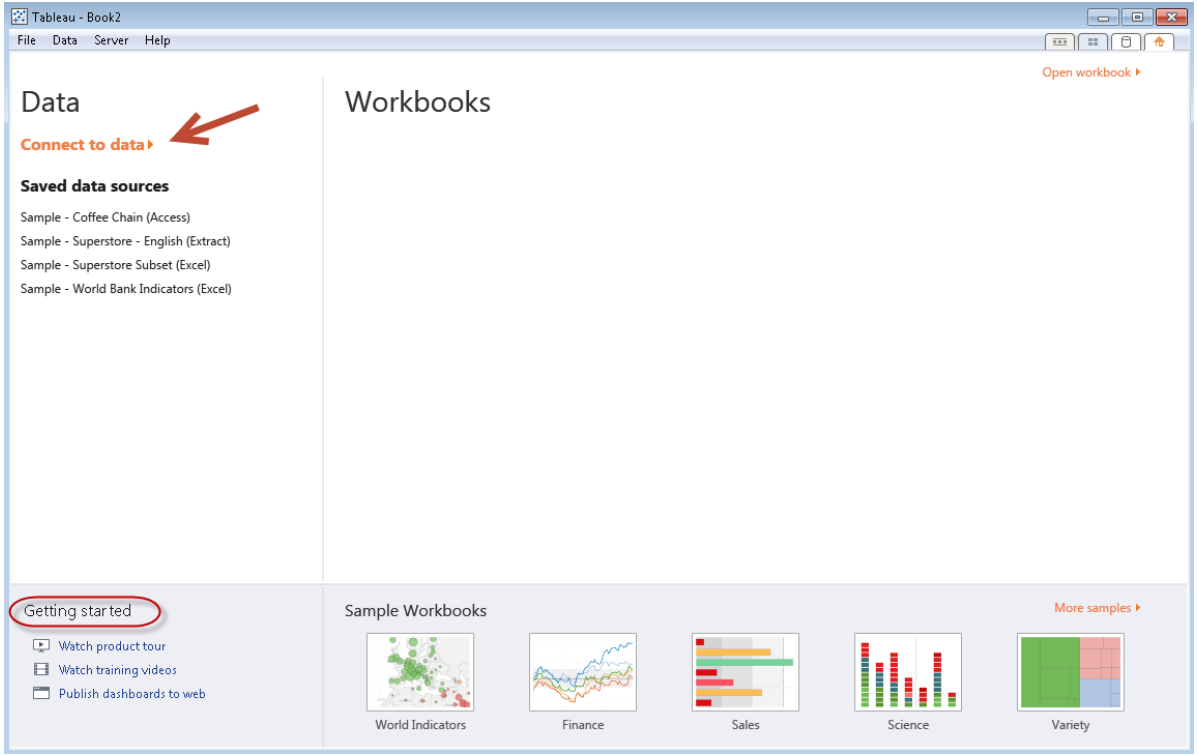
Tableau Desktop 101

An introduction to Tableau Desktop
connecting to a data source on SAP HANA.

UNIVERSITY OF
KENTUCKY®
Institutional Research
& Advanced Analytics



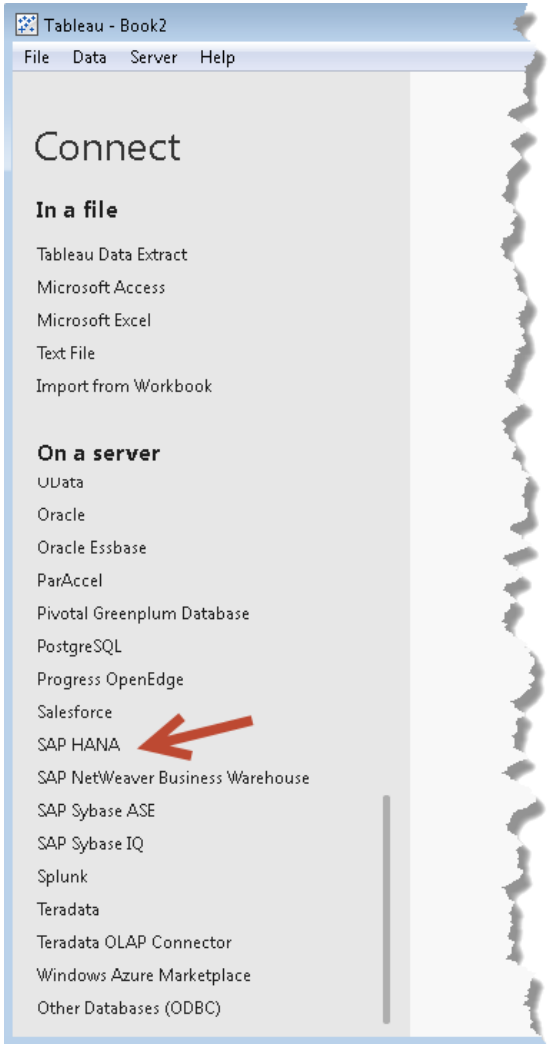
Tableau's Welcome Screen

The first action you will want to do in starting a new workbook is ***Connect to Data.***

Other items of interest on the opening page.

- The large blank area will contain workbooks you have previously opened.

- At the bottom of the screen you can click links to watch training videos and open sample workbooks included with Tableau Desktop.



Desktop files, databases, warehouses, cloud data, or cubes. Tableau is data analysis software that allows you to work with your data no matter where it lives.

Tableau has native connectors to many common databases, such as Microsoft SQL Server, MySQL, Oracle, SAP HANA, and more. These native connectors:

- Are optimized to increase performance
- Leverage the particular capabilities of each data source
- Honor and enforce security protocols
- For the all of your student related data needs you will use SAP HANA.

For the all of your student related data needs you will use **SAP HANA**.

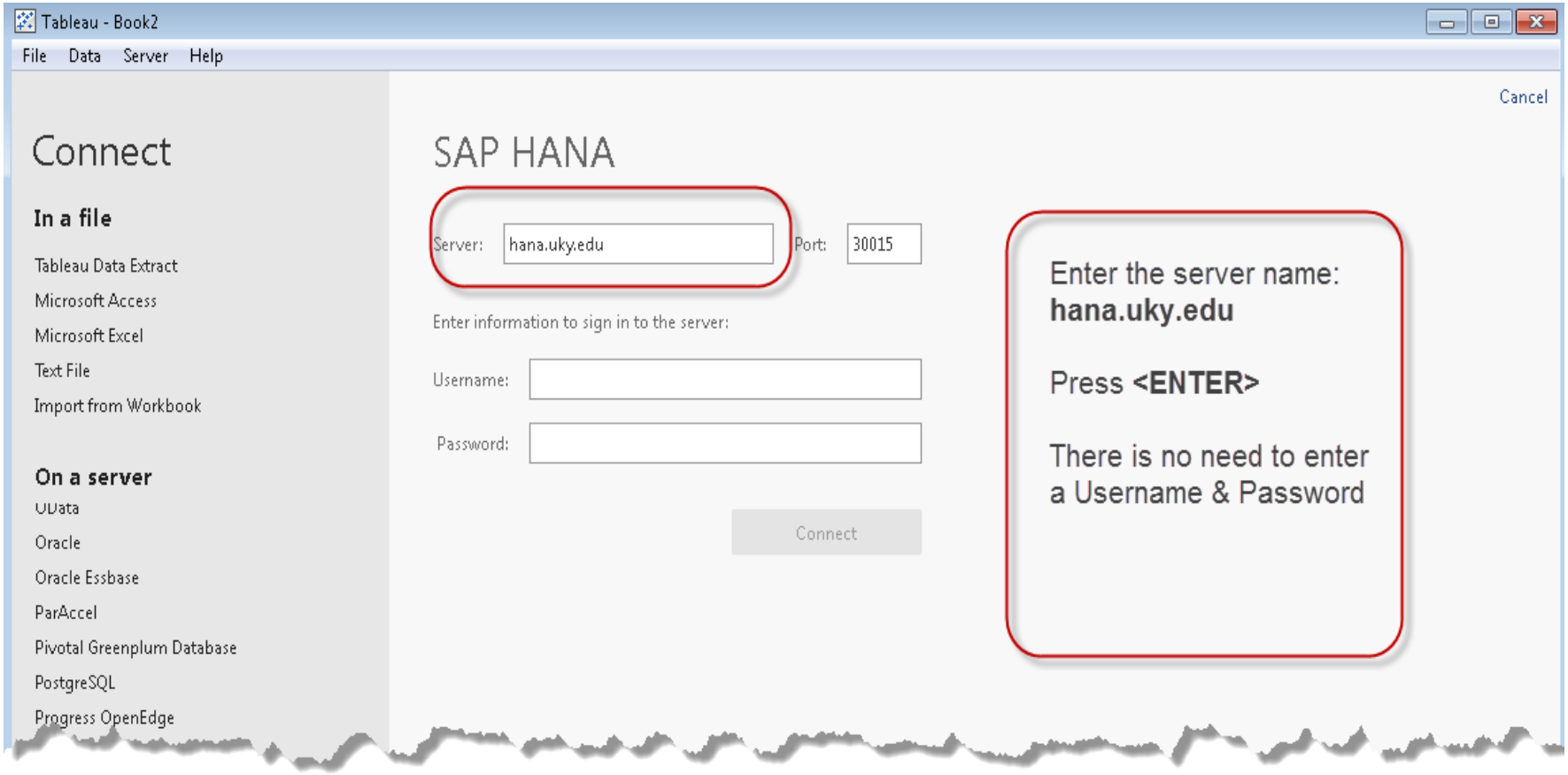
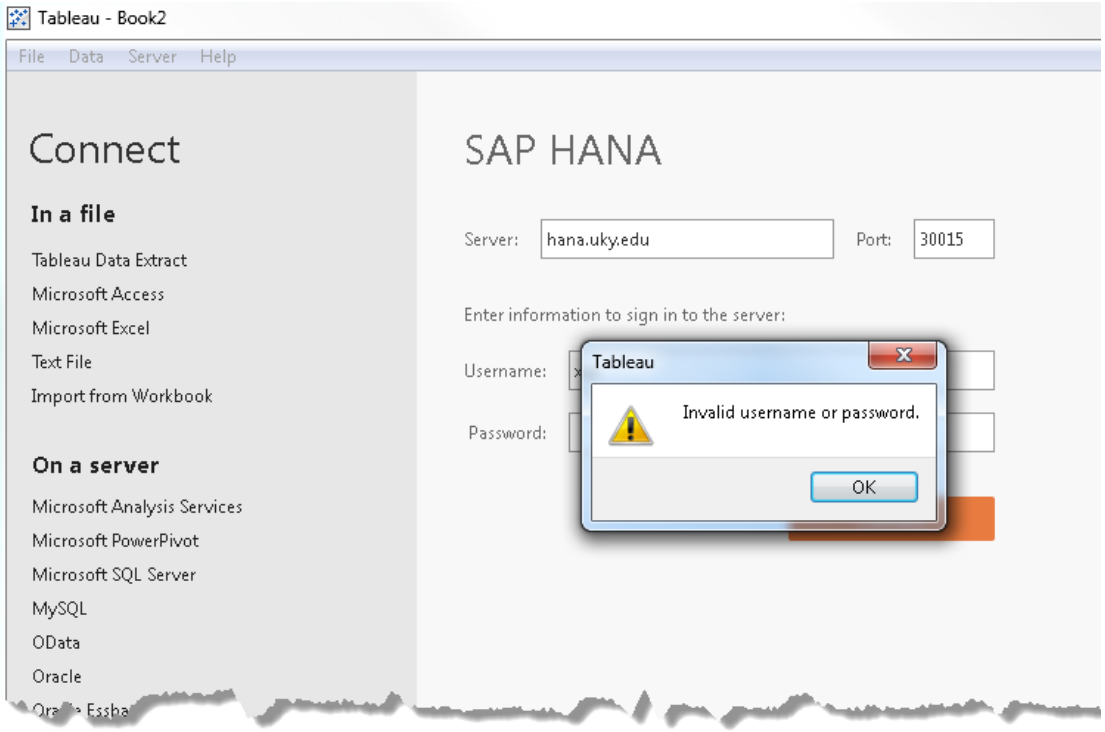


Tableau - Book2
File Data Server Help
Cancel
Connect
In a file
Tableau Data Extract
Microsoft Access
Microsoft Excel
Text File
Import from Workbook
On a server
UData
Oracle
Oracle Essbase
ParAccel
Pivotal Greenplum Database
PostgreSQL
Progress OpenEdge
SAP HANA
Server: hana.uky.edu
Port: 30015
Enter information to sign in to the server:
Username:
Password:
Connect
Enter the server name:
hana.uky.edu
Press <ENTER>
There is no need to enter a Username & Password



If you are unsuccessful to attach directly to SAP HANA. Please check the following:

Have you requested Access to Tableau? See the Resources & Support Page to continue.

