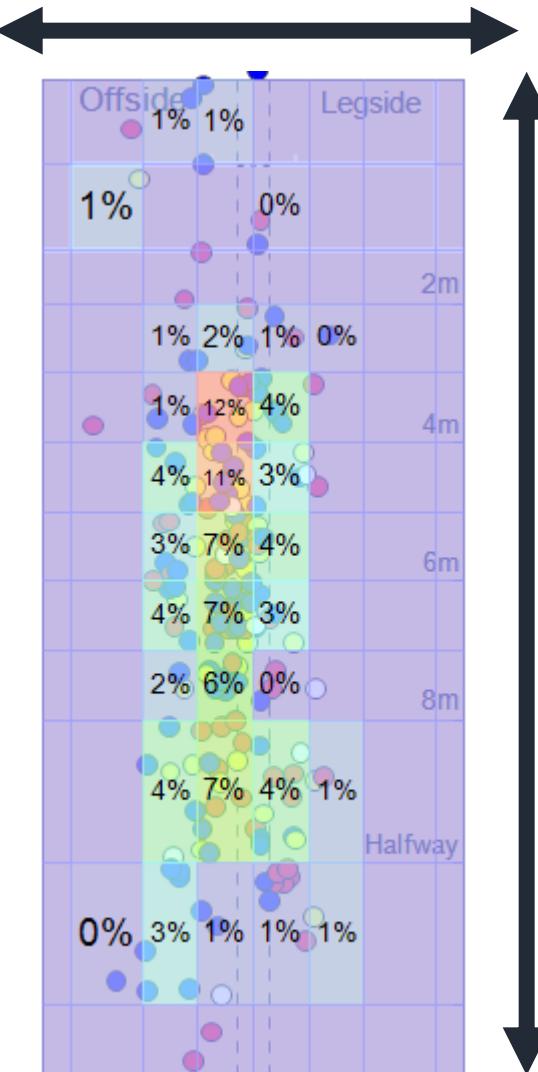


# LINE & LENGTH DETAIL

Measured in millimeters from the center of middle stump

X:

- < -1460 – Wide of Leg
- < -400 – Outside Leg
- <-55 – Leg Stump
- <170 – Middle Stump
- <720 – Off stump
- <1315 – Outside off
- >1315 – Wide of Off



PACE BOWLER

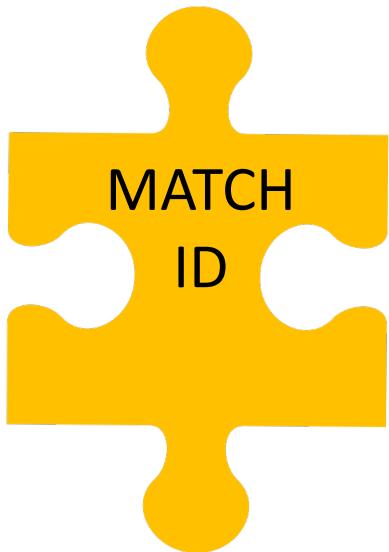
- Y:
  - <610 – Full Toss
  - <2000 – Yorker
  - <5000 – Half Volley
  - <8000 – Good Length
  - <10,060 – Short of a Length
  - >10,060 – Very Short

SPIN BOWLER

- Y:
  - <610 – Full Toss
  - <3000 – Full
  - <5000 – Good Length
  - >5000 – Short

Always recorded from the view point of a RIGHT handed batter

# UNIQUE DATA POINTS



ONE ID FOR EACH MATCH, TEAM, VENUE AND PLAYER

# DATA TABLES



## BALL BY BALL DATA



- Ball by Ball
- Manual Pitch Map, Beehive & Wagon Wheel
  - Hawkeye & Virtual Eye 2017-18 & 2018-19 BBL Season
- Batting and Fielding Events

## AGGREGATED INNINGS DATA



- One row per player per innings
  - combines batting and bowling information into one row

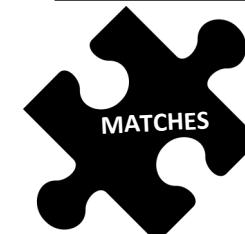


- One row per batting partnership per innings



- One row per bowling partnership per innings

## REFERENCE TABLES



- Match Details
  - Date, Venue, Teams, Ball Type, Result etc



- Player Details
  - ID, Name, Gender, Batting/ Bowling Hand, Bowling style etc



- Batting Position
- Bowling Position

# Indian Premier League



**FEATURED VIDEO**

# BUMRAH, WORLD'S BEST: SACHIN & YUVRAJ

Trending Today

Rohit & Ritika cherish MI's 4th title

01:08 845,514 12 MAY 19

Malinga's slower ball bluffed everyone: Hardik tells Pollard

01:52 390,703 12 MAY 19

Idea was to stay calm & execute plans - Bumrah

01:08 189,459 12 MAY 19

That heart-stopping final over!

03:02 703,174 12 MAY 19

**Points Table**

Qualifier 1	07/05/19
132/4 vs  131/4	

**Playoffs**

Eliminator	08/05/19
165/8 vs  162/8	

Qualifier 2	10/05/19
151/4 vs  147/9	

Final	12/05/19
149/8 20/20 vs  148/7 20/20	

**Latest Videos****VIEW MORE**

Mumbai Indians won by 9 wickets

MAY

7



Mumbai Indians won by 6 wickets

MAY

8



Delhi Capitals won by 2 wickets

MAY

10



Chennai Super Kings won by 6 wickets

MAY

12



MAY

13





MI v CSK  
TARGET 150

133-4  
18.1

BRAVO  
WATSON

15 14  
76 56

TO  
WIN

RUNS  
BALLS  
17  
11



**BALL BY BALL DATA FROM 2008 TO 2015**

## IPLMatchesIndex.csv

. List of Matches from IPL1 (2008) to IPL8 (2015) [Contained in individual innings files, one for each innings, in the Individual Innings Files folder.]

. Variables:

1. IndexNo = Unique match identifier (first innings ball-by-ball outcomes file is <IndexNo>a.txt and second innings is <IndexNo>b.txt)
2. Date = Day-Month-Year of match (Month is 3-letter code, Year is 2-digit value)
3. MatchNumber = Designation of match within season (e.g., "Match 1" or "Semifinal")
4. HomeTeam = Name of designated Home Team
5. AwayTeam = Name of designated Away Team
6. Location = City where match was played
7. ChasingTeam = Name of Team batting 2nd
8. 1stInningsScore = "<runs>/<wickets> (<overs used>/<max overs available>)"
9. 2ndInningsScore = "<runs>/<wickets> (<overs used>/<max overs available>)"
10. Result = Description of match outcomes (Name of winning team and margin of victory)
11. MotM = Name of winner of Man of the Match award
12. DL.Indicator = Y/N indicator of whether match was interrupted.
13. 1stInningsMaxOvers = If match interrupted, max overs of 1st innings at start (blank otherwise)
14. 1stInningsBreaks = If match interrupted, over.ball when 1st innings interrupted (if more than once, separated by ";")
15. 1stInningsOversLost = If match interrupted, overs lost due to 1st innings interruption (if more than once, separated by ";")
16. 2ndInningsMaxOvers = If match interrupted, max overs of 2nd innings at start (blank otherwise)
17. 2ndInningsBreaks = If match interrupted, over.ball when 2nd innings interrupted (if more than once, separated by ";")
18. 2ndInningsOversLost = If match interrupted, overs lost due to 2nd innings interruption (if more than once, separated by ";")
19. DLTarget = Stated DLS adjusted target.

## Individual Innings Files (<IndexNo><a/b>.txt) Format (comma separated)

. One line for every delivery (including illegal deliveries which are to be re-bowled)

. Variables:

1. Over.Ball (starting from 0.1) [NOTE: Superovers are listed as 20.x, regardless of how many overs were actually in the innings.]

2. Bowler's Name

3. Batsman's Name

4. Outcome {NOTE: There may be multiple outcomes per ball, for instance a run-out after the batsmen have already completed some valid runs or a stumping off of a wide delivery. In this case the earlier outcomes is listed in "()". Further for run-outs the name of the non-striking batsman at the time of delivery is given after the word "OUT" in "[]"}

# Tennis Australia





**gig**

Game  
Insight  
Group

# TENNIS LAB<sup>®</sup>

Defining the space between Science and Performance



# WHAT IS TENNIS LAB?...

“To get the right racquet in the hand of all players with the help of science”



THE AVERAGE PERFORMANCE PLAYER SPENDS...

675

hours practicing per annum

AND

1

hour selecting their racquet

WHAT DOES HAVING THE RIGHT RACQUET ACTUALLY MEAN?

# IT MEANS OPTIMISING KEYS OF PERFORMANCE



POWER – Ball speed



SPIN - RPM



CONTROL – Distance from a target



INJURY – Vibration and joint loading

# THERE ARE A LOT OF VARIABLES...

## KIDS

racquet mass (32) x head size (18)  
x length (8) x string pattern (13)

59,904 different combinations  
(excluding string combinations)

## ADULTS

racquet mass (110) x head size (40) x  
length (19) x string pattern (13)

1,086,800 different combinations  
(excluding string combinations)

# RACQUET BASICS...

## Racquet Specifications

Head size	Surface area
Mass	Weight
Swingweight	Moment of inertia
Stiffness	Flexibility
Length	Length from head to handle
Balance	Mass distribution

## String Specifications

Mains	Length-wise strings
Crosses	Width-wise strings
Gauge	String thickness
Tension	Tension of strings



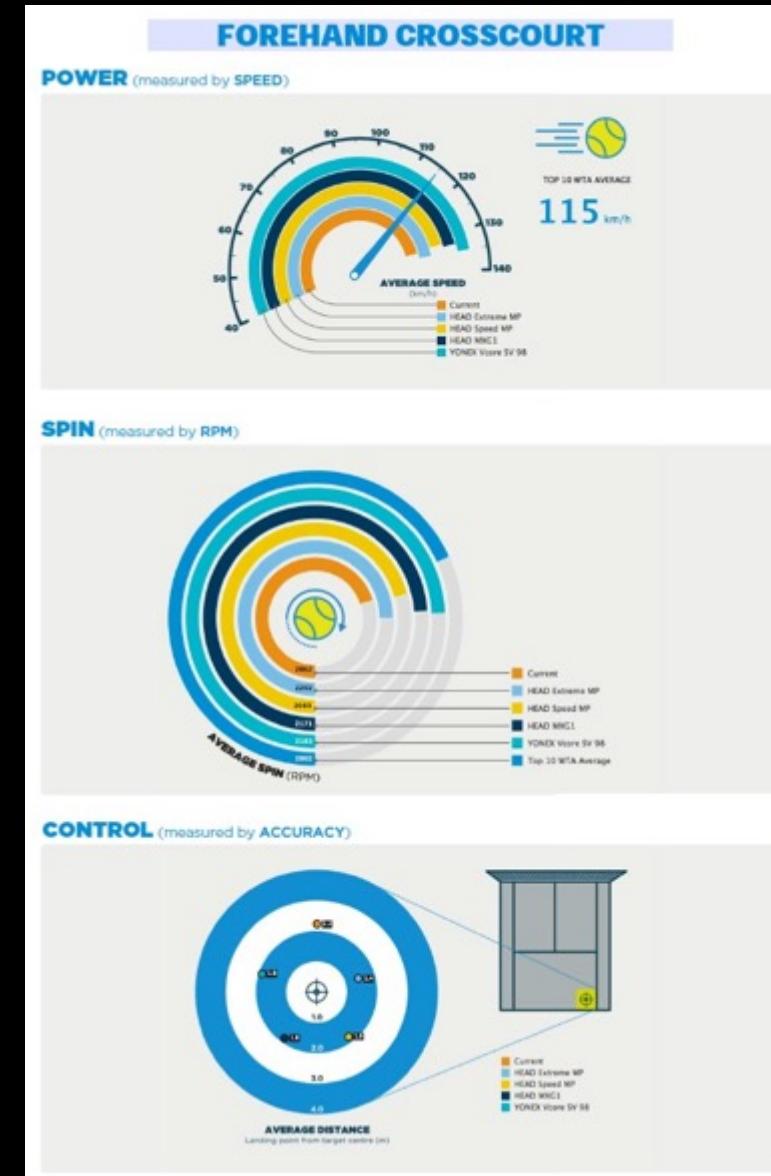
# ENHANCED PERFORMANCE...

