TABLEAU

➢ NOTES

AIMTECNOLOGIES

friends xreox

950888899

Om Sai Ram Veeranjanaya om Saraswathi Namaha.

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NAME: K.swapna STD.: ____ SEC.: ____ ROLL NO.: ____ SUB.: TABLEAU

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Data :- Stored representation. Any thing which is understandable by the system is called as data. (or) The stored representation of events and objects is called as data.

Eg:

1.	swapna	TABLEAU
2.	madhav	TABLEAU
3.	~~swap~~ madhu	TABLEAU
4.	Vani	TABLEAU

Information :- meaningful data is called as information.

Eg

Student		
S.ID	S. Name	course → meta Data
1.	swapna	TABLEAU
2.	madhav	TABLEAU

meta data :- The discriptive information about the Information system and its contents is called as meta data.

metadata + Data = information

metadata = information − data

* TABLAU helps the person who analyses the Business.
* OLTP is system which stores the online transaction.
* Transaction of information is nothing but Business Information.
* The process of converting the data of different formats into valid information is called data ware Housing (DWH)

Data mart :- Sub part (or) subset of DWH is called as a data mart.

Eg In the DWH as we are storing the information from the 3 geographical locations namely Asia, Europe, us and if you want to Analyse only Asia Business

information then that particular Asia's information only that particular A we have to take for the analysis.

As here we are taking only Asia's information which is a part of DWH. so this Asia's information is called one data mart.

Collection of multiple data marts is called as one DWH.

DWH Architecture

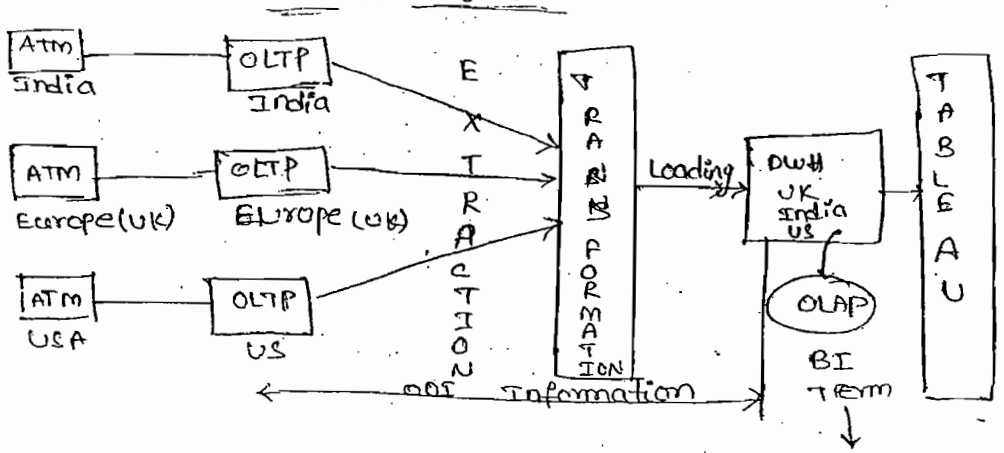


Table AU, SAP IT OBIEE.

BI/VI :- BI stands for Business Intelligence. The process of incorporating the intelligence to the business information stored in the DWH is known as Business Intelligence. If we are performing the BI in the form of visuals, then it is called as visual Intelligence.

* Difference b/w OLAP and OLTP

OLTP	OLAP
1. It is the place where frequently Insert, updates, delete takes place.	1. It is the place where frequently data retrival (select) takes place.
2. Any user can interact with OLTP.	2. only Top most users like CEO's, Top most executives have the access to this.
3. Any user Interface is a source for OLTP.	3. All the OLTP's are source for the OLAP.

4. OLTP's are mainly used to run the business.	4. mainly used to analys the Business.
5. OLTP's always contains less no. of data.	5. OLAP's always contains more no. of data.
6. OLTP's maintains only current information.	6. OLAP's maintains the Historical Information.

* OLTP contains less amount of data then perform well for future, so after like 3 months in OLTP data dumped into DWH.