Have you performed the HANA Client setup procedures on your computer? Please see the *How to Install HANA Client and setup an ODBC connection to HANA (pdf)* on the Resources & Support Page.

Need additional assistance? Contact the Advanced Analytics Team

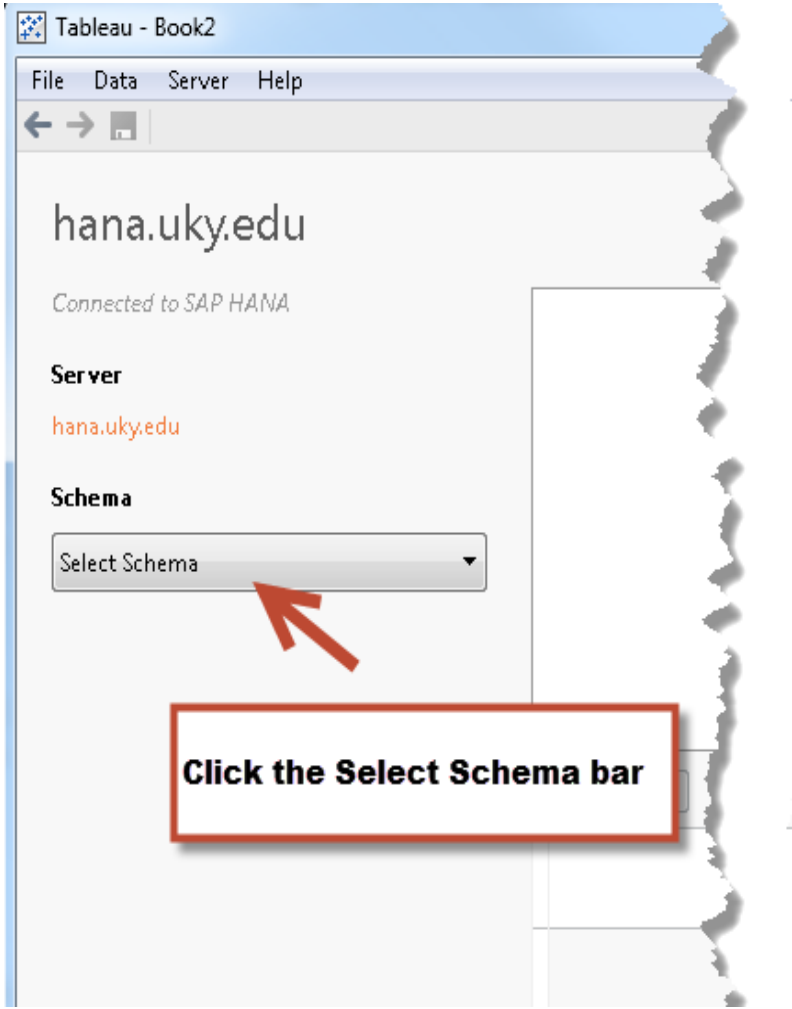


Tableau - Book2
File Data Server Help
hana.uky.edu
Connected to SAP HANA
Server
hana.uky.edu
Schema
Select Schema
Click the Select Schema bar

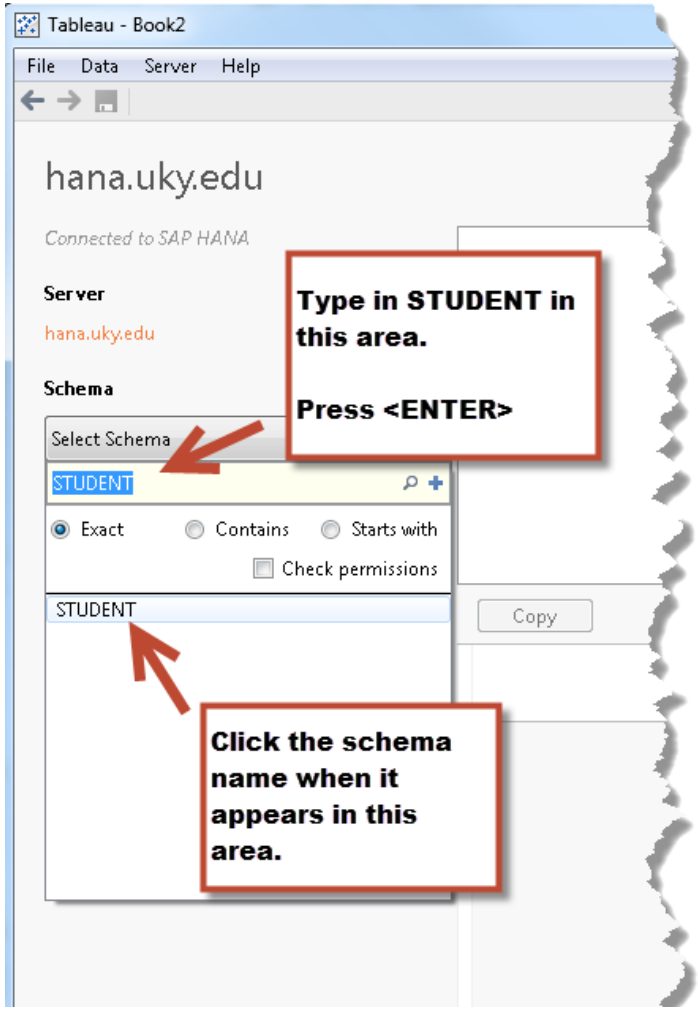


Tableau - Book2
File Data Server Help
hana.uky.edu
Connected to SAP HANA
Server
hana.uky.edu
Schema
Select Schema
STUDENT
Exact
Contains
Starts with
Check permissions
STUDENT
Copy
Type in STUDENT in this area.
Press <ENTER>
Click the schema name when it appears in this area.

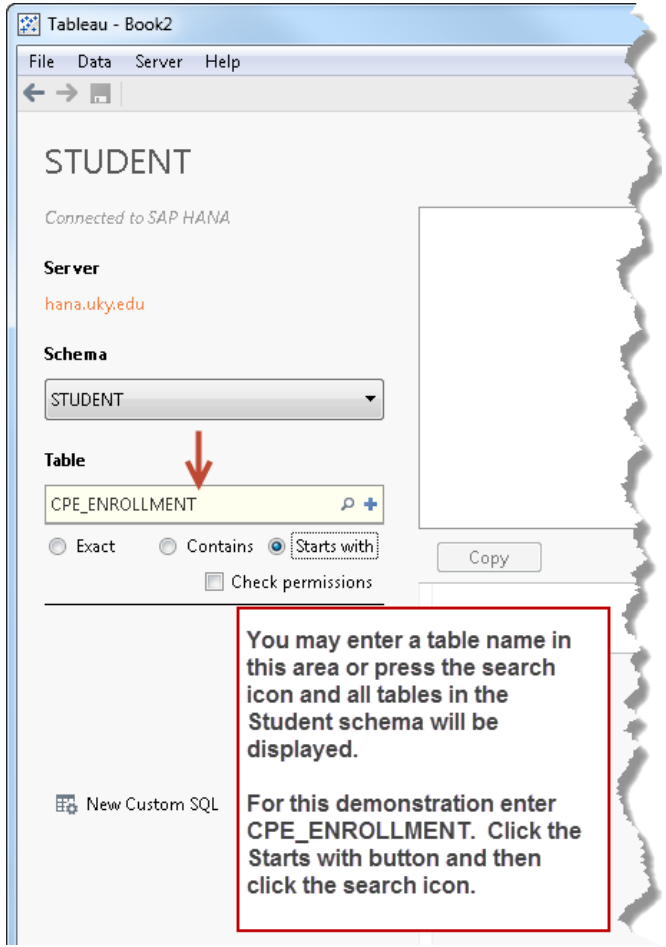


Tableau - Book2
File
Data
Server
Help
STUDENT
Connected to SAP HANA
Server
hana.uky.edu
Schema
STUDENT
Table
CPE_ENROLLMENT
Exact
Contains
Starts with
Check permissions
Copy
New Custom SQL
You may enter a table name in this area or press the search icon and all tables in the Student schema will be displayed.
For this demonstration enter CPE_ENROLLMENT. Click the Starts with button and then click the search icon.

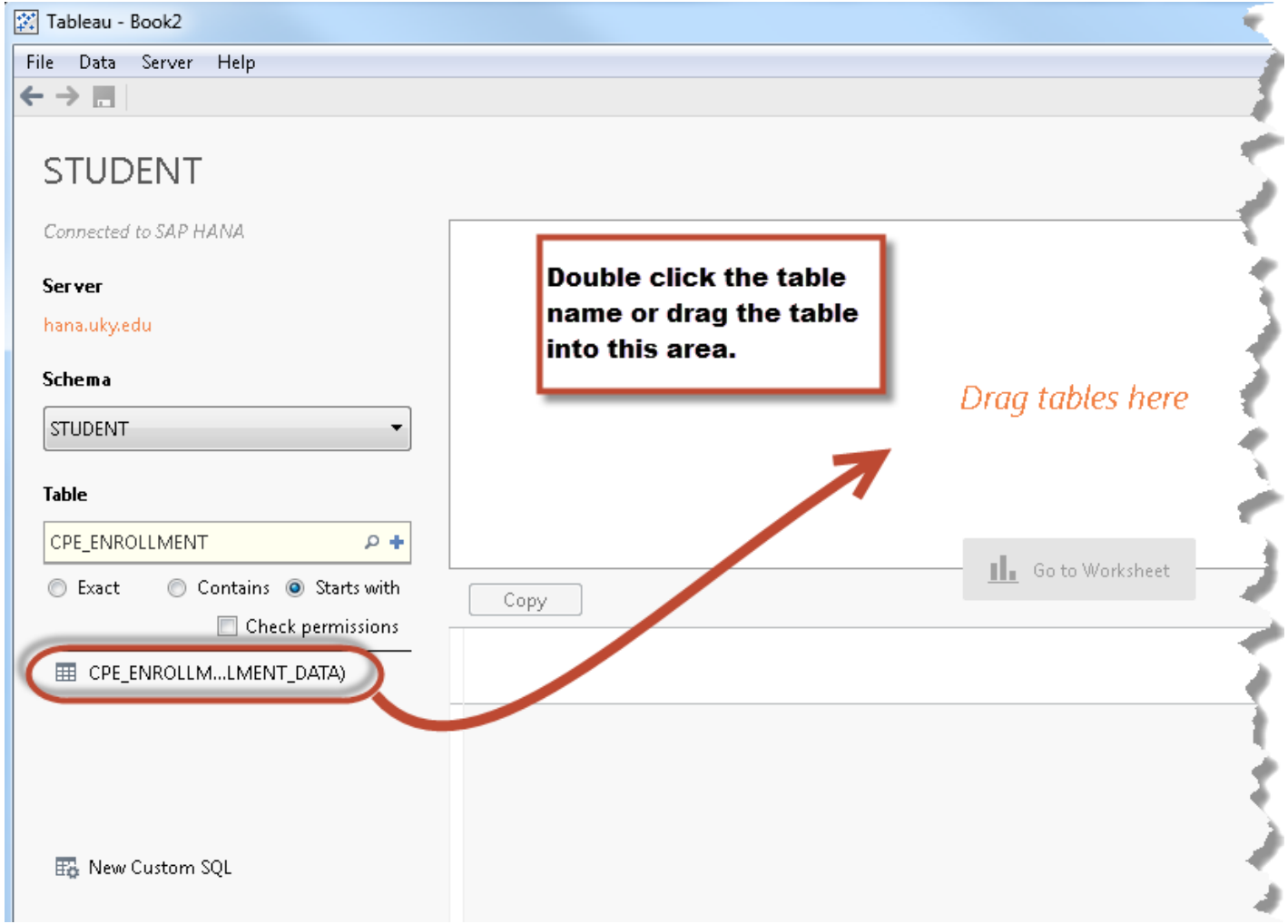


Tableau - Book2
File
Data
Server
Help
STUDENT
Connected to SAP HANA
Server
hana.uky.edu
Schema
STUDENT
Table
CPE_ENROLLMENT
Exact
Contains
Starts with
Check permissions
CPE_ENROLLM...LMENT_DATA)
New Custom SQL
Double click the table name or drag the table into this area.
Drag tables here
Go to Worksheet
Copy