- 2-5% increase in ball speed
- 7-10% increase in spin
- No loss in control

“

The Tennis Lab has helped me validate my choices. I wanted to get more speed and spin off the ball and by using Hawk-Eye and applying the science, I know that I'm hitting up to 10% more spin, 5% more speed and more power. Tennis Lab has been hugely valuable and as a result, I know I'm going out on court with the best possible equipment.

- SAM STOSUR



# HOW THE MBS DATATHON CAN HELP FUTURE RACQUET SELECTION

## AO Performance

10,000s of shots of male and female players

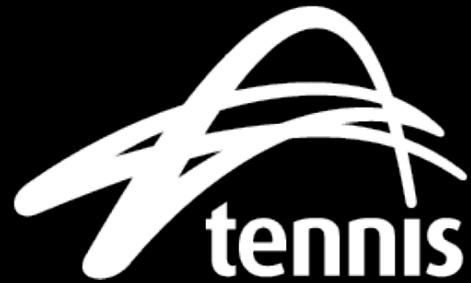
Speed and position of serves and groundstroke shots

## AO Racquets

String specs

Racquet specs

TENNIS LAB<sup>®</sup>



## POWER YOUR GAME WITH SCIENCE

Stephanie Kovalchik

[tennislab@tennis.com.au](mailto:tennislab@tennis.com.au)



tennislab\_ta



[www.tennislab.com.au](http://www.tennislab.com.au)



MELBOURNE  
BUSINESS  
ANALYTICS  
DATATHON



AFL



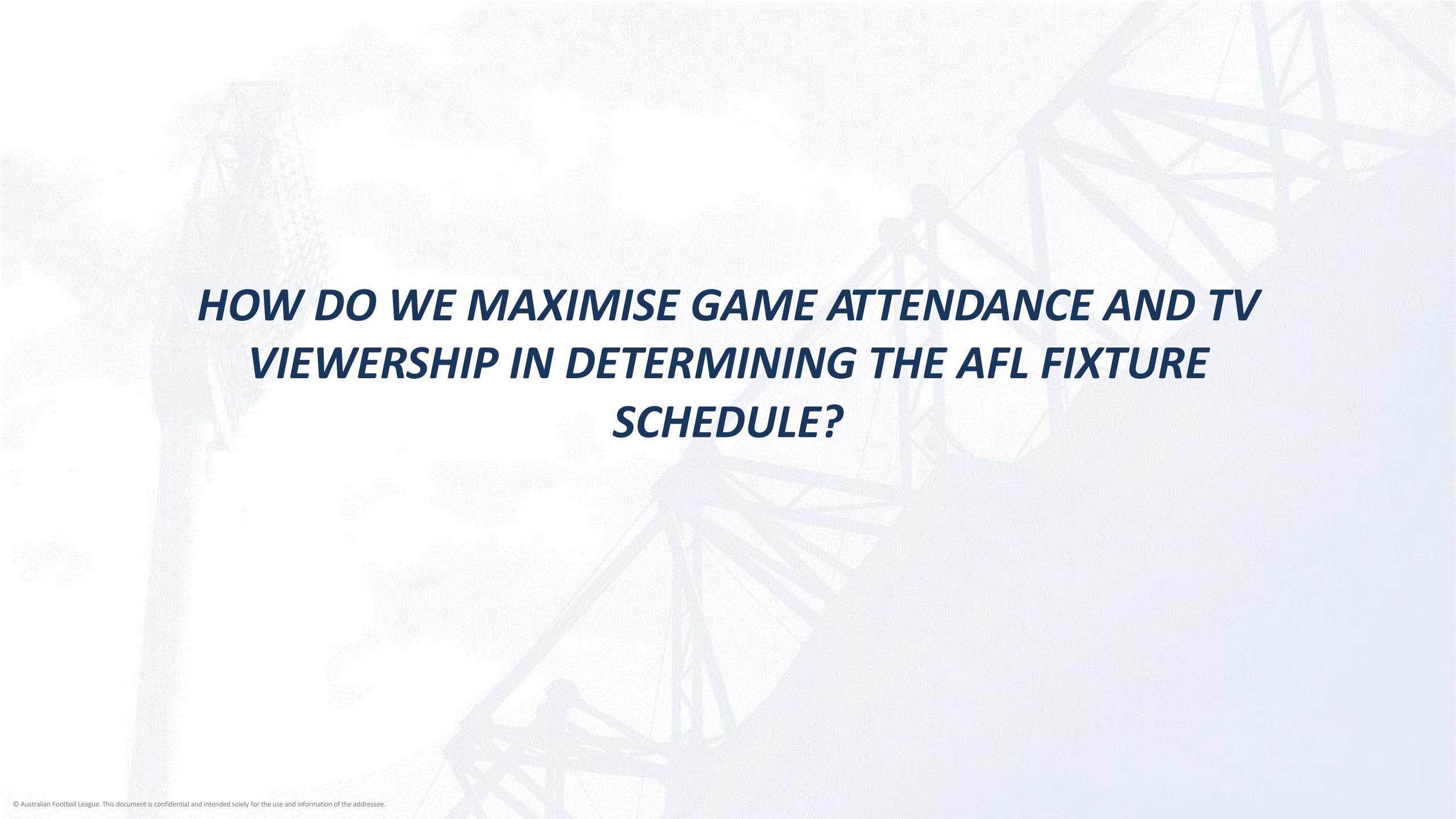
# MELBOURNE BUSINESS ANALYTICS DATATHON

A large, diverse crowd of people is gathered in a stadium, cheering and waving their hands. The image has a vertical gradient overlay, transitioning from red on the left to blue on the right.

AFL FIXTURING

ZAITA ANDERSON





# ***HOW DO WE MAXIMISE GAME ATTENDANCE AND TV VIEWERSHIP IN DETERMINING THE AFL FIXTURE SCHEDULE?***

## ***ON-FIELD EQUITY***

- Protect integrity of the game
- Any given team can win on any given day
- Exciting and unpredictable, high scoring, close games
- Competitive balance



## ***OFF-FIELD EQUITY***

- Commercial platform for clubs
- Attendance – ticketing and membership
- TV audiences – commercial revenues, total eyeballs
- Stadium utilisation – day & night games



# **DATASETS**

## **CONSOLIDATED DATA**

- Match details – time, teams, venue, day, round
- Results – scores, odds
- Attendance
- Audiences – average TV audience by region (FTA) and Pay TV, platform

## **LADDER DATA**

- Ladder position per team per round
- 2010 to 2019 seasons

## **VENUE CAPACITIES**

- Total capacity for 18 AFL venues



## **HOW CAN YOU HELP?**

- What is the right definition of equity?
- What fixturing rules can maximise this?
- What are the balances / trade-offs for clubs, fans, the AFL?



# Western Bulldogs

WESTERN  
**BULLDOGS**



# **DATASET OVERVIEW**

**Western Bulldogs  
Membership Data**

**Melbourne Business School Datathon**





# WHAT IS A MEMBERSHIP?

AFL club membership is a consumer product that provides a series of entitlements to individuals who wish to formalise their commitment to the club financially.

Memberships are valid for a 12-month period, and are sold annually from 1 November offering entitlements and benefits for the upcoming season.

eg. 2020 membership go on sale on 1 November 2019, and are valid through until 31 October 2020.

There are a diverse range of memberships, not all memberships include match day access entitlements.

Match day access memberships can hold entitlements to home only, or home and away matches.

Most access memberships provide the holder with one ticket to an allocated number of home matches, however there are also 'flexi' memberships that provides the a set quantity of tickets that can be can be redeemed in any combination of quantities across any number of Western Bulldogs home games.

Through offering a diverse range of membership products, clubs endeavour to provide product options that align closely to the needs and circumstances of individuals.

Western Bulldogs home matches are played at Marvel Stadium (Melbourne) and Mars Stadium (Ballarat)



# DATA DICTIONARY

The data set provided comprises a variety of dimensions pertaining to individuals that have purchased. Some unique terminology and dimensions to highlight includes:

**Membership Status (Four Options):** The status of a member, categorized by when they last held a WB membership product. There are five options:

- New (WB member for the first time in 2019, was not a member in 2018 or any year before)
- Renewed (WB member in 2018 and again in 2019)
- Returning (WB member prior to 2018, and now a member again in 2019)
- Unrenewed (WB member in 2018, and yet to sign as a member in 2019)
- Prospect (has never been a WB member)

**Package Price Type** – The name of package purchased by members

**Package Group** - Grouping of package price types, defined by match day access/seating

- Reserved Seat, General Admission, Non Access, Other

**Games Attended** – The number of Western Bulldogs home games that the individual member attended in a nominated season using their membership.

**# of Seat Upgrades from GA** - The count of seats upgraded from GA to a Reserved Seat in the Given year.



# OUTCOMES

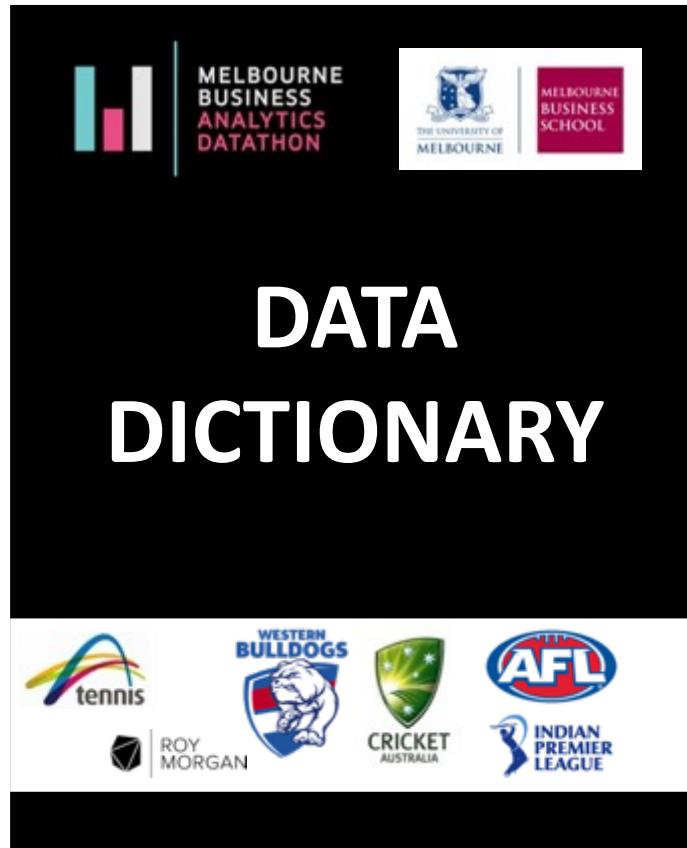
While clubs pursue acquisition campaigns to attract new members, retention is an important focus of all club consumer departments to maximise their overall member numbers.