TABLEAU :- It is a business intelligence application, that allows any one to connect to the data and analyse the data with in a few clicks and it analyses the data in the form of visuals.

* TABLEAU is easy as 'MS EXCEL', but it is powerful enough to satisfy an experts even the most complex analytical problems.
* TABLEAU is leading the way with not only the features that we need for today but also the capabilities that we need for tommorow.
* The word TABLEAU is derived from French word called as TABLEAUX which means pictures.
* TABLEAU is having it's own patient query language called as VIZQL. VIZQL stands for visualization query language.
* VIZQL is combination of SQL and discriptive language for Rendering (moving) graphics.
* VIZQL will automatically convert any data in the form of text to vizuals.

Q Interview Questions :

(1) what is DWH Architecture ?

(2) what is DWH and how it is different from VI ?

(3) what is data mart and what is differences between DWH and Data mart ?

(4) compare OLTP with OLAP ?

(5) what is TABLEAU ?

V.V.imp (6) How TABLEAU different from other BI, tools ?

11/4/14

(1) Visual Analytics : In TABLEAU we can analyse anything in the form of visuals.

* TABLEAU takes input as textual data and its output as in the form of visuals.

* By making use of SQL, it is converting that textual data into visuals in the background.

* The another state of art feature for this TABLEAU is, it will generate the code by its own.

* In TABLEAU no need of writing the code manually.

2. Faster performance :- TABLEAU by making use of its brand new features like TABLEAU data Engine, performance Recorder, paralized dash boards. It gives at least performance 100 times faster than any other tool in the market currently.

3. Any Data :- It can analyse any kind of data right from the DWH to HADOOP and from HADOOP to EXCEL and even from EXCEL to sales force data.

4. Business Integration :- TABLEAU is tightly coupled with any kind of business and it perform the analysis of any business very efficiently and accurately with in a lesser amount of time.

5. web and mobile authoring : The another new feature in the TABLEAU is we can securely share the analyse reports to any one according to that needs over the web and even to their mobiles also. Just with a single click any user can able to access report with in a minute.

Note :- 1. In order to see the report from that mobile the user needs to install the TABLEAU App in their mobiles.

2. currently the TABLEAU mobile App is supported on android and IOS.

TABLEAU components :- In TABLEAU we are having 5 different components.

1. TABLEAU Desktop (Data visualization application)
2. TABLEAU Server (Data Business Intelligence solu
3. TABLEAU Reader
4. TABLEAU Public
5. TABLEAU online

1. TABLEAU desktop :- In TABLEAU if you want to design (or) create any thing we need to use TABLEAU desktop.

* TABLEAU desktop is the place where all the development work to be done. we can work to design

* It is core platform for all the TABLEAU Developers. represent the data in the form of visuals.

2. TABLEAU server :- In TABLEAU if we want to share any thing globally then we have to make use of TABLEAU server. It is a web based component.

* TABLEAU server allows any user to share the visual analysis with any one by taking help of a WEB BRO-USER.

3. TABLEAU Reader :- If we want to share any thing on the TABLEAU Desktop locally then we have to use of TABLEAU Reader, in simple TABLEAU Reader shares the visual analytics locally.

4. TABLEAU public :- If we want to share any thing publicly then we have to make use of TABLEAU public even by analysing TABLEAU public we can enabled the vizual analyses in websites and blogs.

5. TABLEAU Online :- If we want share to TABLEAU is allows any user to perform the Rapid fire business analytics in the clouds.

* It is hosted version of "TABLEAU server" in the cloud
* it display the power of TABLEAU in the cloud.

Note :- TABLEAU Reader, TABLEAU public are the free components, where as TABLEAU desktop, TABLEAU server, TABLEAU online are not free".