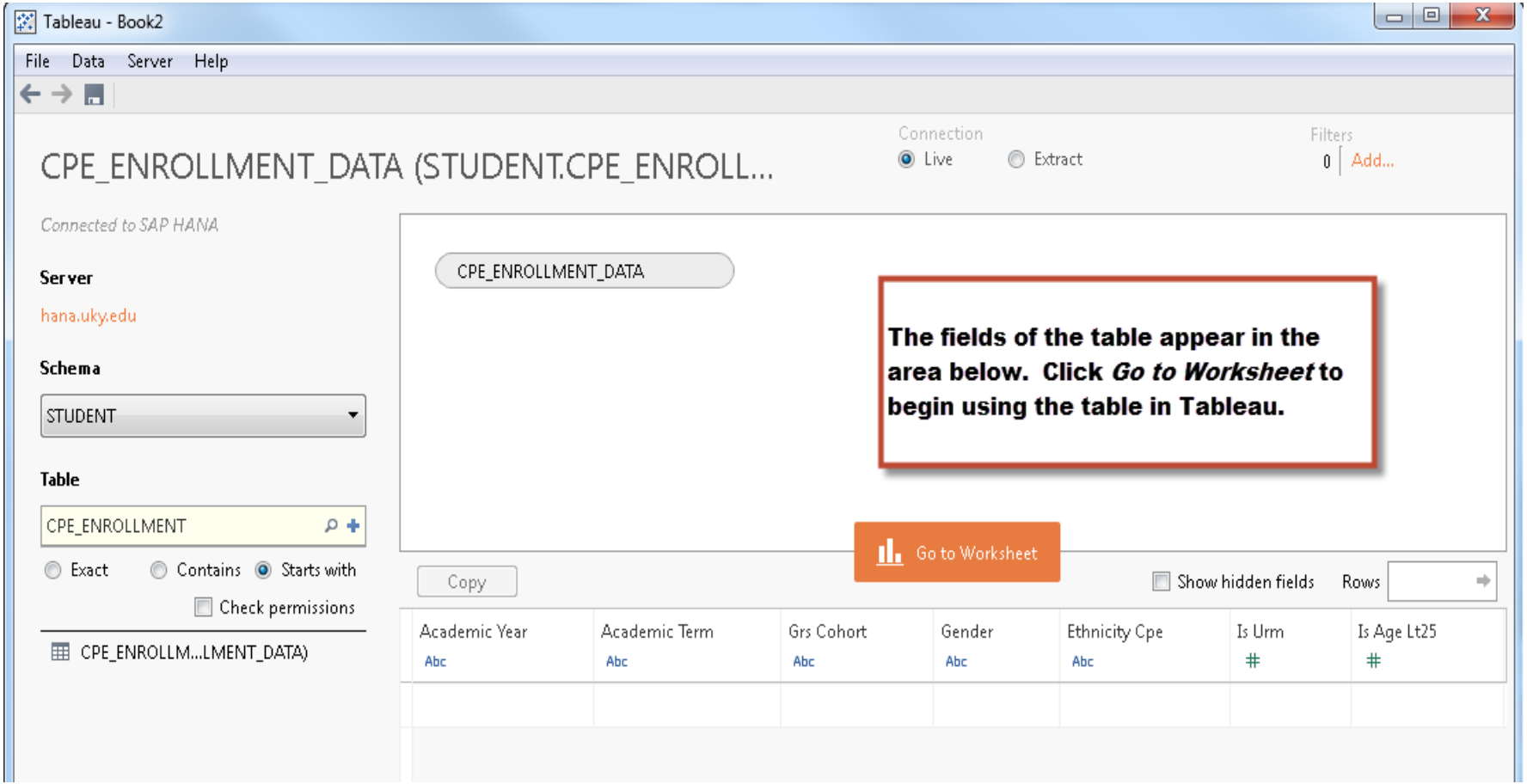
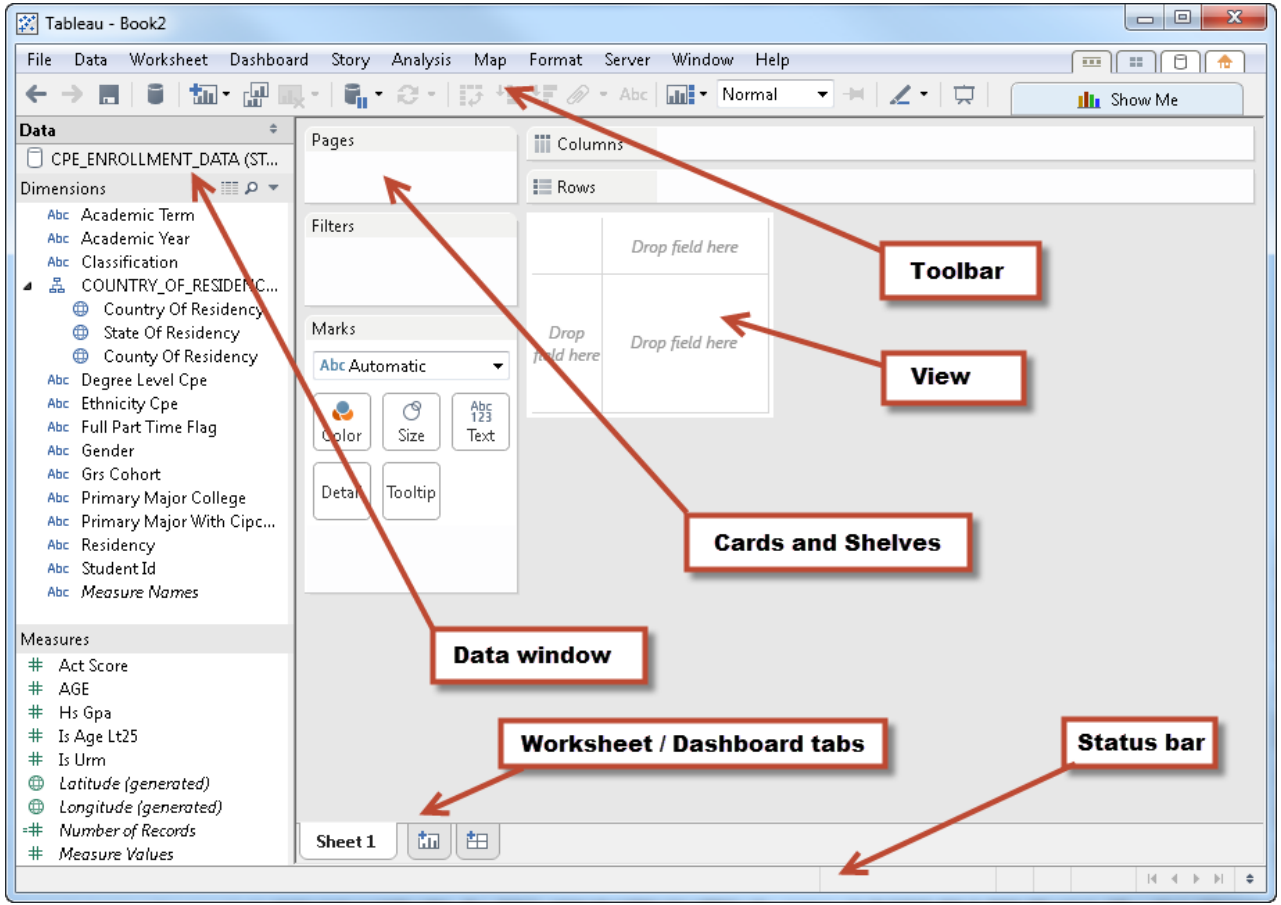


Tableau - Book2
File Data Server Help
CPE_ENROLLMENT_DATA (STUDENT.CPE_ENROLL...
Connection
Live
Extract
Filters
0 Add...
Connected to SAP HANA
Server
hana.uky.edu
Schema
STUDENT
Table
CPE_ENROLLMENT
Exact
Contains
Starts with
Check permissions
CPE_ENROLLM...LMENT_DATA)
CPE_ENROLLMENT_DATA
The fields of the table appear in the area below. Click Go to Worksheet to begin using the table in Tableau.
Go to Worksheet
Copy
Show hidden fields
Rows
Academic Year
Academic Term
Grs Cohort
Gender
Ethnicity Cpe
Is Urm
Is Age Lt25
Abc
#

Navigating the Tableau work area



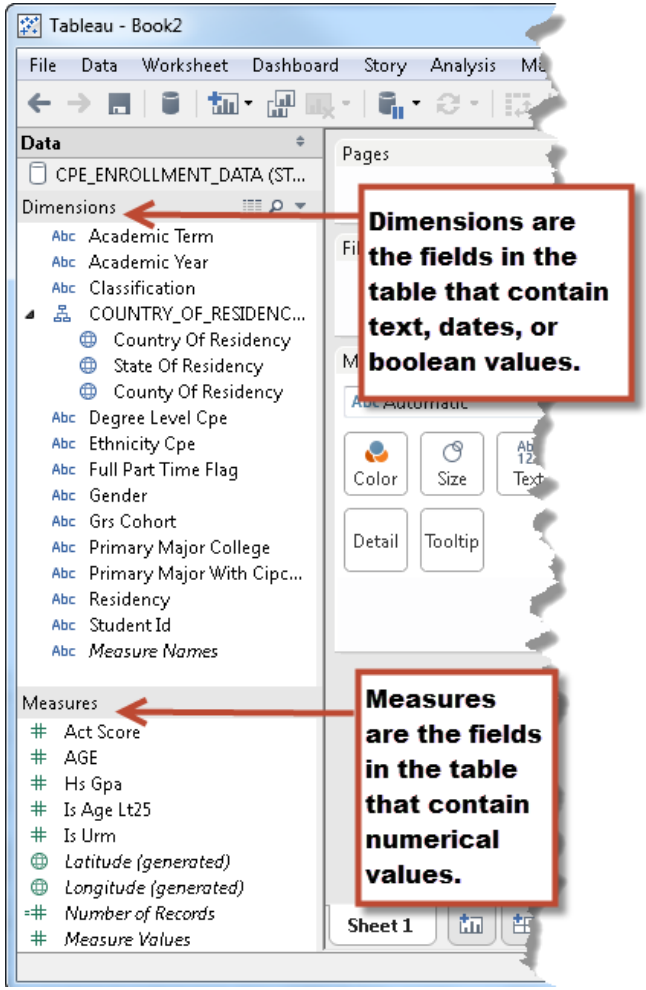


Tableau - Book2
File
Data
Worksheet
Dashboard
Story
Analysis
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Abc Academic Term
Abc Academic Year
Abc Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Abc Degree Level Cpe
Abc Ethnicity Cpe
Abc Full Part Time Flag
Abc Gender
Abc Grs Cohort
Abc Primary Major College
Abc Primary Major With Cipc...
Abc Residency
Abc Student Id
Abc Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Color
Size
Detail
Tooltip
Sheet 1
Dimensions are the fields in the table that contain text, dates, or boolean values.
Measures are the fields in the table that contain numerical values.