Churn rates fluctuate from year-to-year, anecdotally correlated with team performance, and can also fluctuate between product types.

Some areas of focus for this datathon could include insights and recommendations on:

- How might we optimise sporting club member retention and acquisition?
- Are there certain products more prone to churn or that attract a higher level of ‘new’ members year-to-year?
- What are the key indicators that put a customer at risk of churning, and not renewing their membership? Are these indicators universal or product specific?
- How do factors such as broadcast audience, match attendance and match results affect membership renewal or acquisition rates, or subsequent match attendance?

# Data Dictionary



# Zetaris



# Why Zetaris?



Most organisations don't have  
BIG DATA!

It's just messy and  
everywhere...and this makes  
analytics hard!



A single antiquated idea:

**"You must move data into yet another platform to process and analyse it."**



# What's the Zetaris proposition?

**Don't move data for  
Business Intelligence...**

**Just connect the data.**



© Zetaris Pty Ltd, 2019



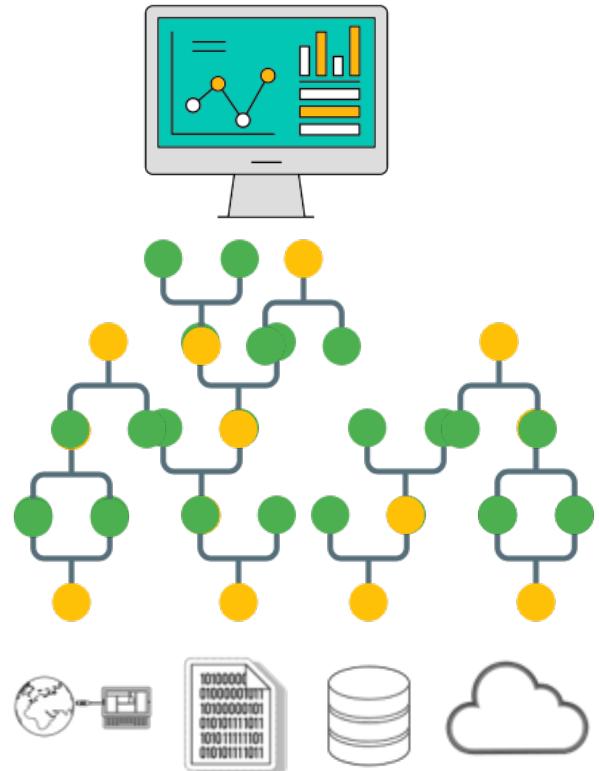


One single  
API for  
connecting  
and  
analysing all  
the data!

ZETARIS.COM

# Before

*Physical data pipelines*



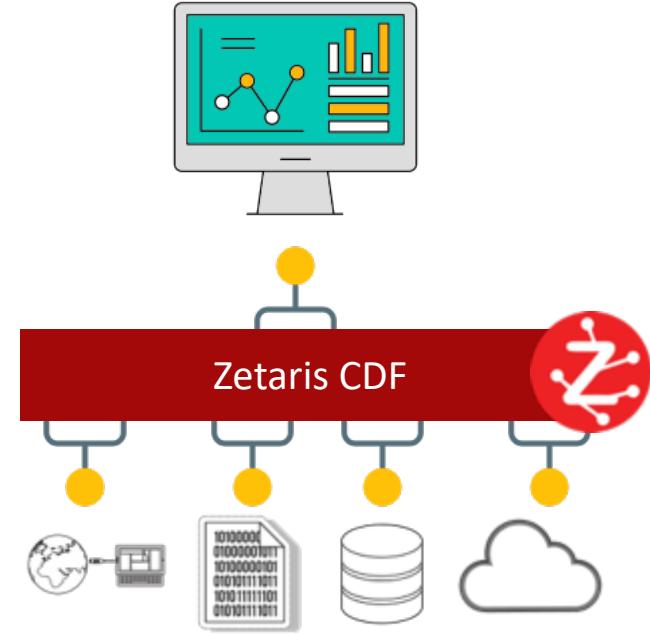
*Data movement  
ETL  
Physical storage duplication*



© Zetaris Pty Ltd, 2019

# After

*Virtual data pipelines*



*No data movement  
No ETL  
No data duplication*

# Join data across the ecosystem anywhere...



Drag-and-drop Query Builder

Query as many data sources as you want in a single query and get an instant result

User access rights across each module:

- Data Fabric Builder
- Data Warehouse Builder
- Data Catalog

You have been pre-registered for the Datathon by Zetaris, and **all the relevant login details** will have been provided in the emails you have received leading up to the Datathon.

## ZETARIS Learning

We have a certification program (1 hour) that you can access [here](#)

Click the “**Access your Free Subscription**” link at <http://cloudfabric.zetaris.com/datathon/> and login with the below credentials to try a few use cases with the sample data provided. NOTE: This is not the Datathon system. It is just for you to practice and you can continue using it post the Datathon (conditions apply).

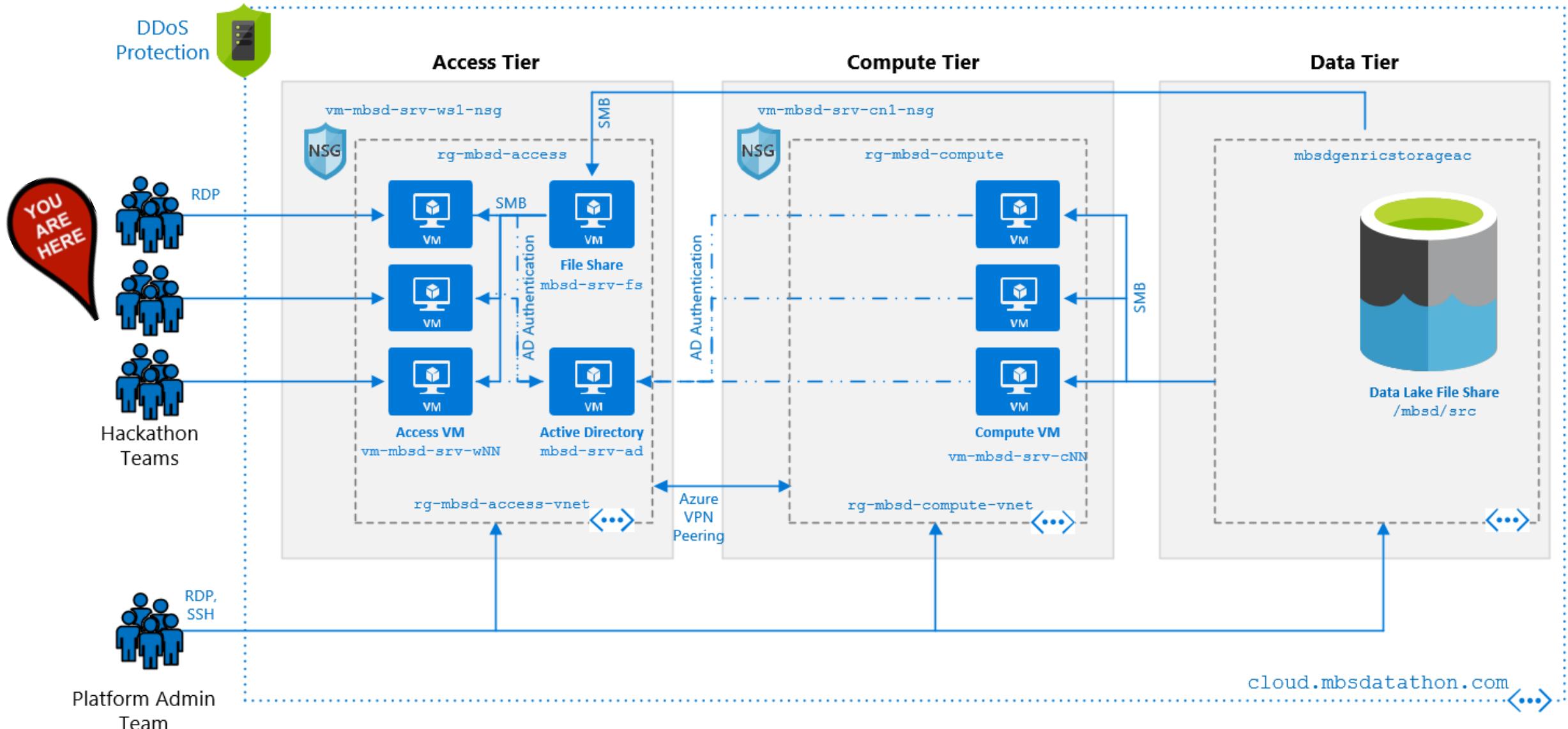
**Username and Password:** Included in the Zetaris logins email



Do the Zetaris Certification training, send a screenshot of the completion page to [marketing@zetaris.com](mailto:marketing@zetaris.com) to receive your official certification document and a T-Shirt from Zetaris. Also we have registered you in our cloud data fabric so you can practice what you learned in the certification training.

As a further benefit to participants of the Datathon, **an additional \$5,000 ‘Best and Fairest’ prize** will be awarded by Zetaris to be shared by the winning team. All team members must be Zetaris Certified to be eligible (conditions apply).

# Datathon Platform – Under the Hood





# Datathon Desktop

<http://cloudfabric.zetaris.com/datathon/>

# The Datathon Desktop



Anaconda Navigator contains your Python and R tools



Zetaris Lightning and SAS will be accessed through browser shortcuts



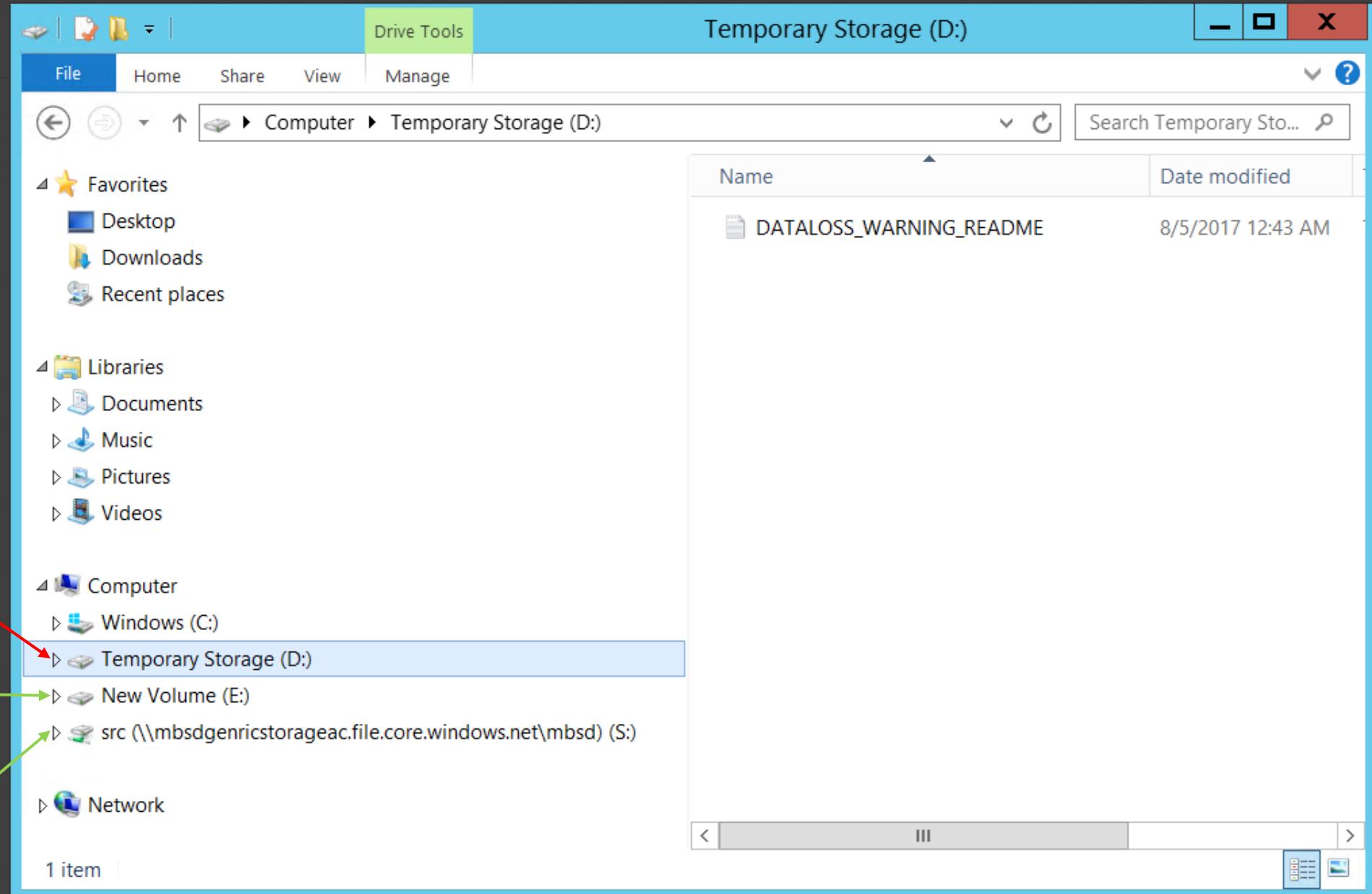
Libre Office Open source equivalent of MS-Office for use in creating your final submission