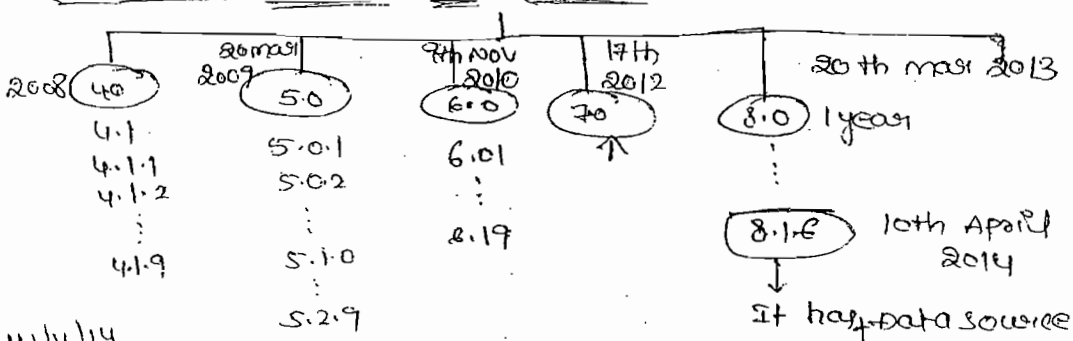
TABLEAU desktop, server, online are available only in 14 days. [Tableau supportfly]

TABLEAU History :-

* this TABLEAU was invented by 3 members CRIS, PAT, chabroart, they combinely called as cpc.
* These cpc are professors in standford university, their main theme to build a tool for business analysis, with rendering graphics.
* They almost did their research for 10years and they finally came out from standford and give their TABLEAU in the 2008 at SERTEL western America. Finally they released their 1st version of TABLEAU in the year 8th June 2008, and also they got succeed in incorporating in rendering graphics

for BI by making use of VIZQL.

Different versions in TABLEAU :-



It has data source filter
- Quick filter
- select some
- select all only

14/4/14

TABLEAU Environment :-

There are multiple ways to open the TABLEAU.

1. Directly from the desktop as its creates a short cut icon.
2. click on start and goto all programs click on TABLEA 8.1
3. Drag any data source file and drop into the TABLEAU icon.
4. After opening the TABLEAU the start page of TABLEAU devided into two sections.
   1. Data section.
   2. work Books sections.

Data sections :- The data sections lets any user to connect to new data source (or) quickly opens a saved connection. If you save any data source connection, by default all those data sources will get stored in the TABLEAU Repository under data sources folder.

work Books :- work Book section shows the images for the work books we have opened recently. when we are opening the TABLEAU for the first time the work book section will be blank. As we create any new work Book and if you save it then those are available in the work book section.

* TABLEAU uses a work Book which is much similar

like microsoft EXCEL.

* It is the place where the complete work to be performe in the TABLEAU. A work book contains multiple sheets which can either be a work sheet (or) a dash board.

<u>work sheet</u>:- It is the smallest developement object in the TABLEAU. A work sheet contains the single view of the data which contains shelves, Legends and data window.

<u>Dash board</u>:- A dash board is a collection of multiple work sheets. with in a work book we can create new sheet we can a duplicate sheets, we can delete sheets, even we can hide (or) show sheets.

TABLEAU has several ways to view and organize the sheets in our work book.

work book is the container for all our work in the TABLEAU.

<u>Note</u>:- The work book in the TableAu is created in the two ways:

1. click on file and select new.
2. control +n

At a time in the TABLEAU we can open multiple work books.

<u>Note</u>:- once the work book is saved and if you want to open that work book again we are having multiple ways.

1. In the page of TABLEAU in the data section it will automatically shows the work book and click on that work books.
2. click on file select open and select the work book and click on open.

Remaining part Notes available after 4 papers

15/4/19

Data window :-

- In the TableAU work space the first part is called as Data window
- This Data window contains

1. Dimensions
2. measures
3. sets
4. Parameters

This data window appears left side of the work space.

TASK: How to hide a data window ? How to display it again ?

Step 1 :- In order to hide the data window to the right of the data, click on the hide button.

Step 2 :- In order to display it again, click on the window tab and select show side bar.

Tool Bar :- The second part of the work space is tool Bar. In that Tool Bar the list of different options are available.

List of options : 1. undo and Redo

In TABLE navigating from current step from previous step and from previous to the current step is very simple. By making use of undo and Redo option in the tool bar we can easily navigate from current to the previous step and previous to next.