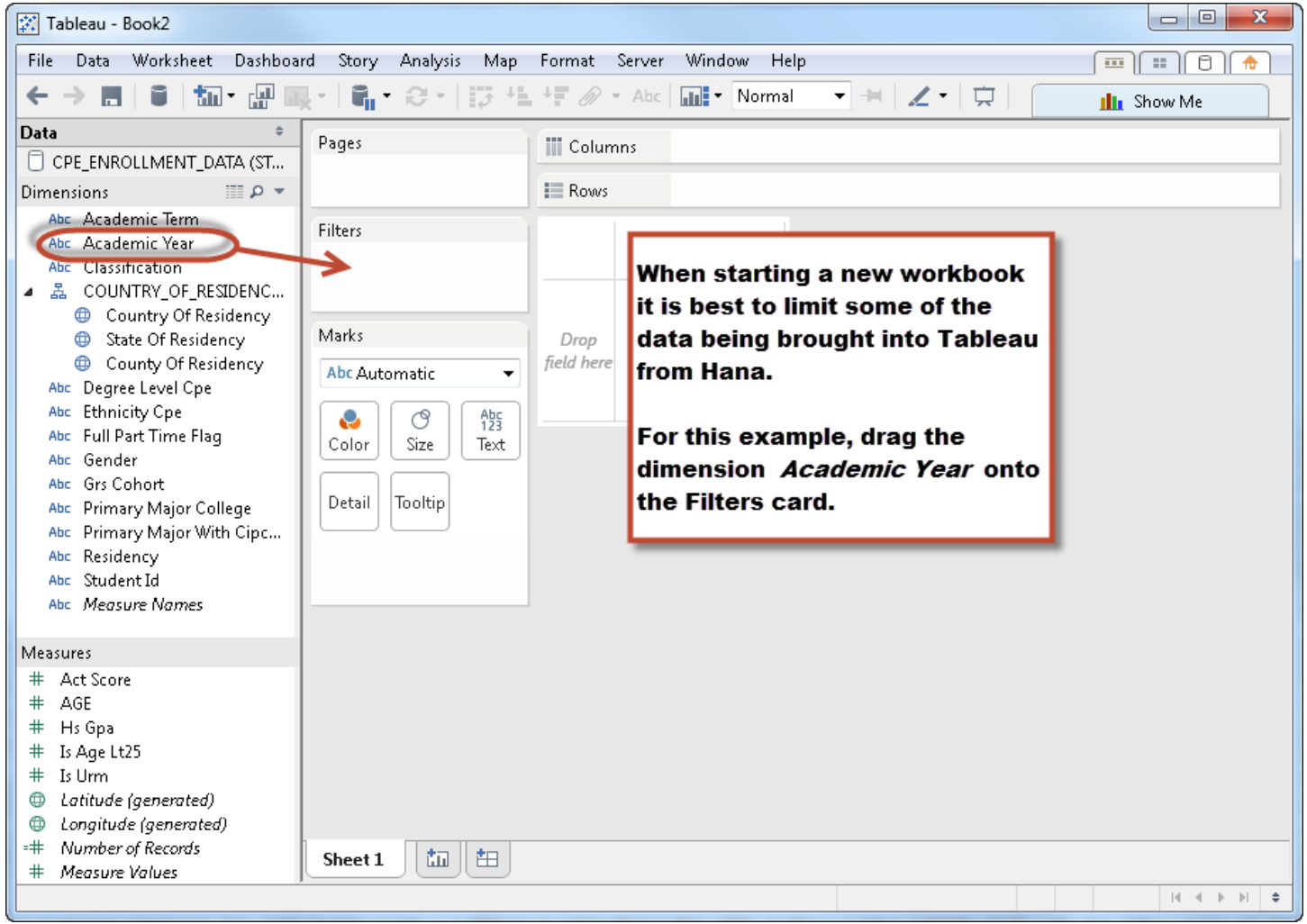
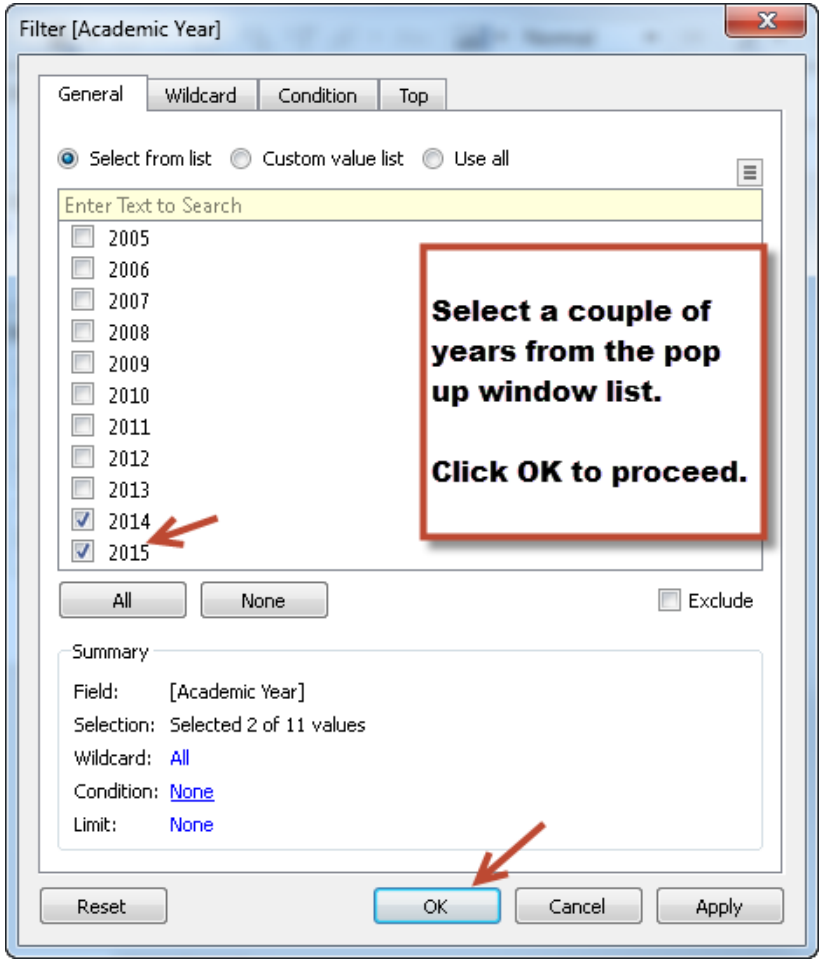


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Normal
Show Me
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Academic Term
Academic Year
Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Degree Level Cpe
Ethnicity Cpe
Full Part Time Flag
Gender
Grs Cohort
Primary Major College
Primary Major With Cipc...
Residency
Student Id
Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Filters
Marks
Automatic
Color
Size
Text
Detail
Tooltip
Columns
Rows
Drop field here
When starting a new workbook it is best to limit some of the data being brought into Tableau from Hana.
For this example, drag the dimension Academic Year onto the Filters card.
Sheet 1


Filter [Academic Year]
General
Wildcard
Condition
Top
Select from list
Custom value list
Use all
Enter Text to Search
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Select a couple of years from the pop up window list.
Click OK to proceed.
All
None
Exclude
Summary
Field: [Academic Year]
Selection: Selected 2 of 11 values
Wildcard: All
Condition: None
Limit: None
Reset
OK
Cancel
Apply

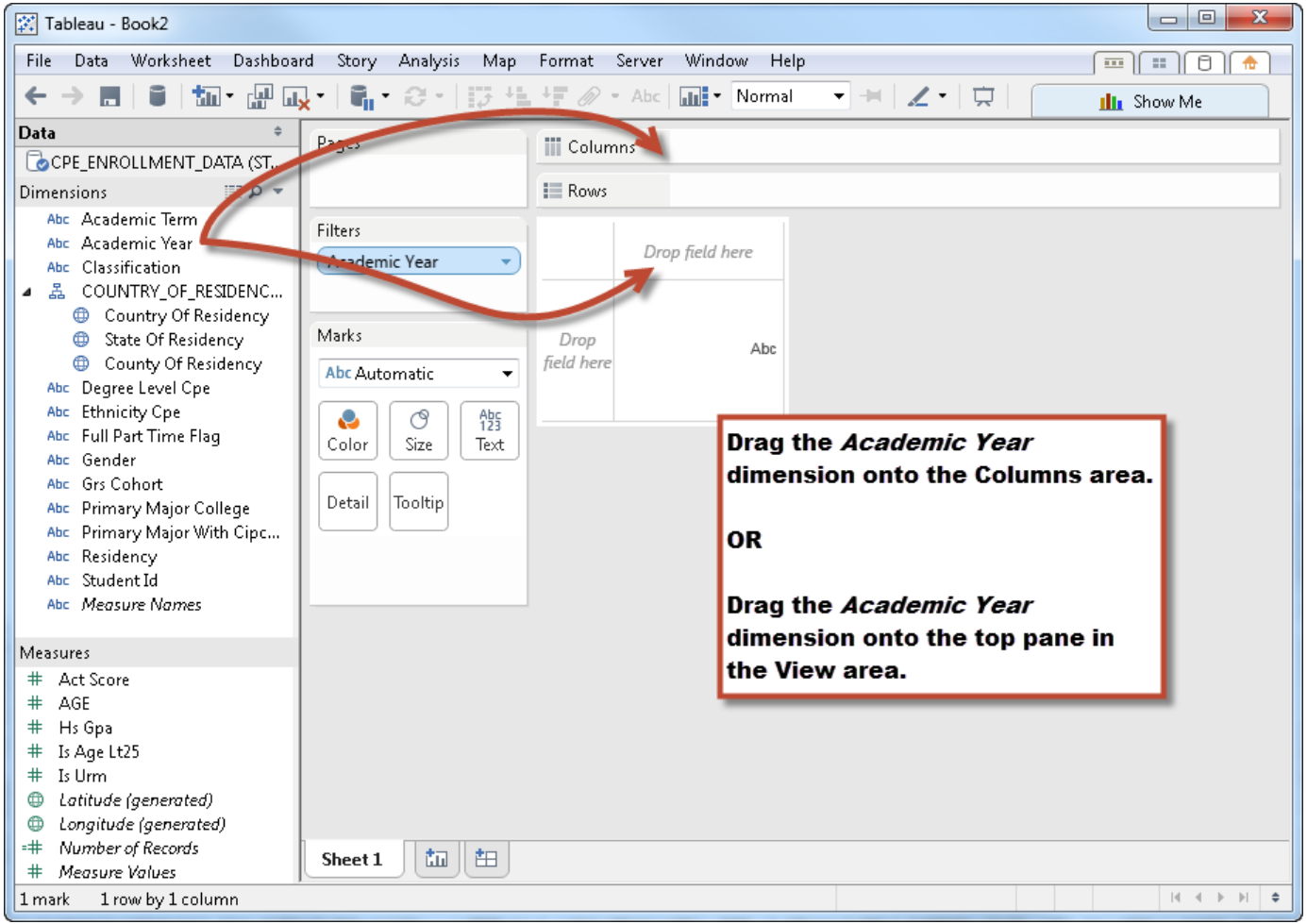


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Normal
Show Me
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Abc Academic Term
Abc Academic Year
Abc Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Abc Degree Level Cpe
Abc Ethnicity Cpe
Abc Full Part Time Flag
Abc Gender
Abc Grs Cohort
Abc Primary Major College
Abc Primary Major With Cipc...
Abc Residency
Abc Student Id
Abc Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Columns
Rows
Filters
Academic Year
Marks
Abc Automatic
Color
Size
Abc 123 Text
Detail
Tooltip
Drop field here
Drop field here
Abc
Drag the Academic Year dimension onto the Columns area.
OR
Drag the Academic Year dimension onto the top pane in the View area.
Sheet 1
1 mark
1 row by 1 column