Windows Files explorer will allow you to navigate the file system and find data files and open other files from your team



Windows Server 2012





Recycle Bin



Google Chrome



LibreOffice 6.2



5:08 PM

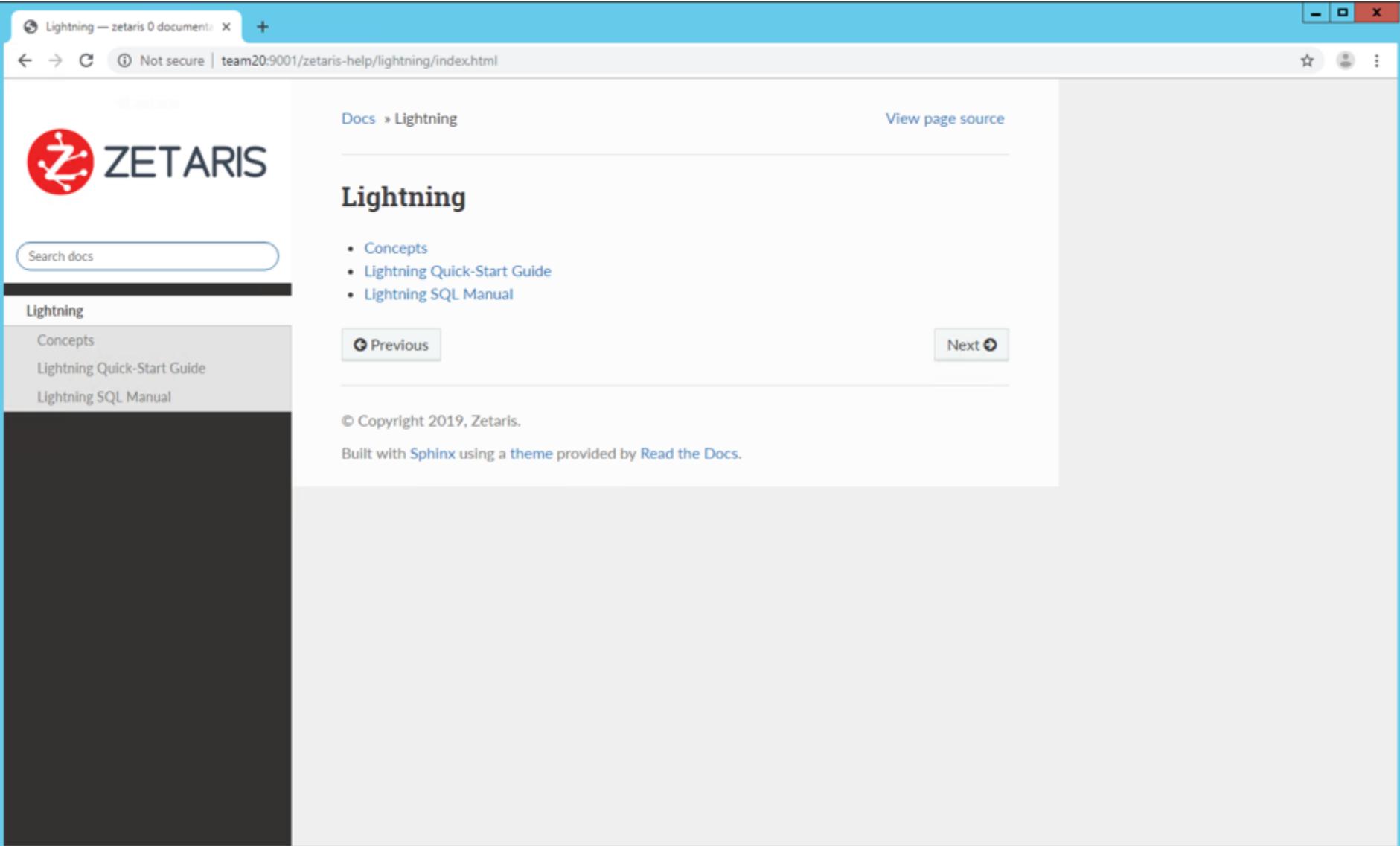
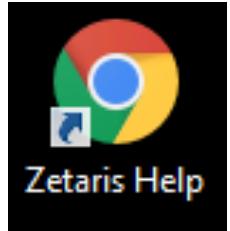
8/7/2019

# Lightning Access – Google Chrome



A screenshot of a Google Chrome browser window. The title bar shows tabs for "SAS® Logon Manager", "New Tab", and "Lightning SQL". The address bar displays "team01:9001/lightning". The main content area shows a login form titled "Zetaris Lightning Login" with fields for "user email" and "password", and a red "Log in" button. A small purple circular icon with a white speech bubble is visible in the bottom right corner of the browser frame.