2. Save option: In that tool bar the second option is save option.
In Table if you want to save any thing click on this save option.

3. Connect to data :- Even from the tool bar we can able to create the connections.

4. Creating new work sheets, Dash boards.

5. Duplicate sheet If you want to create copy of the current sheet you have make use of this duplicate sheet.

6. Clear sheet :- Clear sheets erases the complete ~~clear~~ things in a work sheet.

7. Auto Updates :- In TABLEAU tool bar the very important option available is Auto update. This options works in two ways. 1. Auto update worksheet
2. Auto update quick filters.

By default the Autoupdate is enabled. If you want to disable the auto update un check the auto update work sheets.

8. Run update :- In TABLEAU if you want to perform updates manually than you have to make the use of this Run update options.

9. Swapping :- In TABLEAU if you want swap the fields (on rows colums selves interching field) then we have to make use of swapping.

10. Sorting :- In TABLEAU if you want to perform sorting

the toolbar we having two options are available. (4)

1. Sorting in the Ascending order.
2. " " Descending order.

11. ABC option :- ABC option displayes the values in the data view.

12. Presentation mode :- In TABLEAU if you want to display any report in the presentation mode then the tool bar views presentation mode.

13. Show (or) hiding cards :- In TABLEAU we can display (or) hide the different shelves and legends. If you want to hide any shelves in the tool bar select show on hide cards and uncheck the colum shelve, Row shelves, Filter shelves, and marks.

14. Data view fitting in the window :- we can fit the data view in different ways. The different ways to fit a data in window are 1. Normal 2. ~~quick~~ fit width 3) fit height 4) Entire view

15. Show me option :- It is the place where list of different data views are available. Any user can select views appropriate by view in the show me and the TABLEAU will displays appropriate view. It shows the highly intractivity new in TABLEAU.

Shelves :-

* Shelves are the part of every work sheet.
* Every work sheet contains a variety of different cards that we can hide (or) show cards are containers for shelves, legends and other controls.
* The different shelves we are having in the TABLEAU are

1. colum ~~1. colshelve~~ :- It is the place where we can drag and drop in the data fields.

2. Row shelve :- Row shelve is the place where we can drag and drop in the data fields.

Filter shelves :- Filter shelve is the place where we can drag and drop the data fields in order to perform the filtering.

Legends :- well known objects are called as legends. The different types of legends we are having in TABLEAU are

1) colour Legend :- In TABLEAU we want to display data view in different colours that we will use this

2) SIZE Legend :- In TABLEAU we want to display the view in the different sizes then make use of this SIZE Legend.

3) SHAPE legend :- In TABLEAU if you want to display data view in diff shapes then make to use of shape legend

4) map legend :- In TABLEAU if you want to display data view, in the form of map, use the map legends.

Marks card :- It is a container which contains different shapes.

Reorgnizing the work space :- In TABLEAU even we can reorganizing the work space also. we can change the positions of the MARKS card, filter shelves in what ever way we want.

Note :- Even we can reorganise the column shelve and Rows shelve also.

TABLEAU work space controls :-

TABLEAU work space controls are different options where we can navigate from one place to the other place by making use of those controls. mainly we are having four different types of controls.

1) Home :- By making use of Home control we can goto to the start page.

2) Connect to Data :- By making use of this connect to data we can connect to connect to data Base.

3) Sheet TAB :- The 3rd control is sheet Tab, By making use of this we can able to see the list of sheets available in the current work book.

4) work space :- Using this work space control we can goto the current work space.

Q) Interview questions :

1.) what are the different options available in the TABLEAU Tool bar ?

2) what are TABLEAU work space controls ?

3) what are different cards available in the TABLEAU ?

4) what is marks card ?

5) what is SHOW ME ?

6) How to hide and How to display the data window ?

16/4/14

Senario 1 :

creating data connections in TABLEAU :-

* In TABLEAU we are having two types of data connections.