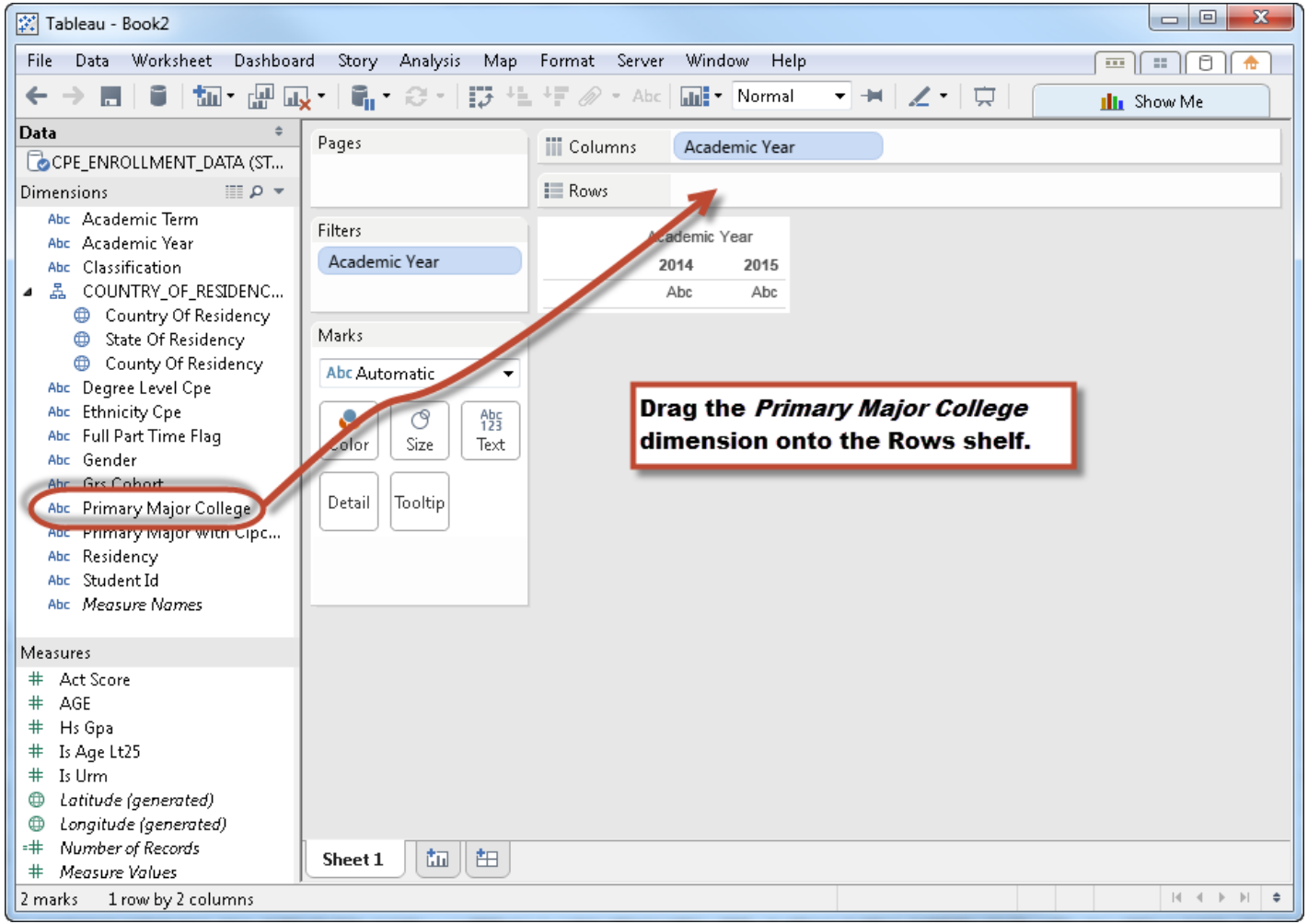


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Normal
Show Me
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Abc Academic Term
Abc Academic Year
Abc Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Abc Degree Level Cpe
Abc Ethnicity Cpe
Abc Full Part Time Flag
Abc Gender
Abc Grs Cohort
Abc Primary Major College
Abc Primary Major With Cipc...
Abc Residency
Abc Student Id
Abc Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Filters
Academic Year
Marks
Abc Automatic
Color
Size
Abc 123 Text
Detail
Tooltip
Columns
Academic Year
Rows
Academic Year
2014
2015
Abc
Abc
Drag the Primary Major College dimension onto the Rows shelf.
Sheet 1
2 marks
1 row by 2 columns

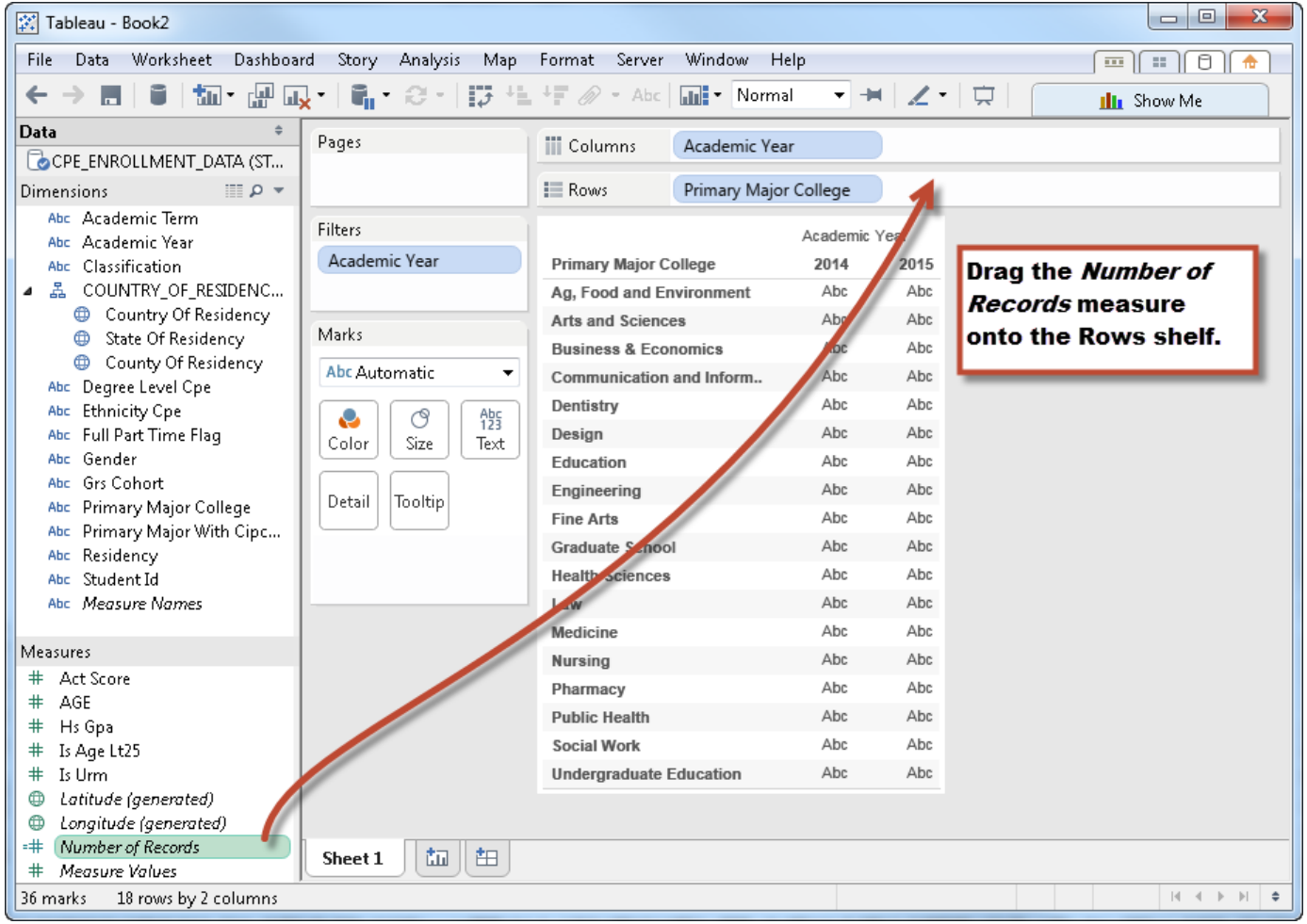


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Normal
Show Me
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Abc Academic Term
Abc Academic Year
Abc Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Abc Degree Level Cpe
Abc Ethnicity Cpe
Abc Full Part Time Flag
Abc Gender
Abc Grs Cohort
Abc Primary Major College
Abc Primary Major With Cipc...
Abc Residency
Abc Student Id
Abc Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Filters
Academic Year
Marks
Abc Automatic
Color
Size
Abc 123 Text
Detail
Tooltip
Columns
Academic Year
Rows
Primary Major College
Academic Year
Primary Major College
2014
2015
Ag, Food and Environment
Arts and Sciences
Business & Economics
Communication and Inform..
Dentistry
Design
Education
Engineering
Fine Arts
Graduate School
Health Sciences
Law
Medicine
Nursing
Pharmacy
Public Health
Social Work
Undergraduate Education
Drag the Number of Records measure onto the Rows shelf.
Sheet 1
36 marks
18 rows by 2 columns

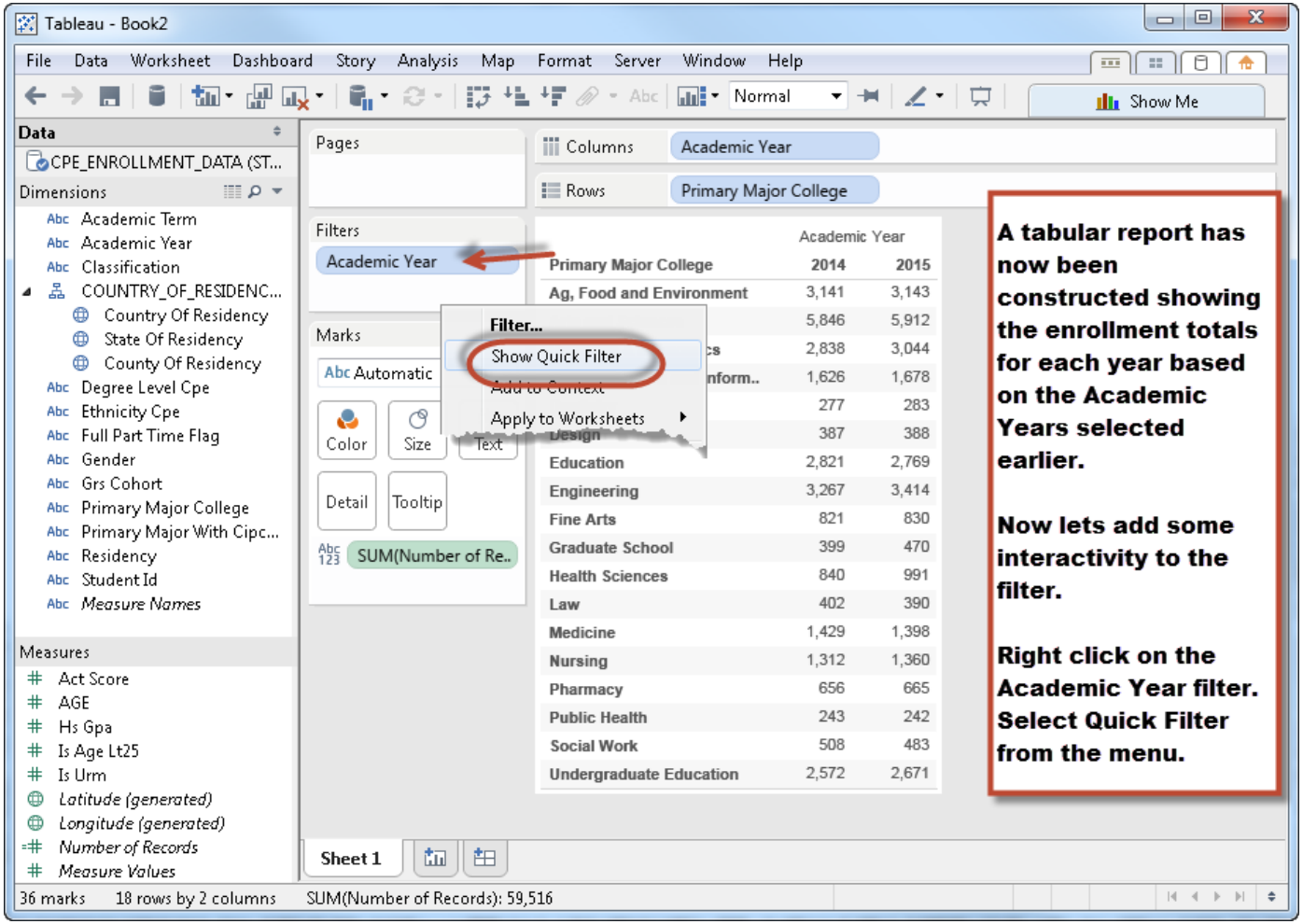


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Normal
Show Me
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Academic Term
Academic Year
Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Degree Level Cpe
Ethnicity Cpe
Full Part Time Flag
Gender
Grs Cohort
Primary Major College
Primary Major With Cipc...
Residency
Student Id
Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Filters
Academic Year
Marks
Automatic
Color
Size
Text
Detail
Tooltip
SUM(Number of Re..
Columns
Academic Year
Rows
Primary Major College
Filter...
Show Quick Filter
Add to Context
Apply to Worksheets
Academic Year
Primary Major College 2014 2015
Ag, Food and Environment 3,141 3,143
5,846 5,912
2,838 3,044
1,626 1,678
277 283
387 388
Education 2,821 2,769
Engineering 3,267 3,414
Fine Arts 821 830
Graduate School 399 470
Health Sciences 840 991
Law 402 390
Medicine 1,429 1,398
Nursing 1,312 1,360
Pharmacy 656 665
Public Health 243 242
Social Work 508 483
Undergraduate Education 2,572 2,671
A tabular report has now been constructed showing the enrollment totals for each year based on the Academic Years selected earlier.
Now lets add some interactivity to the filter.
Right click on the Academic Year filter. Select Quick Filter from the menu.
Sheet 1
36 marks 18 rows by 2 columns SUM(Number of Records): 59,516