# Zetaris Help – Google Chrome

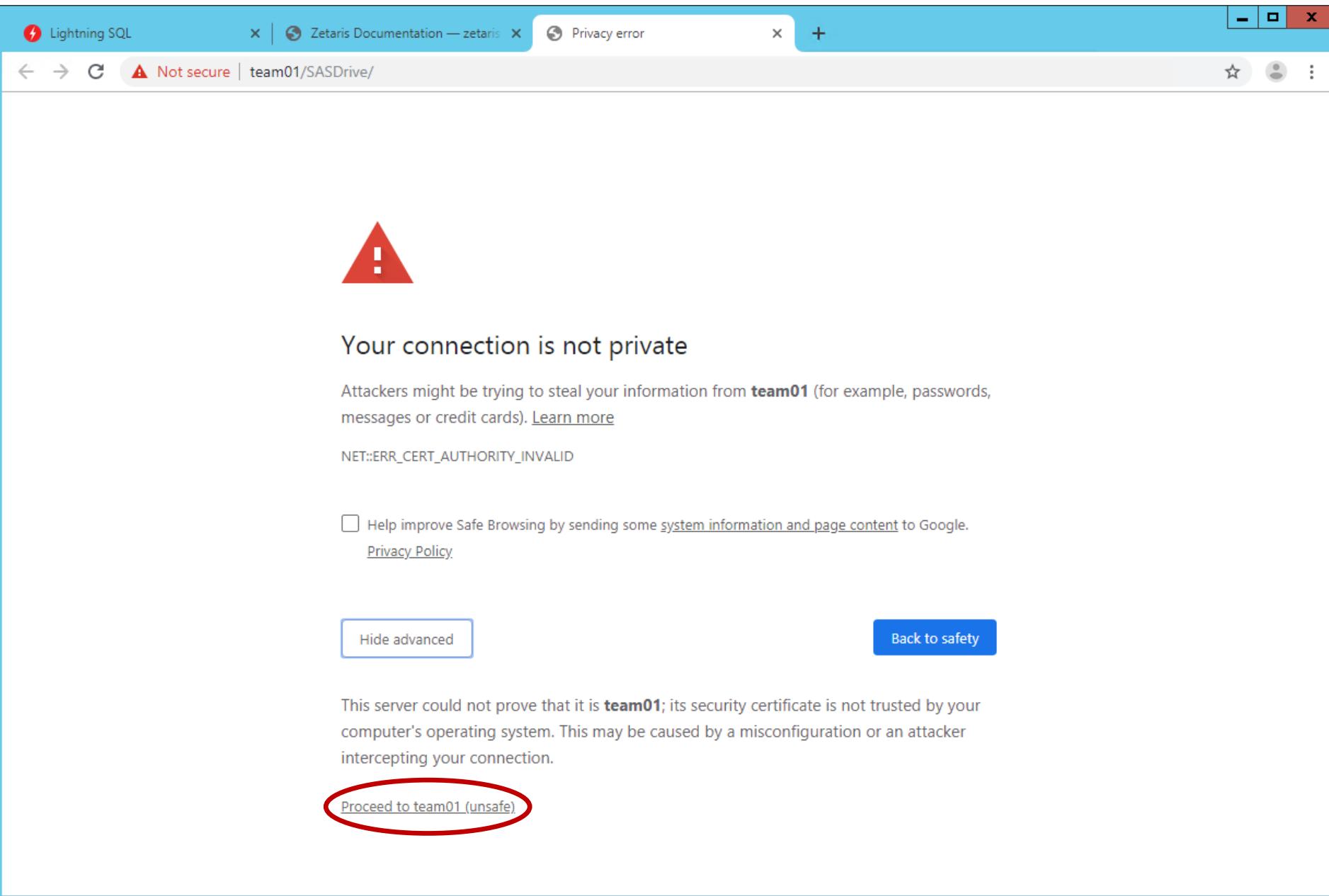


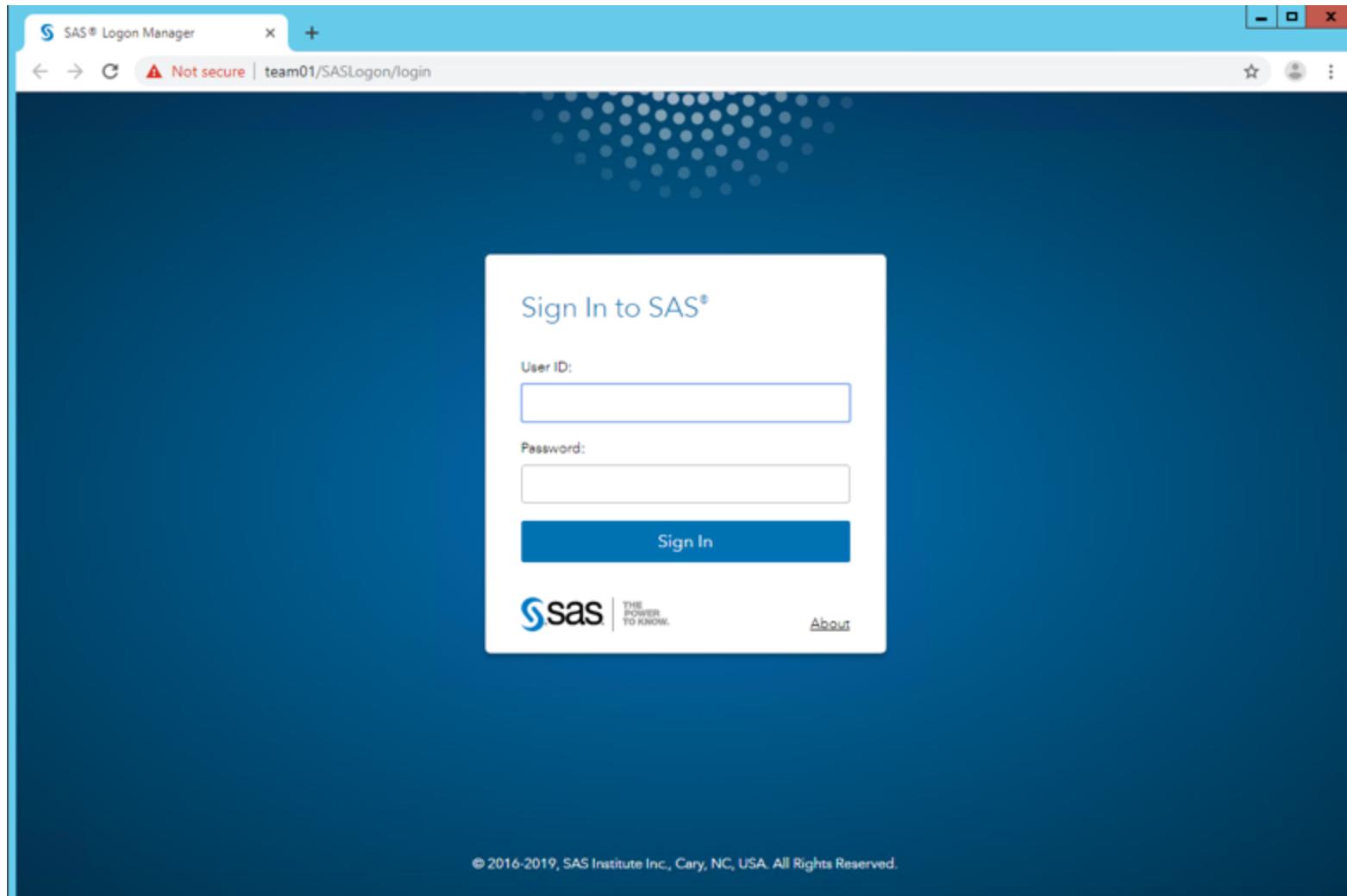
A screenshot of a web browser window showing the Zetaris Help documentation for the "Lightning" component. The browser title bar reads "Lightning — zetaris 0 document". The page header includes the Zetaris logo, a search bar, and navigation links for "Docs" and "Lightning". A "View page source" link is also present. The main content area is titled "Lightning" and contains a sidebar with links to "Concepts", "Lightning Quick-Start Guide", and "Lightning SQL Manual". Below the sidebar, there are "Previous" and "Next" navigation buttons. At the bottom, copyright and build information are displayed: "© Copyright 2019, Zetaris." and "Built with Sphinx using a theme provided by Read the Docs."

# SAS Access – Google Chrome



A screenshot of a Google Chrome browser window. The address bar shows the URL `team01/SASDrive/`. A red warning icon and the text "Not secure" are displayed next to the URL. The main content area displays a large red exclamation mark icon above the text "Your connection is not private". Below this, a message states: "Attackers might be trying to steal your information from **team01** (for example, passwords, messages or credit cards). [Learn more](#)". The error code "NET::ERR\_CERT\_AUTHORITY\_INVALID" is also visible. At the bottom, there is a checkbox for "Help improve Safe Browsing by sending some [system information and page content](#) to Google." followed by a "Privacy Policy" link. Two buttons are present: "Advanced" (which is circled in red) and "Back to safety".





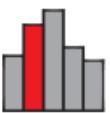
 ANACONDA NAVIGATOR[Sign in to Anaconda Cloud](#)[Home](#)[Environments](#)[Learning](#)[Community](#)[Documentation](#)[Developer Blog](#)

Applications on

rstudio-1.1.456\_3

Channels

Refresh



0.13.3

Multidimensional data visualization across files. Explore relationships within and among related datasets.

[Launch](#)

1.0.2

An extensible environment for interactive and reproducible computing, based on the Jupyter Notebook and Architecture.

[Launch](#)

Notebook

6.0.0

Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis.

[Launch](#)

3.19.0

Component based data mining framework. Data visualization and data analysis for novice and expert. Interactive workflows with a large toolbox.

[Launch](#)

1.1.456

A set of integrated tools designed to help you be more productive with R. Includes R essentials and notebooks.

[Launch](#)

3.3.6

Scientific PYthon Development EnviRonment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features

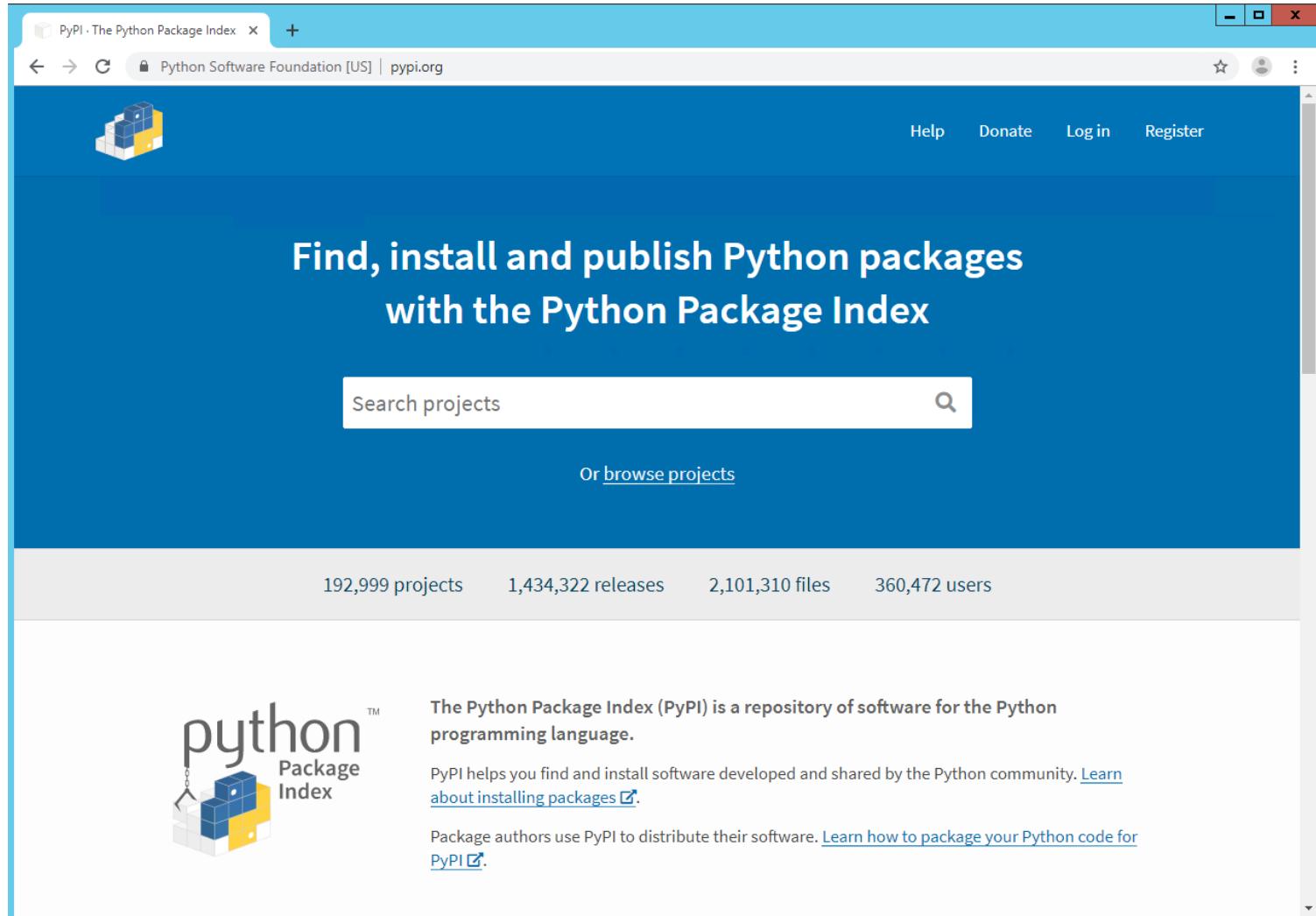
[Launch](#)

1.37.1

Streamlined code editor with support for development operations like debugging, task running and version control.

[Launch](#)

# Python Packages - <https://pypi.org>



The screenshot shows the PyPI homepage with a blue header bar. The title "PyPI - The Python Package Index" is at the top left, followed by a search bar and navigation icons. The URL "Python Software Foundation [US] | pypi.org" is in the address bar. On the right of the header are links for "Help", "Donate", "Log in", and "Register". Below the header, there's a large logo of three interlocking 3D cubes. The main title "Find, install and publish Python packages with the Python Package Index" is centered in a white box. Below it is a search bar with the placeholder "Search projects" and a magnifying glass icon. A link "Or [browse projects](#)" is also present. At the bottom of the main content area, there are statistics: "192,999 projects", "1,434,322 releases", "2,101,310 files", and "360,472 users". The footer contains the Python logo and text explaining what PyPI is and how to use it.

PyPI - The Python Package Index

Python Software Foundation [US] | [pypi.org](https://pypi.org)

Help    Donate    Log in    Register

Find, install and publish Python packages  
with the Python Package Index

Search projects

Or [browse projects](#)

192,999 projects    1,434,322 releases    2,101,310 files    360,472 users

**python**™  
Package  
Index

The Python Package Index (PyPI) is a repository of software for the Python programming language.

PyPI helps you find and install software developed and shared by the Python community. [Learn about installing packages](#).

Package authors use PyPI to distribute their software. [Learn how to package your Python code for PyPI](#).

# R Packages - <https://cran.csiro.au>

The screenshot shows a web browser window displaying the CRAN homepage. The title bar reads "The Comprehensive R Archive Network". The page features a large R logo on the left, followed by a sidebar with links for "CRAN Mirrors", "What's new?", "Task Views", "Search", "About R", "R Homepage", "The R Journal", "Software", "R Sources", "R Binaries", "Packages", "Other", "Documentation", "Manuals", "FAQs", and "Contributed". The main content area is divided into sections: "Download and Install R" (with links for Linux, Mac OS X, and Windows), "Source Code for all Platforms" (with links for releases, daily snapshots, source code, and contributed packages), and "Questions About R" (with a link to frequently asked questions). At the bottom, there is a section titled "What are R and CRAN?" and a note about CRAN mirrors.

The Comprehensive R Archive Network

**Download and Install R**

Precompiled binary distributions of the base system and contributed packages, **Windows and Mac** users most likely want one of these versions of R:

- [Download R for Linux](#)
- [Download R for \(Mac\) OS X](#)
- [Download R for Windows](#)

R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above.

**Source Code for all Platforms**

Windows and Mac users most likely want to download the precompiled binaries listed in the upper box, not the source code. The sources have to be compiled before you can use them. If you do not know what this means, you probably do not want to do it!