1. Live connection.
2. Import connection.

Live connection :-

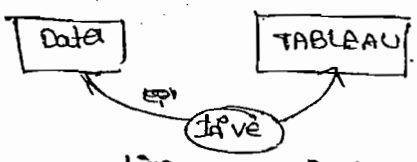
If you define connection type as Live there is a Live communication path b/w Tableau and data source.

Task 1: creating a Live connection in TABLEAU.

Step 1 :- create a sample text file with the following data. save with first Data.

Note pad

companies,	PROFITS
A	100
B	120
C	150
D	80
E	190



Live communication path b/w TABLEAU and Data source.

Step 2 :- In TABLEAU start page click on connect to data, In that connect to data page click on Text file and select the first data file which we created and click on open.

Step 3 : In the text file connection window Select single table and select the first data, and click on OK.

Step 4 :- In the data connection window select connect Live.

Step 5 :- In the data window of TABLEAU work space click on view data.

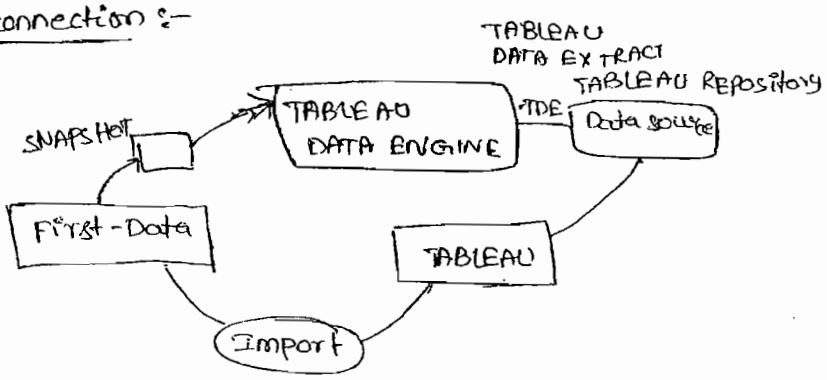
Step 5 :- Again go to the text file add one new record and save the file

Step 6 :- Note click on view data from TABLEAU workspace (Data is not updated yet)

Step 7 :- Right click on the data source connection and click on Refresh.

Step 8:- Again click on view data. This time it will shows the updated data.

2) Import connection :-



* The second types of the connection in the TABLEAU is Import.
* The Import connection first connect to the data source and takes the snapshot of the data source and places the snap shot in to TABLEAU data Engine.
* This TABLEAU Data Engine reads the data from the Snap shot and it creates a local copy of the data source in the form of TABLEAU data extract file (TDE) which gets stored in the data sources folder of the TABLEAU Repository.

Task 2:- creating import all connection in TABLEAU

Step 1:- In connect to data click on Text file, and select the first data file and click on open.

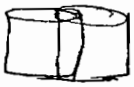
Step 2:- In the text file connection give the connection name as import connection

Step 3:- In the data connection window select import all data.

Note:- If you are connecting to the low performance data base and if you want to improve the performance then go with the import connection. The import connection makes use of one powerful engine is called as TABLEAU data Engine. TABLEAU data Engines is

the high performance analytical data Engine on our PC. It makes use of the memory available on the local machine. This TABLEAU data Engine it will creates the local data copy in the form of TABLEAU Data Extract (.TDE file).

Note 2:- All the live connections are indicated with plain data base icon.

where as imported data base connections are indicated with 

TASK 3:- Refreshing a import connection in TABLEAU

step1:- Add one new record in the first data text file.

step2:- click on view data from TABLEAU workspace data window (data is not updated yet)

step3:- Right click on the import connection goto extract and select refresh.

step4:- It will display window by displaying a message that refreshing the extract will replace its content click on yes.