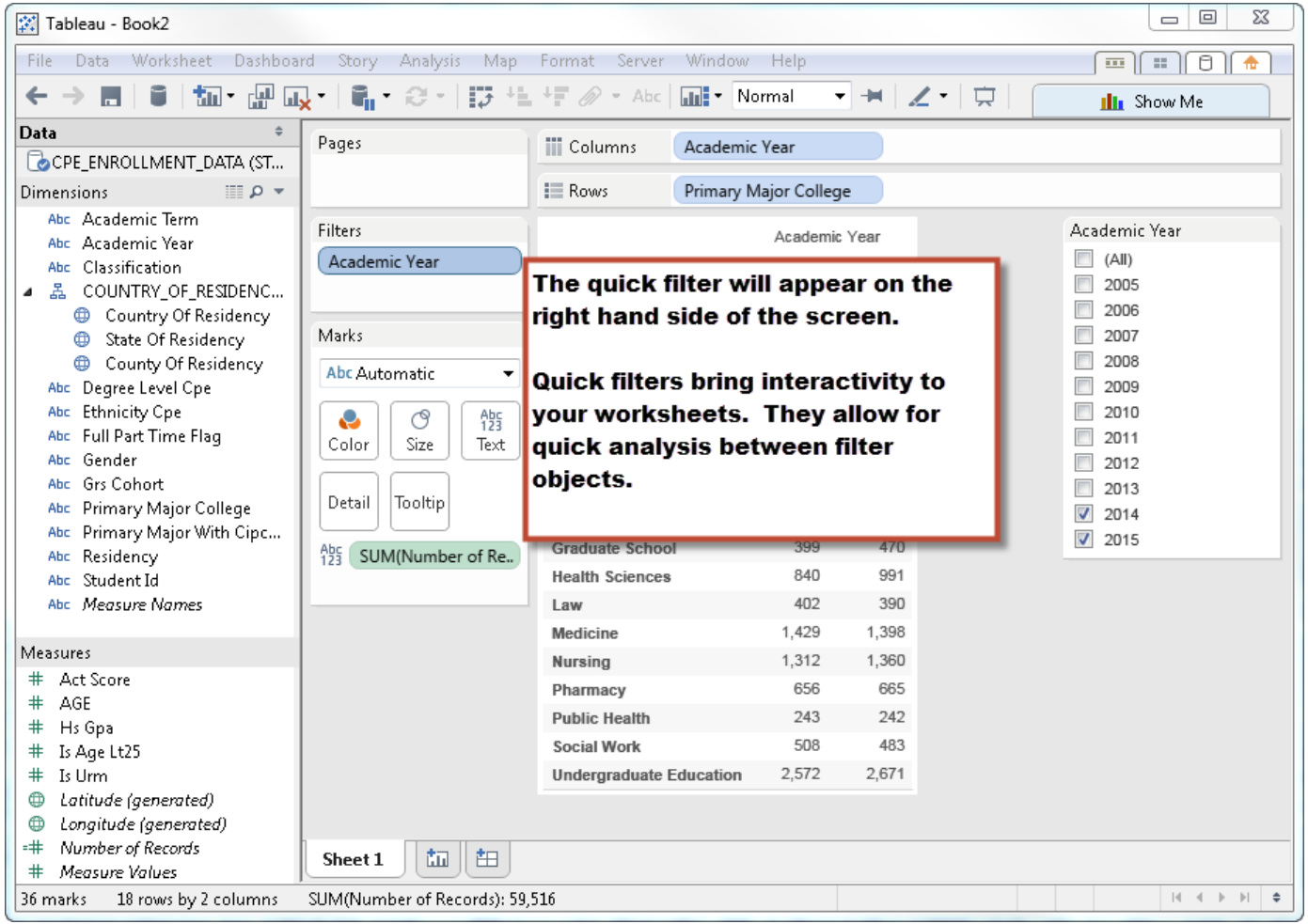
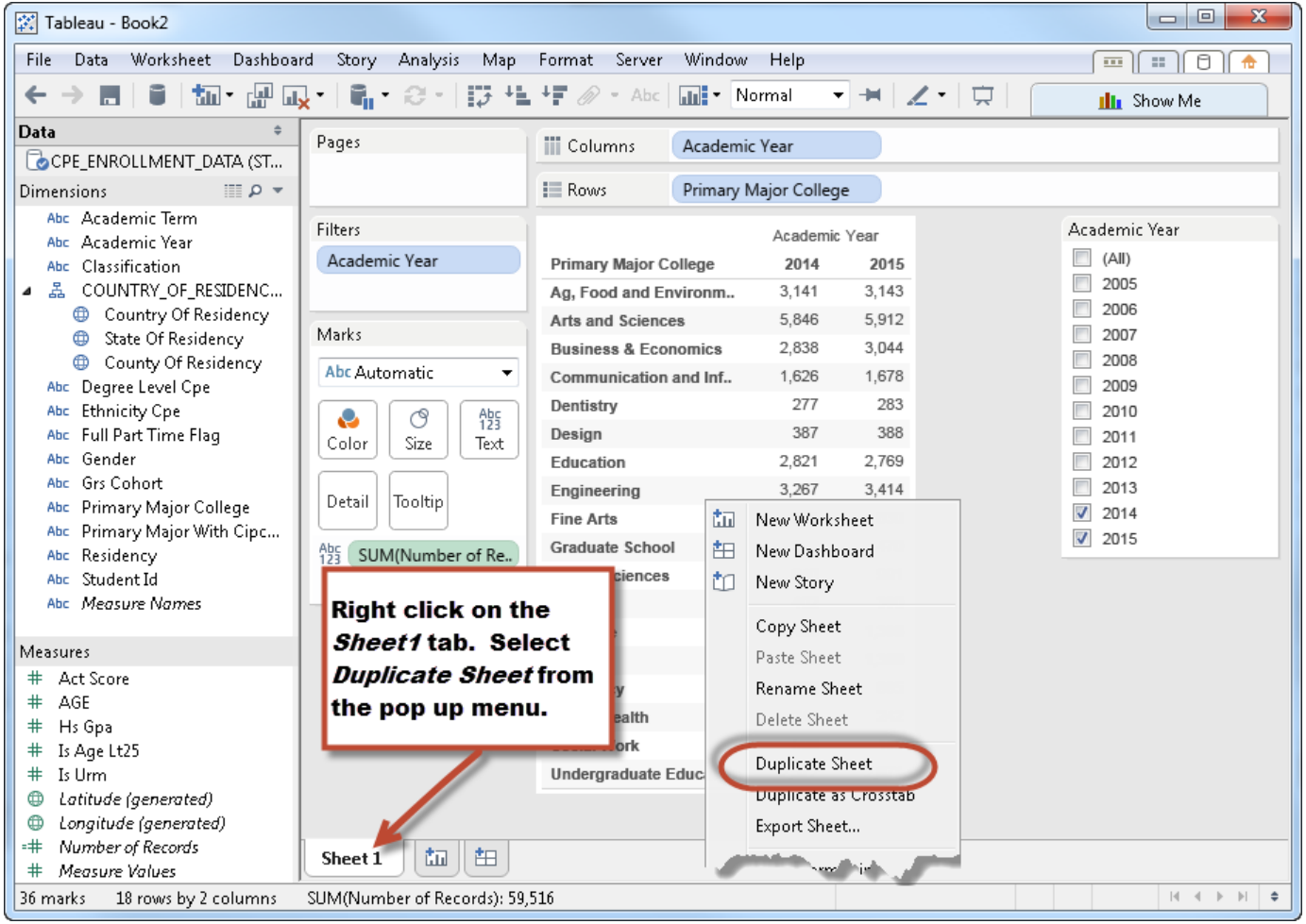


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Normal
Show Me
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Abc Academic Term
Abc Academic Year
Abc Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Abc Degree Level Cpe
Abc Ethnicity Cpe
Abc Full Part Time Flag
Abc Gender
Abc Grs Cohort
Abc Primary Major College
Abc Primary Major With Cipc...
Abc Residency
Abc Student Id
Abc Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Filters
Academic Year
Marks
Abc Automatic
Color
Size
Abc 123 Text
Detail
Tooltip
Abc 123 SUM(Number of Re..
Columns
Academic Year
Rows
Primary Major College
Academic Year
Graduate School 399 470
Health Sciences 840 991
Law 402 390
Medicine 1,429 1,398
Nursing 1,312 1,360
Pharmacy 656 665
Public Health 243 242
Social Work 508 483
Undergraduate Education 2,572 2,671
The quick filter will appear on the right hand side of the screen.
Quick filters bring interactivity to your worksheets. They allow for quick analysis between filter objects.
Academic Year
(All)
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Sheet 1
36 marks 18 rows by 2 columns SUM(Number of Records): 59,516

How to create a visual analysis of the tabular data sheet.