- The latest release (2019-07-05, Action of the Toes) [R-3.6.1.tar.gz](#), read [what's new](#) in the latest version.
- Sources of [R alpha and beta releases](#) (daily snapshots, created only in time periods before a planned release).
- Daily snapshots of current patched and development versions are [available here](#). Please read about [new features and bug fixes](#) before filing corresponding feature requests or bug reports.
- Source code of older versions of R is [available here](#).
- Contributed extension [packages](#)

**Questions About R**

- If you have questions about R like how to download and install the software, or what the license terms are, please read our [answers to frequently asked questions](#) before you send an email.

**What are R and CRAN?**

R is 'GNU S', a freely available language and environment for statistical computing and graphics which provides a wide variety of statistical and graphical techniques: linear and nonlinear modelling, statistical tests, time series analysis, classification, clustering, etc. Please consult the [R project homepage](#) for further information.

CRAN is a network of ftp and web servers around the world that store identical, up-to-date, versions of code and documentation for R. Please use the CRAN [mirror](#) nearest to you to minimize network load.

# Help and Reference

## Zetaris related questions

Zetaris Channel on Slack or grab one of the team

## General questions

General Channel on Slack

All reference and user guides

<http://cloudfabric.zetaris.com/get-informed/>

# SAS



MELBOURNE  
BUSINESS  
ANALYTICS  
DATATHON



MELBOURNE  
BUSINESS  
SCHOOL

# SAS® RESOURCES

## WHAT ANALYTICS TECHNOLOGY WILL BE AVAILABLE TO THE DATATHON PARTICIPANTS?

SAS' industry recognized, open source integrated analytics platform, SAS Viya will be available to the Datathon participants, including; SAS Visual Analytics, SAS Visual Statistics & SAS Visual Data Mining and Machine Learning

## HOW CAN I LEARN ABOUT AND ACCESS SAS FOR FREE AFTER THE DATATHON?

Check out the SAS Video Portal and the tutorial library – [video.sas.com](http://video.sas.com)

Also, SAS provides a range of free eLearning programs – [www.sas.com/freetraining](http://www.sas.com/freetraining)

Plus, you can view or signup for free webinars – [www.sas.com/webinars](http://www.sas.com/webinars)

And select one of the free SAS eBooks – [www.sas.com/books](http://www.sas.com/books)

Check out the FREE SAS trials – [www.sas.com/trials](http://www.sas.com/trials)

Get access to SAS Viya for Learners – [www.sas.com/en\\_us/software/viya-for-learners.html](http://www.sas.com/en_us/software/viya-for-learners.html)

Download SAS University Edition to access SAS for FREE – [www.sas.com/universityedition](http://www.sas.com/universityedition)

## ACCESSING ARTIFICIAL INTELLIGENCE

What is AI – [www.sas.com/artificialintelligence](http://www.sas.com/artificialintelligence)

What is AI from SAS - [www.sas.com/ai](http://www.sas.com/ai)

Want to learn more – <http://video.sas.com/category/videos/sas-visual-data-mining-and-machine-learning>



# SAS® RESOURCES (cont.)

## IF I'M A STUDENT CAN I JOIN A SAS COMMUNITY? WHERE CAN I READ MORE ABOUT HOW SAS SUPPORTS STUDENTS?

You can join the SAS Analytics U Community ([https://www.sas.com/en\\_us/learn/academic-programs/resources/sas-university-community.html](https://www.sas.com/en_us/learn/academic-programs/resources/sas-university-community.html))

You can access the SAS Academic Program Student site ([www.sas.com/students](http://www.sas.com/students)) for further information on how SAS supports students.

## HOW DOES MELBOURNE BUSINESS SCHOOL AND SAS COLLABORATE?

Melbourne Business School offers a Master of Business Analytics (<https://mbs.edu/education-development/degreeprograms/masterofbusinessanalytics>), where you will learn SAS and receive a Certificate in Business Analytics from SAS in recognition of your skill in using its world-leading analytics software.



# SAS® Viya™ VLE



## SAS Viya Learning Environment

Instructions to access the SAS Virtual learning Environment are at  
<http://support.sas.com/training/elearn/access.html>

The product activation code for this learning environment is **FS954197059**.

Once you enter the code and accept the terms and conditions you will have access to the environment by selecting MBS Datathon 2019 from your 'My Training' page. The environment will appear like the image below, including information on the Datathon Logistics, the Datathon Challenge Information (Available on the day of the Datathon), How to Tutorials (how to get started, connect and load data), SAS Tool Support (how to use the platform if you're a SAS Programmer or just tech savvy), plus how you can qualify for a SAS Badge.

SAS Badges are new to the Datathon for 2019 and allow you to share your achievement through your social media networks in the form of a digital badge. Also, access to the SAS Viya via a free trial link. So sign up to SAS Viya now and start learning!

## MBS Datathon 2019

Dashboard / Courses / MBS Datathon 2019



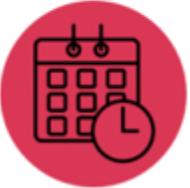
### Welcome to the Melbourne Business Analytics Datathon 2019



The Melbourne Business School's '[Business Analytics Datathon](#)' is aimed at showcasing how advanced analytics can 'Transform decision making' using SAS analytics software and Zetaris' data sharing platform. The final data sets and question will be revealed on the kick off weekend but the data may include sport, financial, retail, loyalty, and health data. The Datathon is aimed at both corporate and student teams with not only advanced analytics and data science capabilities, but the ability to generate and communicate insight to 'Transform decision making'.

The mission of Melbourne Business School's (MBS) Centre for Business Analytics is to 'Transform decision making through business analytics'. The final pitches of the Datathon are being held as the finale of MBS's 'Melbourne Business Analytics Conference' in front of ~900 Australian senior executives where Australia's top analytics talent will showcase what is possible through advanced analytics and actually solve a real business problem that could impact on the lives of all Australians. This portal is designed to support you prior to and during the Datathon. Before the datathon starts, you can gain access to SAS software via the free trial [link](#). Coupled with the How to and SAS Tool tutorials below, you can gain confidence with the technology in order to maximise your time with the data on the day.

Datathon Logistics



Datathon Challenge Informa...



How To Tutorials



SAS Tools Support



Free Software Trials - SAS



Offers for You



SAS Digital Badge





## HOW TO TUTORIALS

### Getting Started

- [Accessing Content in SAS® Drive](#)
- [Creating a Basic Report in SAS Visual Analytics on SAS Viya](#)
- [Getting Started with SAS Visual Statistics 8.2 on SAS Viya](#)
- [Using SAS® Data Studio to Prepare and Transform Data into the Desired Format](#)
- [Getting Started with SAS Studio](#)
- [Writing a Basic SAS Program in SAS Studio](#)
- [SAS Studio Keyboard Shortcuts](#)
- [Getting Started with the Python Interface of SAS Viya](#)

### Connecting to Data and Loading Data

- [Using SAS Data Explorer to Load SAS Data Sets](#)
- [Using SAS Data Explorer to Import Local Files](#)
- [SAS Studio: Accessing SAS Data and SAS Libraries](#)
- [Import Data into SAS Studio](#)
- [SAS Studio: Creating a SAS Table from a CSV File](#)
- [How do I open SAS tables in SAS Studio?](#)
- [SAS Visual Statistics powered by SAS Viya - Loading Data Demo](#)
- [Understanding Caslibs and Loading Data in SAS Viya](#)
- [Data Management Videos](#)

## TOOLS SUPPORT

### SAS Viya

- [SAS Viya Enablement Free e-Learning](#)
- [How To Tutorials Video Library: SAS Viya](#)
- [Communities SAS Viya](#)

User community with multiple subjects around SAS Viya.

- [How To Tutorials: SAS Visual Analytics on SAS Viya](#)
- SAS Visual Analytics on SAS Viya video tutorial library.
- [SAS Viya 3.4 Quick Start - Programming Documentation](#)
- [SAS Viya 3.4: Data Preparation](#)
- [SAS Viya 3.4 & SAS 9.4 Documentation](#)

### SAS Visual Analytics on SAS Viya

- [SAS Visual Analytics Fact Sheet](#)
- [SAS Visual Analytics 8.3: User's Guide](#)
- [Communities SAS Visual Analytics](#)

# SAS® Digital Badging



## Share your achievement with a digital badge!

Your professional skills tell a unique story about you. SAS digital badges illustrate and verify that story. With real-time verification, colleagues and potential employers have a clear view of what you've achieved through participation in this Datathon. You can share your SAS badge on email signatures, digital résumés and social media, including LinkedIn, Facebook and Twitter. The digital images contain verified metadata that confirms your accomplishments.

## How do I get one?

- After completing the datathon, you will receive an email from Acclaim, SAS' digital badge partner, inviting you to claim your badge.
- Click the link in the email.
- Create an account on the Acclaim site.
- Claim your badge and start sharing



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# SAS® Support

Find us on Slack – SAS Channel

Find us at the event

Don't forget the online training

<http://support.sas.com/training/elearn/access.html> (**FS954197059**)



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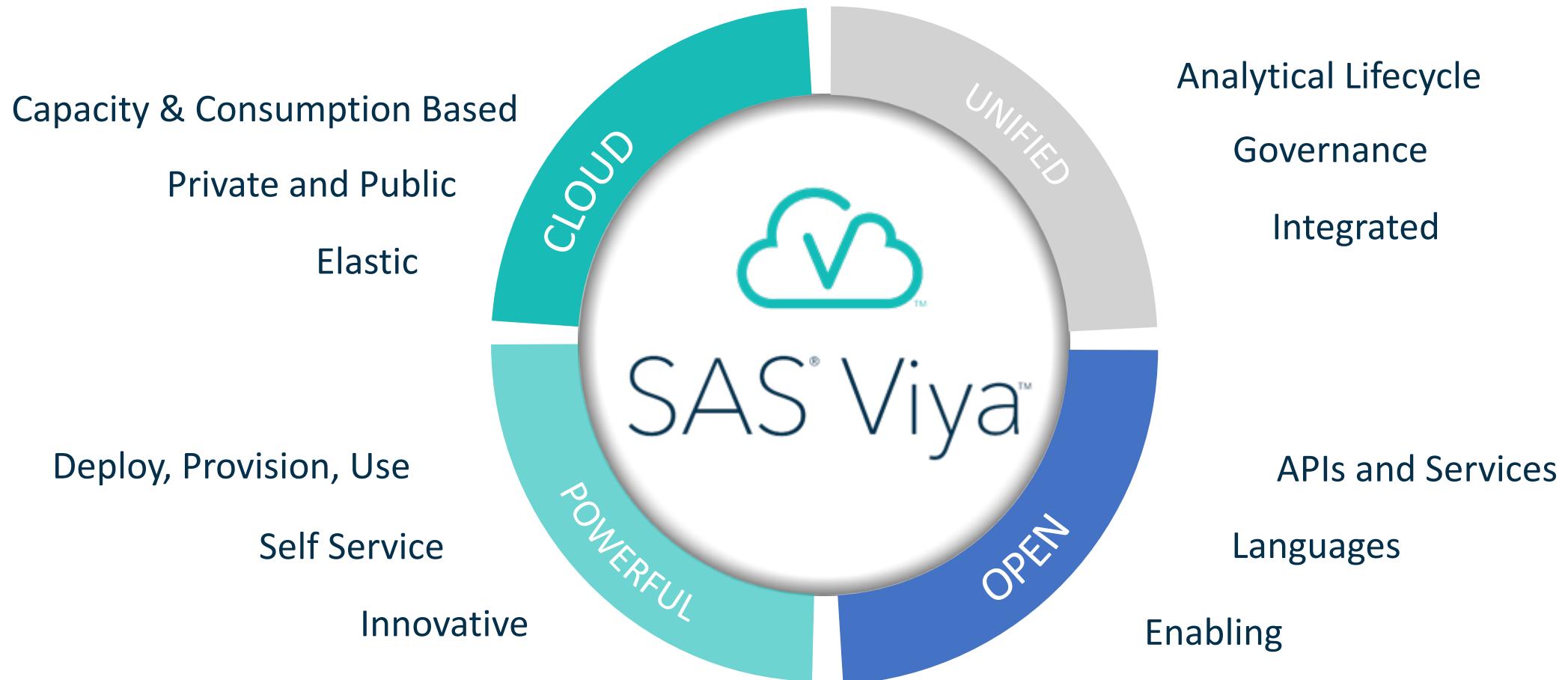