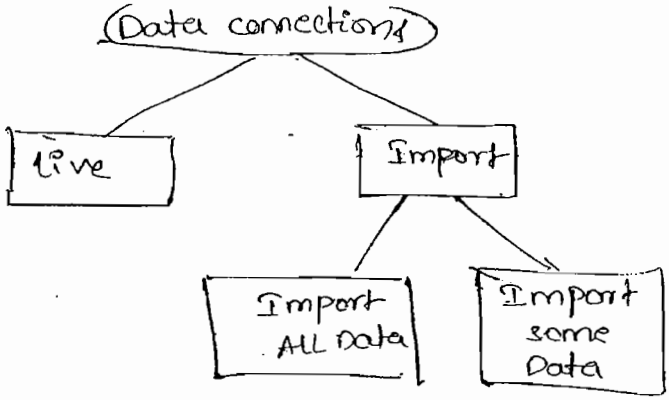
step5:- click on view data and see the change of records

Note:- Refreshing the extracts will replace all the data in the TABLEAU with the new data from the data source.

TASK 4:- converting a live connection to the import or 2 import connections to the live.

step1:- converting a Live connection to import, Right click on Live connection and click extract data. It will automatically converts Live → Import.

step2:- converting import to Live, Right click on the import connection and uncheck the use ~~exact~~ extract, it will automatically converts extract import → live.



Q) Interview question:

1) what are the different data connections available in TABLEAU?

2) Is it possible to convert Live to import, import to Live (or) not?

3) what is TABLEAU data engine and what is TDE file?

4) when we have to use Live ~~(or)~~ and import connection?

Note ① If we are connecting to the high performance data bases then the best practice is to go for the Live connection.

② If we are connecting to the low performance data bases and if we want to improve the performance the best practice is to go for the import connection.

5) Is it possible to connect to the data source using TABLEAU in the offline mode (or) not?

↳ Remaining part of previous notes

work sheet :- Each work book contains work sheets and dash boards. A work sheet is place where we build the views, use of our data by dragging and droping fields on to shelves.

In TABLEAU we can create a new sheet in many ways.

1. click on '+' button in the toolbar
2. click the new work sheet tab at the bottom of work book.

3. press control + m on the key board.
4. Right click on the sheet bar at the bottom and select new work sheet.
5. click on the work sheet tab and select new work sheet.

Dash board : It is a collection of multiple work sheets where we can arrange all the work sheets for the presentation (or) in order to monitor.

The dash board can be created in the multiple ways.

1. click on the dash board tab at bottom and select new dash board.
2. click on 41 in the tool bar and select new dash board.
3. click on dash board tab and select new dash board.

Properties of TABLEAU :-

① PLUG and play :- The installation of TABLEAU is very straight forword just can install and we can work with TABLEAU with in 2 to 3 min only - so its just like plug and play kind of functionality.

2) Any data Any time :- TABLEAU can analyse any kind of data any point of time. By making use of TABLEAU even we can work in offline which is not possible in other tools.

3) Beyond Reporting :- TABLEAU can not only reports the business data but it has the ability to rapidly analyse and solving the business problems.

4) see the Answer :- In TABLE it helps the user to see the answers very fastly with out demanding for the manual efforts by writing code.

5) self service BI :- TABLEAU was build in mind by keeping young minds but not for experts.

* Even the client can create new reports, and gives without help of IT (or) developers.

Q) Interview questions :

1) what are the key reasons to choose TABLEAU?
2) How TABLEAU is different from other BI Tools ?
3) what are the different TABLEAU Components ?
4) what is TABLEAU desktop, T. server, T. public, T. online, T. Rea ?
5) what are the different version having in TABLEAU ?

12/4/14

TABLEAU Desktop Installation :-

Pre-requisites :

s/w pre-requisites :

OS :- It supports only windows platform supported OS :-

windows xp3, windows 7, windows 8, windows server 2003, 2005, 2008, 2008 R2, 2012

upto 8.1 ----> It supports windows platform

From TABLEAU 8.2 ---> It might support MAC also

H/w pre-Requisites :-

Ram : 512 MB (or) more

Hard-Disk : 20 GB (or) more

processor ---> INTEL, AMD

Installation steps :-

step1 :- open any web browser and log in into the FTP server with the following address

ftp : //192.168.1.253 : 46 — index of/

step2 :- Enter the user name and password.

step3 :- download the TABLEAU click on the TABLEAU FTP and click on start download and it was downl...