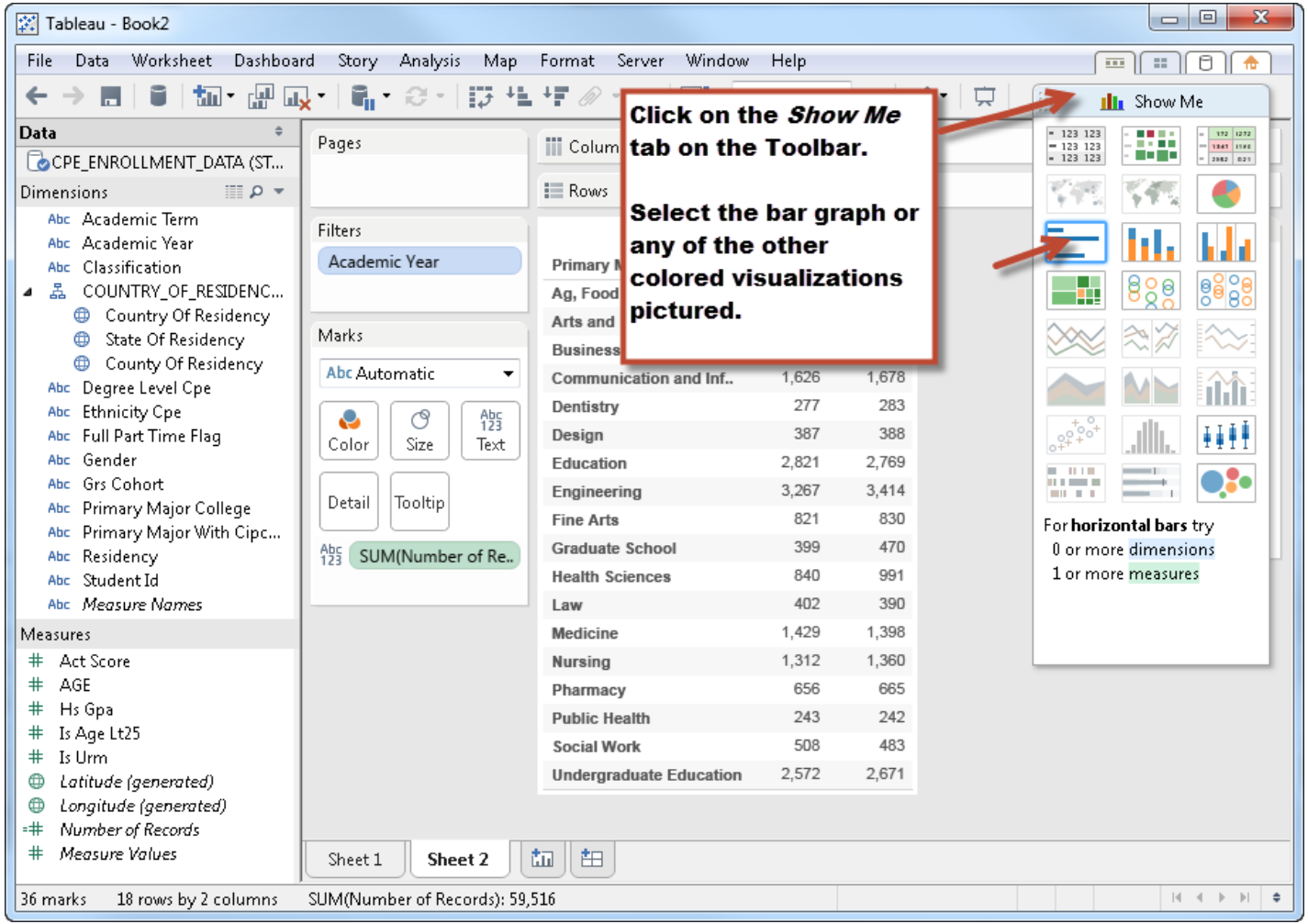


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Click on the *Show Me* tab on the Toolbar.
Select the bar graph or any of the other colored visualizations pictured.
Show Me
For horizontal bars try
0 or more dimensions
1 or more measures
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Academic Term
Academic Year
Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Degree Level Cpe
Ethnicity Cpe
Full Part Time Flag
Gender
Grs Cohort
Primary Major College
Primary Major With Cipc...
Residency
Student Id
Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Filters
Academic Year
Marks
Automatic
Color
Size
Text
Detail
Tooltip
SUM(Number of Re..
Columns
Rows
Primary M
Ag, Food
Arts and
Business
Communication and Inf.. 1,626 1,678
Dentistry 277 283
Design 387 388
Education 2,821 2,769
Engineering 3,267 3,414
Fine Arts 821 830
Graduate School 399 470
Health Sciences 840 991
Law 402 390
Medicine 1,429 1,398
Nursing 1,312 1,360
Pharmacy 656 665
Public Health 243 242
Social Work 508 483
Undergraduate Education 2,572 2,671
Sheet 1
Sheet 2
36 marks 18 rows by 2 columns SUM(Number of Records): 59,516

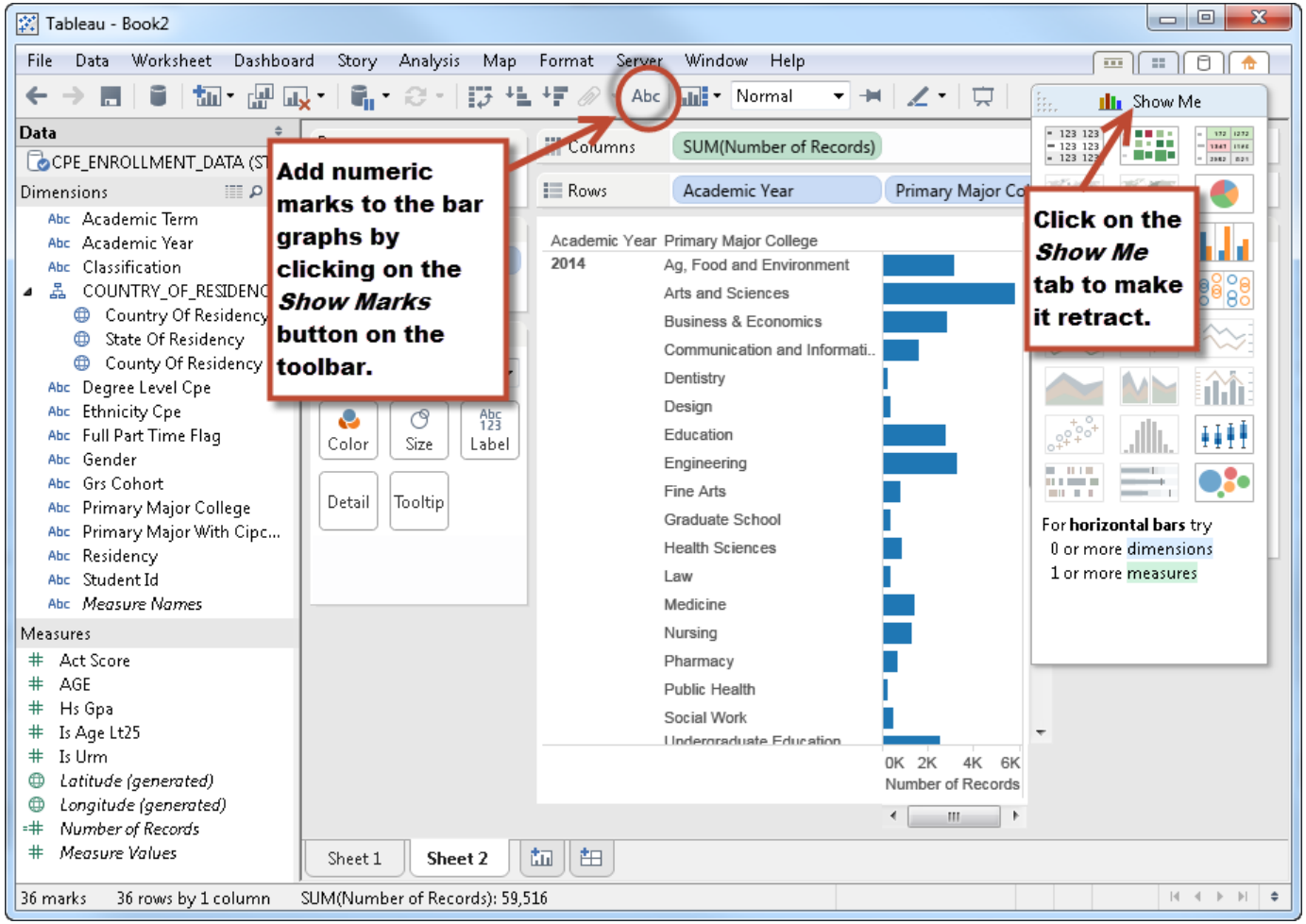


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Abc
Normal
Show Me
Data
CPE_ENROLLMENT_DATA (ST
Dimensions
Abc Academic Term
Abc Academic Year
Abc Classification
COUNTRY_OF_RESIDENC
Country Of Residency
State Of Residency
County Of Residency
Abc Degree Level Cpe
Abc Ethnicity Cpe
Abc Full Part Time Flag
Abc Gender
Abc Grs Cohort
Abc Primary Major College
Abc Primary Major With Cipc...
Abc Residency
Abc Student Id
Abc Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Add numeric marks to the bar graphs by clicking on the Show Marks button on the toolbar.
Columns
SUM(Number of Records)
Rows
Academic Year
Primary Major Co
Color
Size
Abc 123 Label
Detail
Tooltip
Academic Year Primary Major College
2014
Ag, Food and Environment
Arts and Sciences
Business & Economics
Communication and Informati..
Dentistry
Design
Education
Engineering
Fine Arts
Graduate School
Health Sciences
Law
Medicine
Nursing
Pharmacy
Public Health
Social Work
Undergraduate Education
0K 2K 4K 6K
Number of Records
Click on the Show Me tab to make it retract.
For horizontal bars try
0 or more dimensions
1 or more measures
Sheet 1
Sheet 2
36 marks
36 rows by 1 column
SUM(Number of Records): 59,516

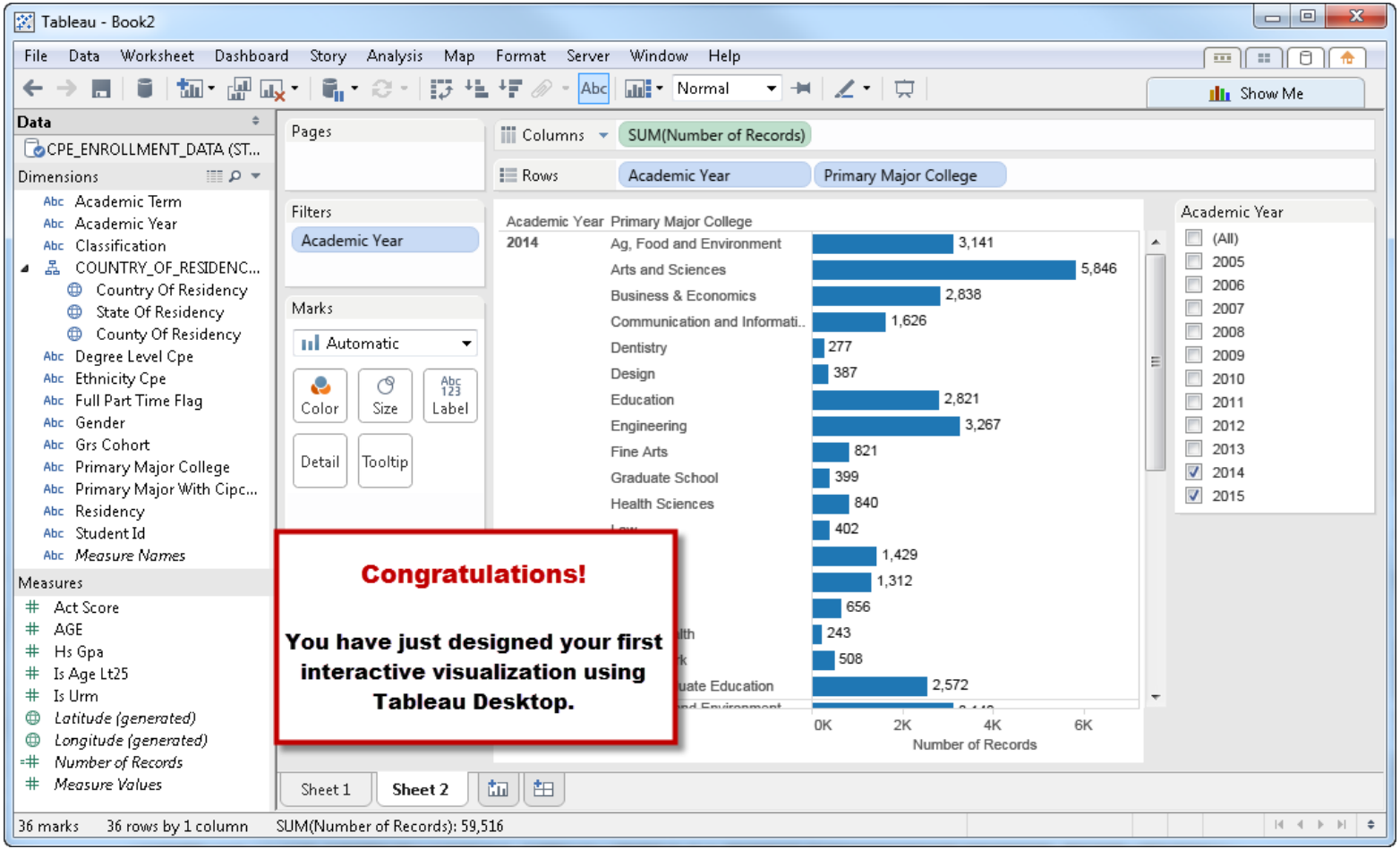


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Normal
Show Me
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Abc Academic Term
Abc Academic Year
Abc Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Abc Degree Level Cpe
Abc Ethnicity Cpe
Abc Full Part Time Flag
Abc Gender
Abc Grs Cohort
Abc Primary Major College
Abc Primary Major With Cipc...
Abc Residency
Abc Student Id
Abc Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Filters
Academic Year
Marks
Automatic
Color
Size
Label
Detail
Tooltip
Columns
SUM(Number of Records)
Rows
Academic Year
Primary Major College
Academic Year Primary Major College
2014
Ag, Food and Environment 3,141
Arts and Sciences 5,846
Business & Economics 2,838
Communication and Informati.. 1,626
Dentistry 277
Design 387
Education 2,821
Engineering 3,267
Fine Arts 821
Graduate School 399
Health Sciences 840
402
1,429
1,312
656
243
508
2,572
0K 2K 4K 6K
Number of Records
Academic Year
(All)
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Congratulations!
You have just designed your first interactive visualization using Tableau Desktop.
Sheet 1
Sheet 2
36 marks
36 rows by 1 column
SUM(Number of Records): 59,516