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SAS® Viya™



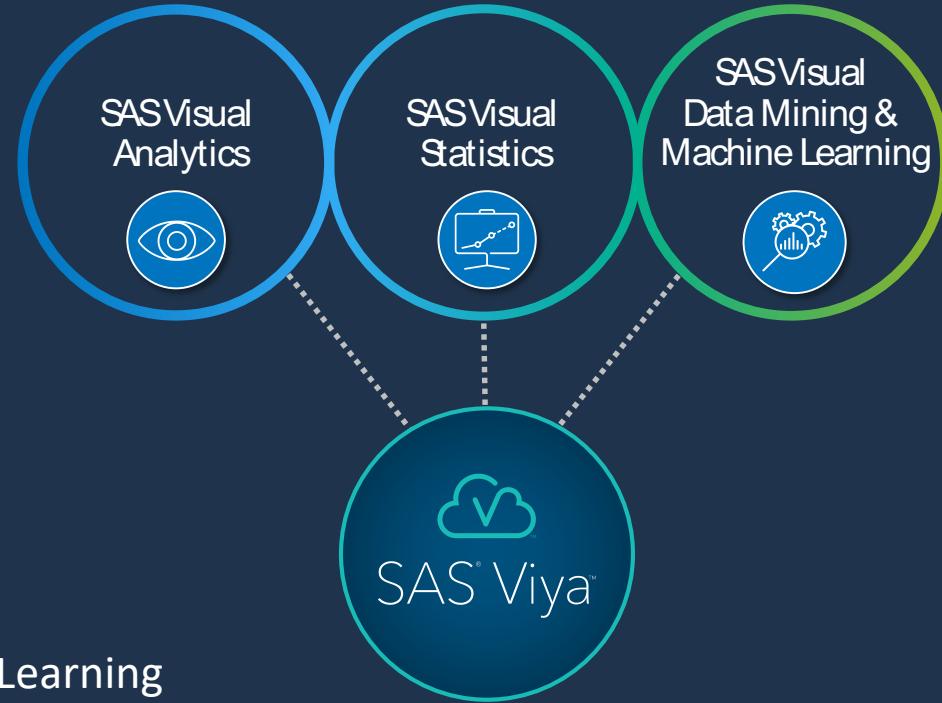
SAS® Viya™  
Our digital transformation  
to power the analytics economy





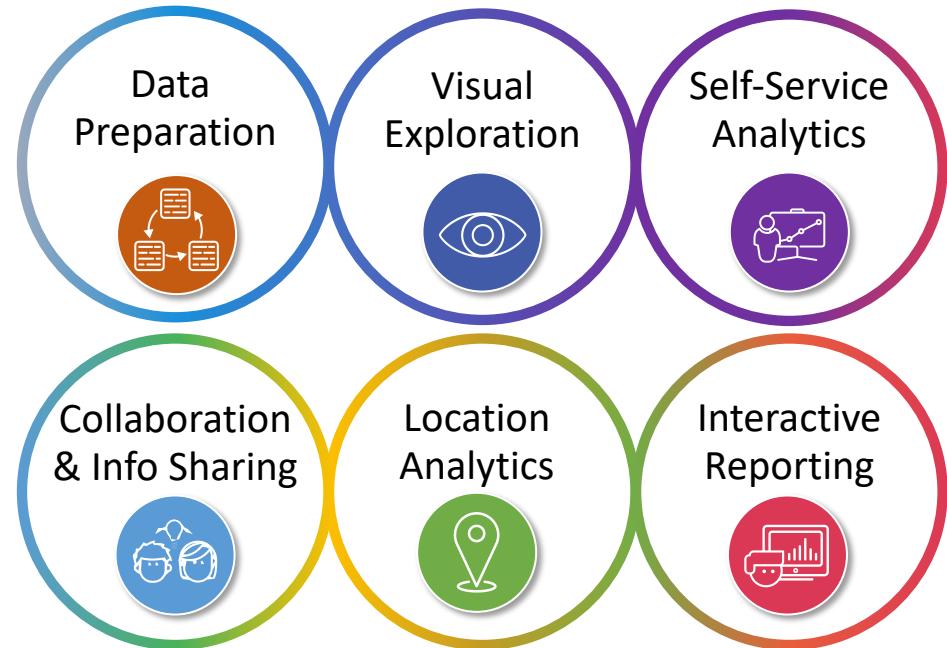
# SAS® Viya™

SAS Visual Analytics, SAS Visual Statistics, SAS Visual Data Mining & Machine Learning



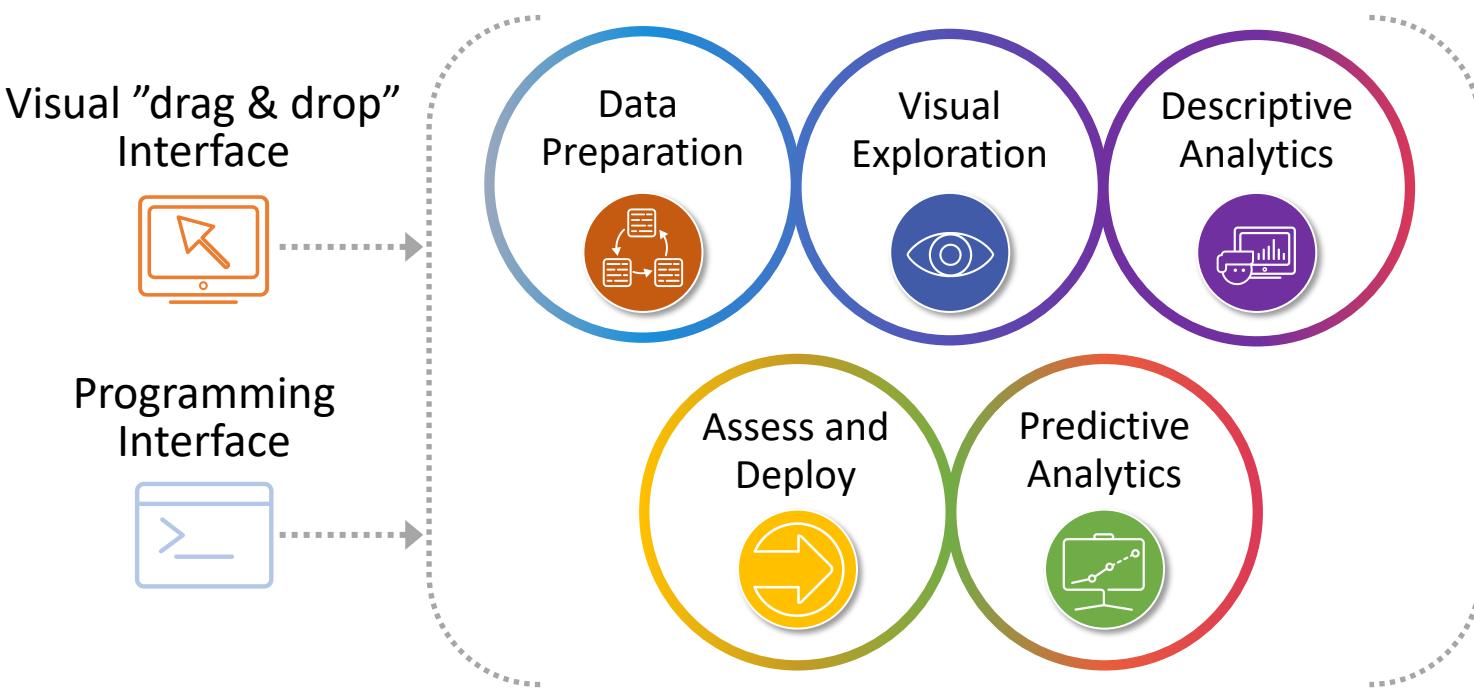
# SAS® Visual Analytics

From a content creation standpoint, SAS Visual Analytics supports self-service data preparation, visual discovery, interactive reporting, and dashboards--as well as easy-to-use analytics



# SAS® Visual Statistics

SAS Visual Statistics is an add-on to SAS Visual Analytics. SAS Visual Analytics provides the basic data preparation, interactive reporting and visual data exploration capabilities to answer what is happening and why did it happen. Together with SAS Visual Statistics, it will address the data exploration and interactive model development stages of the analytics lifecycle





# SAS® Visual Data Mining & Machine Learning

## SAS® Visual Data Mining and Machine Learning

Try

The screenshot shows the SAS Studio interface. On the left is a navigation sidebar with sections like 'SAS Studio', 'Server Files and Folders', 'Tasks and Utilities', 'My Tasks', 'Prepare and Explore', 'Unsupervised Learning', 'Supervised Learning', 'Evaluate and Implement', 'Compute', 'Snippets', 'Libraries', and 'File Shortcuts'. The main workspace displays a 'Decision Tree - Job' titled 'Dec Tree Screenshots'. It includes tabs for 'Settings', 'Code/Results', 'Data', 'Options', 'Output', and 'Information'. Under 'METHODS', there are sections for 'Specify decision tree parameters' (with 'Select decision tree parameters by optimization (Auto-Tune)' checked), 'Auto-Tune' (warning about processing time), 'Splitting a Node' (minimum observations for a leaf set to 5), and 'Pruning a Tree' (pruning method set to 'No pruning (default)'). Under 'PLOTS', it lists 'Selected plots' (Whole tree, Zoomed tree, Depth of the subtree, Depth 3, Variable importance chart) and 'Plots to display' (Frequency distribution, Node size, Node depth, Node height, Node width, Node area, Node volume, Node surface area). The central part of the screen shows a 'Subtree Starting at Node=0' decision tree diagram with various nodes and leaf nodes labeled with frequencies and node IDs. A legend at the bottom right indicates 'Fit Statistics for Selected Tree' with columns for 'Number', 'Misclassification', and 'Pct.'.

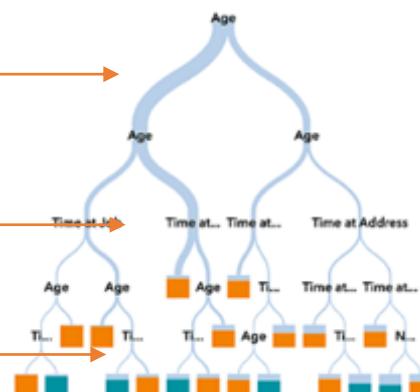
Solve complex analytical problems faster.

Get breakthrough performance from predictive modeling and machine-learning capabilities running on SAS® Viya™, our new in-memory platform. In-memory data persistence eliminates the need to load data multiple times during iterative analysis. Multiple users can collaborate easily, exploring the same raw data and building models simultaneously. You'll measure processing time for analytical modeling in seconds or minutes – not hours – and find solutions to challenging problems faster than ever.