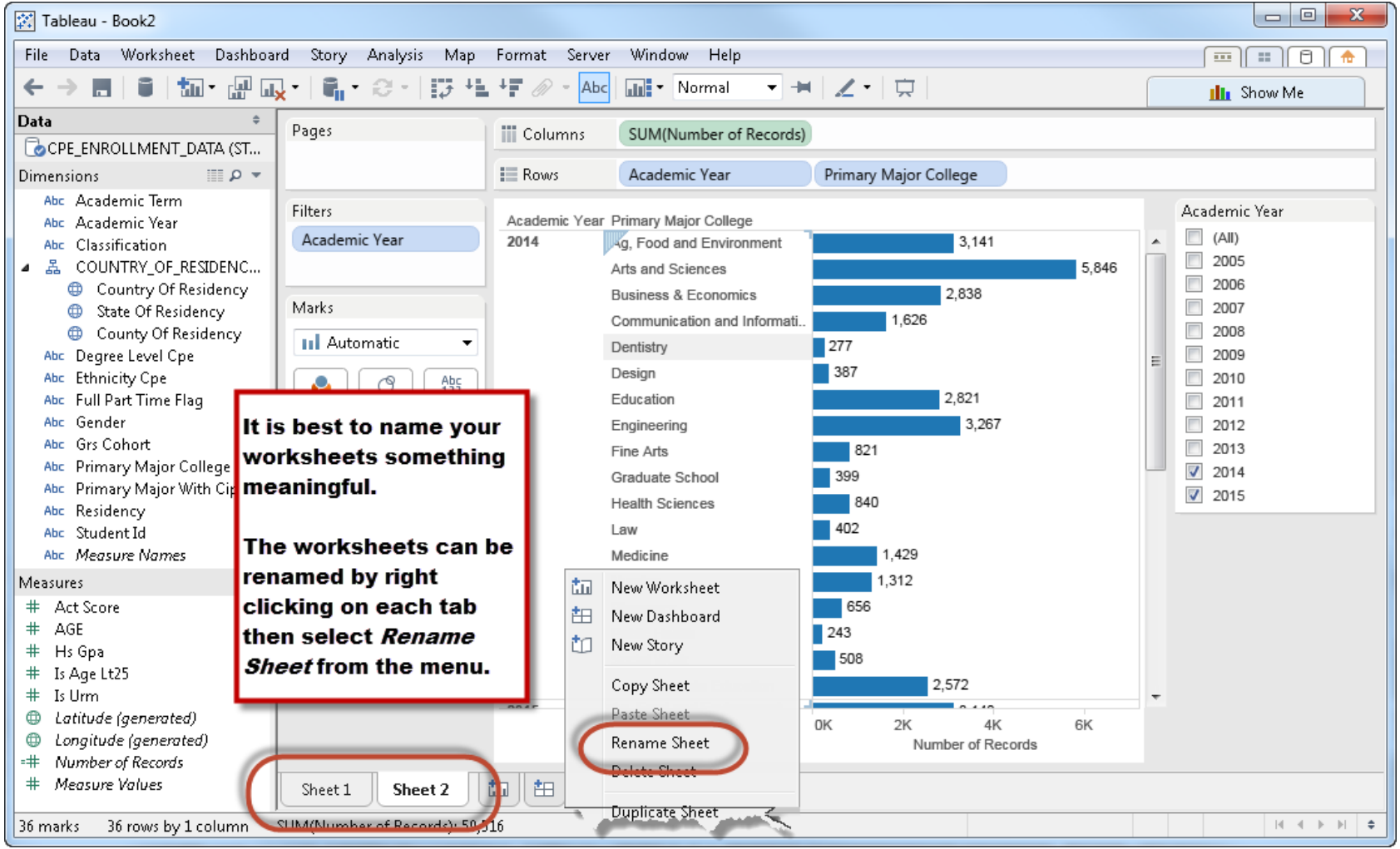


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Normal
Show Me
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Abc Academic Term
Abc Academic Year
Abc Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Abc Degree Level Cpe
Abc Ethnicity Cpe
Abc Full Part Time Flag
Abc Gender
Abc Grs Cohort
Abc Primary Major College
Abc Primary Major With Cip
Abc Residency
Abc Student Id
Abc Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Filters
Academic Year
Marks
Automatic
Columns
SUM(Number of Records)
Rows
Academic Year
Primary Major College
Academic Year
Primary Major College
2014
g, Food and Environment 3,141
Arts and Sciences 5,846
Business & Economics 2,838
Communication and Informati.. 1,626
Dentistry 277
Design 387
Education 2,821
Engineering 3,267
Fine Arts 821
Graduate School 399
Health Sciences 840
Law 402
Medicine 1,429
1,312
656
243
508
2,572
0K 2K 4K 6K
Number of Records
Academic Year
(All)
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
It is best to name your worksheets something meaningful.
The worksheets can be renamed by right clicking on each tab then select Rename Sheet from the menu.
New Worksheet
New Dashboard
New Story
Copy Sheet
Paste Sheet
Rename Sheet
Delete Sheet
Duplicate Sheet
Sheet 1
Sheet 2
36 marks
36 rows by 1 column
SUM(Number of Records): 50,516

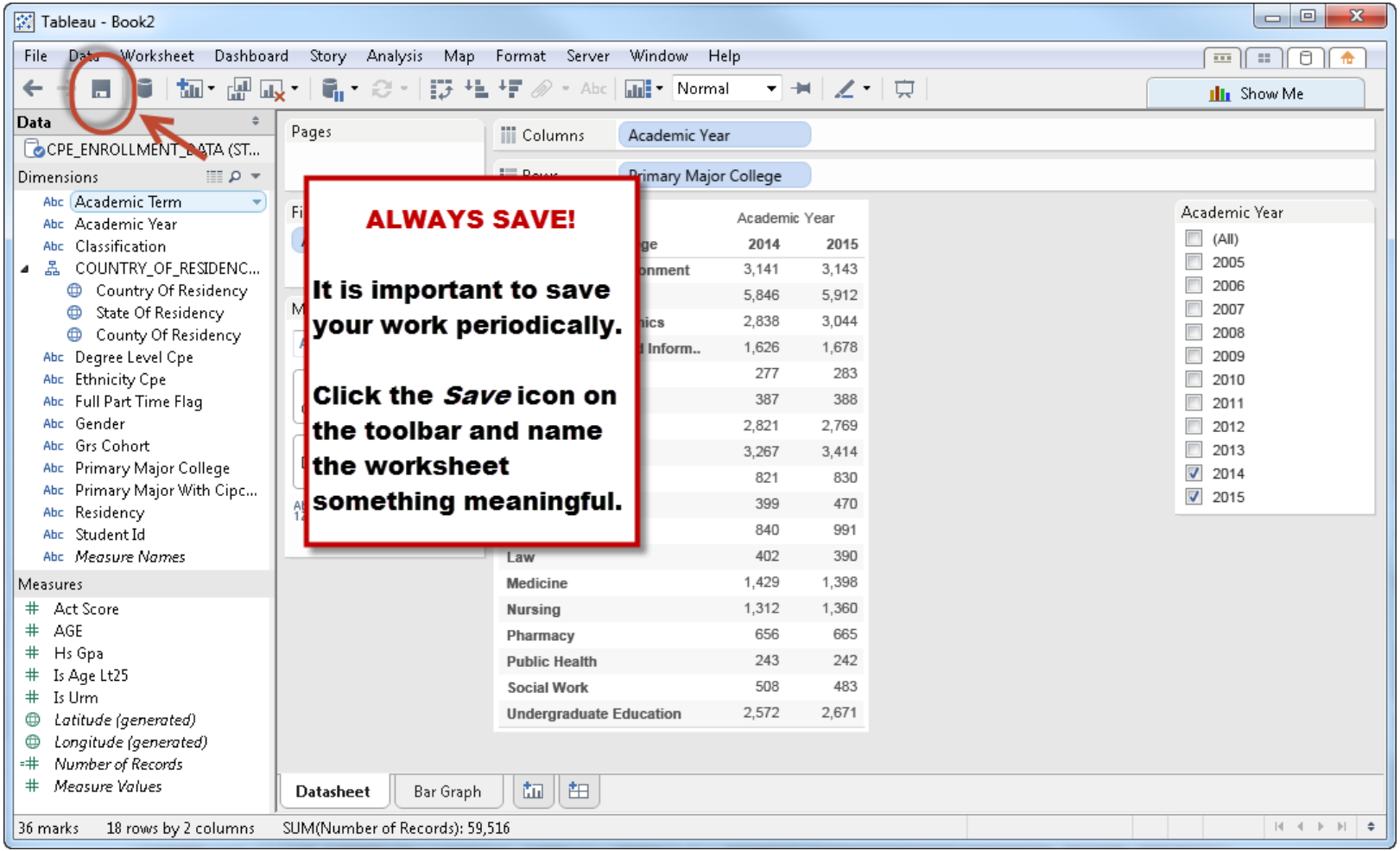
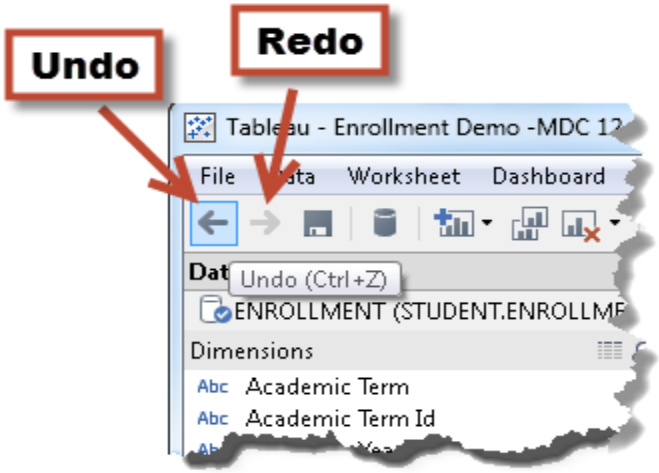


Tableau - Book2
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Normal
Show Me
Data
CPE_ENROLLMENT_DATA (ST...
Dimensions
Academic Term
Academic Year
Classification
COUNTRY_OF_RESIDENC...
Country Of Residency
State Of Residency
County Of Residency
Degree Level Cpe
Ethnicity Cpe
Full Part Time Flag
Gender
Grs Cohort
Primary Major College
Primary Major With Cipc...
Residency
Student Id
Measure Names
Measures
Act Score
AGE
Hs Gpa
Is Age Lt25
Is Urm
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Columns
Academic Year
Primary Major College
ALWAYS SAVE!
It is important to save your work periodically.
Click the Save icon on the toolbar and name the worksheet something meaningful.
Academic Year
2014
2015
Law 402 390
Medicine 1,429 1,398
Nursing 1,312 1,360
Pharmacy 656 665
Public Health 243 242
Social Work 508 483
Undergraduate Education 2,572 2,671
Academic Year
(All)
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Datasheet
Bar Graph
36 marks
18 rows by 2 columns
SUM(Number of Records): 59,516



As you begin to modify ("play") with your workbook there are two very helpful buttons in Tableau: Undo & Redo

When you do something you don't like just click the Undo button. If you click Undo too many times simply click the Redo button to go back.

Learn more about Tableau at the following links.

Training videos

Free online training is internet-based recorded sessions that are available whenever you are. Learn online at your own pace.
Introductory: Step-by-step instruction on connecting to data, creating views and more.
Advanced: Over 30 videos covering topics like efficiency, calculations, statistics, mapping and more.
Server: These videos cover everything from using to administering your Tableau Server.
Chart Type: Learn how to build special charts - anything from funnel charts to Bollinger Bands.

Tableau Community

Join the Tableau Community Forums to find solutions for what you need to accomplish. Ask questions to receive help and feedback.

Tableau Visual Gallery

Get inspired by the many interactive visualizations in the Visual Gallery. Download the workbooks to play with on Tableau Desktop.