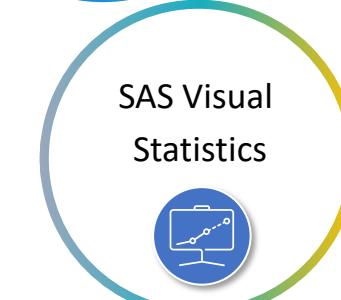
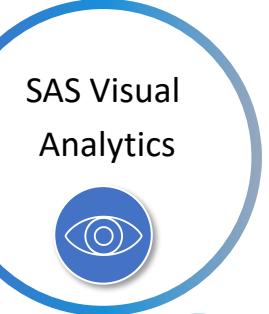
# Increase the Openness of the SAS® Platform



## Programming Interfaces



## API Interfaces



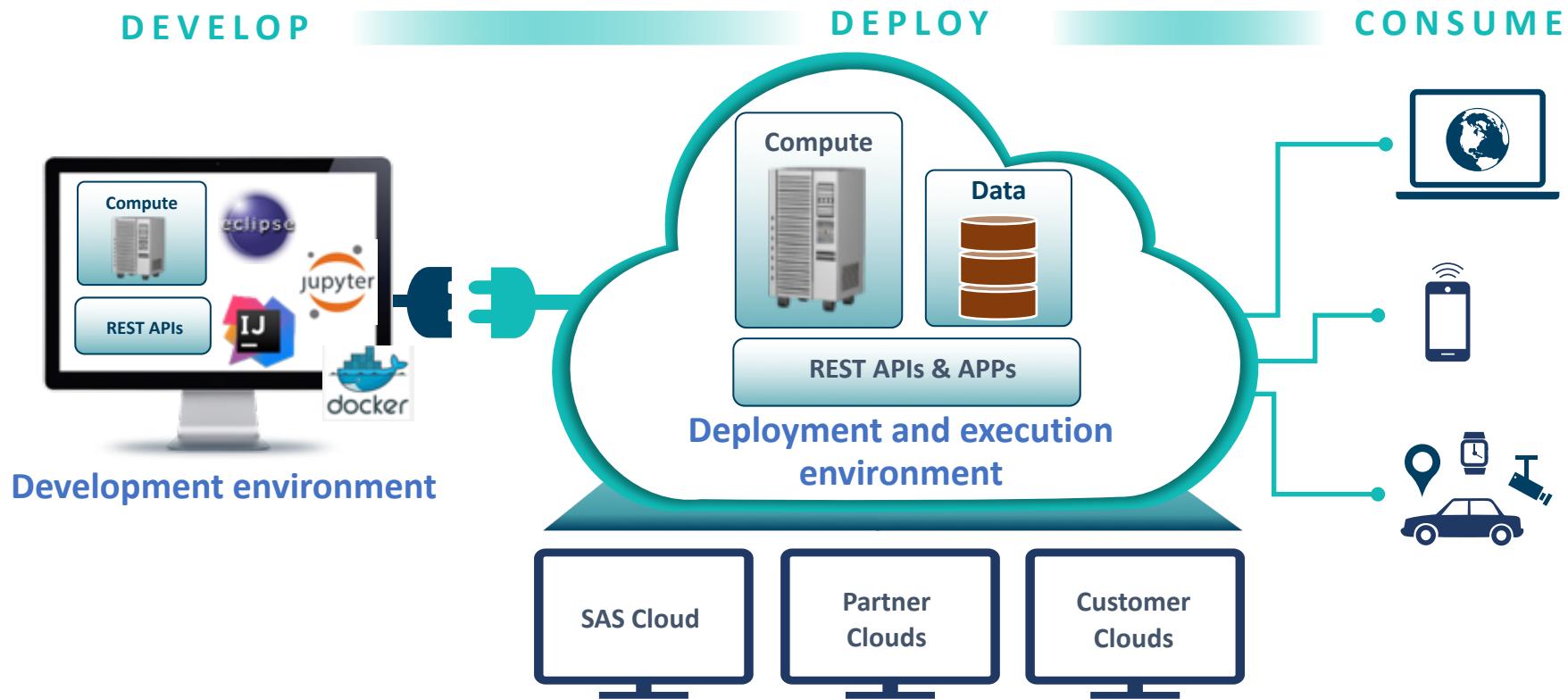


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# An Open API Cloud Platform



# Microsoft



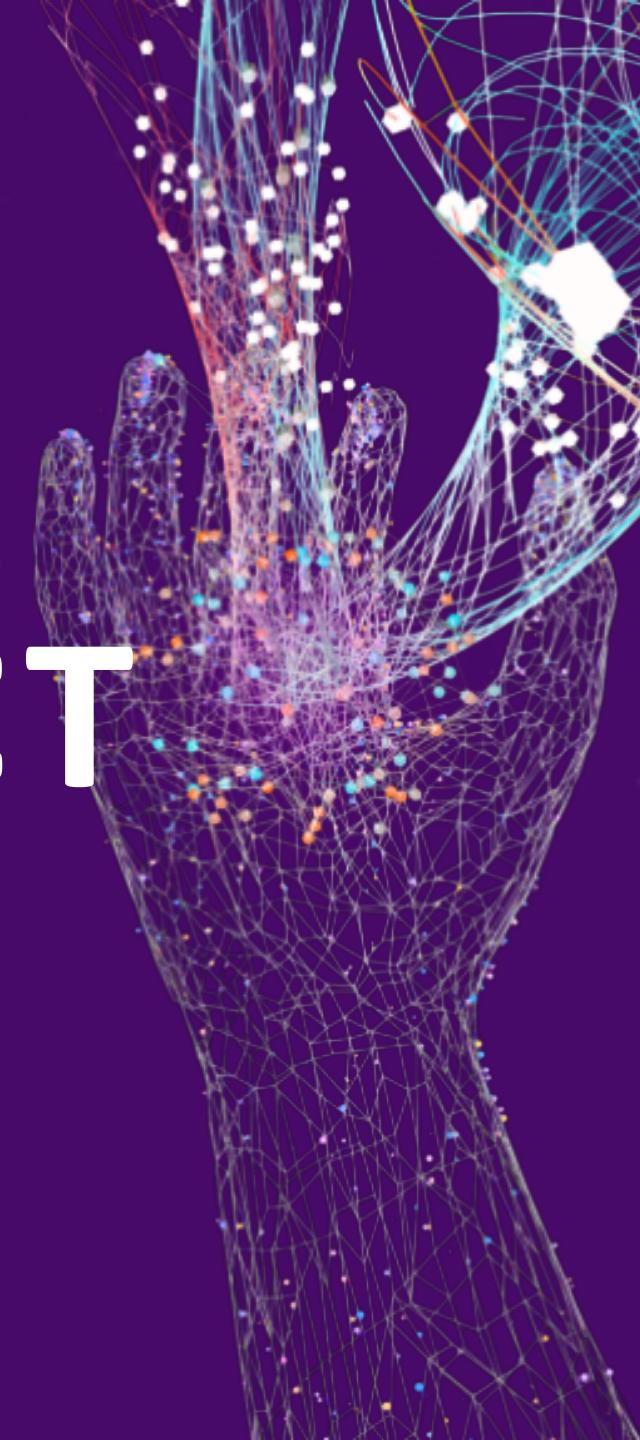
# Presentation advice



LACHLAN HARDISTY

# PITCH PERFECT

Pitch to win





# AGENDA

## Topics to be Covered

- Introduction
- Pitch Structure
- Detailed information
- Positive affirmations

“

An Urgent Message

KEEP YOUR PITCH SHORT, SIMPLE, AND  
SPECIFIC.  
DON'T RAMBLE!

”

---



# Pitch Structure

TITLE

PROBLEM/ OPPORTUNITY

MARKET SIZE

VALUE PROPOSITION

HOW IT CAN BE ACTIONED

INSIGHTS AND ANALYSIS

FOUNDING TEAM



# TITLE PAGE

Welcome

1

AirBed&Breakfast

Book rooms with locals, rather than hotels.

## An Introduction

Summarize your idea in 10 words or less and include your team name and logo.

Create a compelling high level concept.



# Problem/ Opportunity

1

What is the problem you're going to solve?

2

How big is the problem? Put the size of the problem in perspective.

3

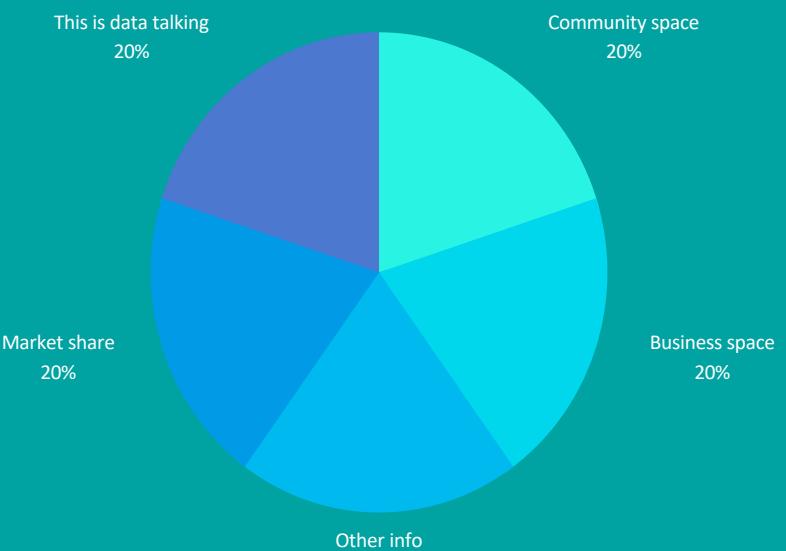
Why should people care?

# Market Size

Data speaks for itself!

The more data you can accumulate, the better!

The point of this slide is to show people that there is a large, untapped market for your idea.



# Wework

## WORK IS CHANGING

Freelancing and small business formation is surging and projected to accelerate

**INDEPENDENT WORKFORCE**  
AS % OF TOTAL U.S. WORKFORCE

**30%**

40 MILLION PEOPLE

**33%**

45 MILLION PEOPLE

**40%**

60 MILLION PEOPLE

2008

2014

2020

# Value Proposition



HOW IS YOUR IDEA GOING TO SOLVE THE  
PROBLEM?

WHAT IS THE VALUE THAT YOUR IDEA WILL  
PROVIDE?

# How it will be actioned

How are you going to make your idea work in practice?



Marketing



Operations



Sales



# Insights and Analysis



Pointed and Specific



Viable and Financial



Various Sources of Data  
Used

AND ABOVE ALL  
INNOVATIVE

# FOUNDING TEAM

Optional

To build a successful team, you need a good idea and capable people. Who is your team? What are they good at? And why are they going to help lead your idea to success?



ERIK HORTUFA

The tech guy



YUKARI FUKISHITA

The leader



MASSI CORTALESA

The numbers gal

# Positive Affirmations



# Datathon Organisers

## Datathon Organiser & Chair



**Anita Arbogast**

Executive Director | Centre for Business Analytics  
Melbourne Business School  
M: +61 466 863 659  
E: A.Arbogast@mbs.edu  
W: [www.cfba.mbs.edu](http://www.cfba.mbs.edu) | [www.mbs.edu](http://www.mbs.edu)

## Datathon Logistics



**Kit Ho**

General Manager  
Vumero Institute  
M: +61 431 335 511  
E: [kit@vumero.com](mailto:kit@vumero.com)  
W: [www.vumeroinstitute.com](http://www.vumeroinstitute.com)



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Q&A