Step 4 :- click on the downloaded software.

Step 5 :- In the setup window check the licence agrtment box and click on Install.

Note :- After the TABLEAU installation it will create one directory called TABLEAU repository is the place where the complete information regarding the TABLEAU tool get stored. TABLEAU Repository is the centralized component of TABLEAU.

For example the complete information of work books will get stored in the work books folder of the TABLEAU Repository.

15/4/14

TABLEAU work space :-

* It is the area where the complete work to be performed in the TABLEAU. TABLEAU workspace consist of data windows, toolbar sheets (sheet can be either work sheets (or) Dash boards), it also contains cards that contains shelves and legends.
* work sheet contains shelves (shelve is the place where save something) similarly TABLEAU also drag the data into the shelves in order to build the data views.

7/4/14

Senario 2 :

Dimentions and measures :

In DWH always the data exists in two tables

1- master table
2. Transaction table.

Master table :-

master table contains the information about the business. for example product table contains the

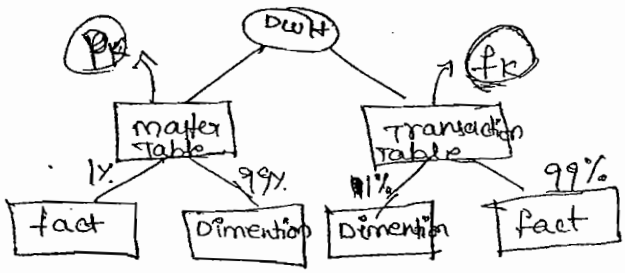
* master table always contains a primary key and contains the unique information.
* master table values will never be duplicated. It always contains textual information.
* Master table always contains primary keys + textual information.

Transaction table :-

* Foreign key tables are also known as transaction tables.
* It may (or) may not have unique records.
* It always contains metrics (numeric).
* metrics are the measuring points of business, for example marks are the metric points of student, Deposites are
* Deposit metric points of banks.
* So metrics are nothing but numbers which are used to analyse the business. for example if you want to analyse the success (or) failure of a super market business by making use of sales metric.

Note:-

* with out master table there is no way transaction table can't exist, because with out the business no transaction will takes place.

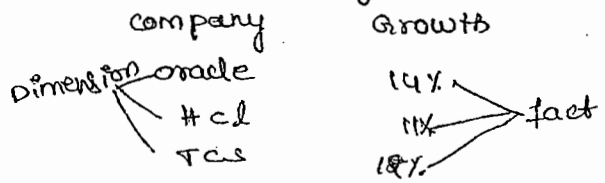


→ Difference b/w master and Transaction TABLE

- chance of using master as a dimention is 99%, chance of using master as fact is 1%.
- chance of using Transaction as a fact is 99%, chance of using transaction as dimention is 1%.

* The real thing
* If you want to know how the person (or) organization is performing we need to ask two questions?
  1. It's not possible to get the performance?
  2. For example with what package he (or) she got the job in the company?
  1. Here the package is the metric and (2) company is the Dimention.

Ex: which company has more rating (or) Growth



Dimention:- In which angle we want to analyse the business (or) we want to see the data is the simplest (or) best way of dimention.

for example company wise growth, custom wise sales, month wise profits ...etc.

* The way i want to see the data is the simplest definition for the dimention.

Fact :- Based on what metric we analyse the business is called fact.

for example profit & percentage, sales .... etc

Note:- Facts always represents the transactions where as dimentions always ~~contains~~ represents the master.

* Facts always contains foreign keys (FK) + Metrics information where as Dimentions always contain primary keys (PK) + Textual information

Types of dimensions :- Again the dimentions are devided into 9 different types. (23)

1. **SCD (slowly changing dimention) :** If the data in the dimention is changing over the period of time then such a kind of dimention is called as SCD. for example In the employee dimention data will change over period of time.

2. **RCD (Rapidly changing dimention) :-**
If the data is changing rapidly then such a kind of dimention is called as rapidly changing dimention.

Employee — 1 year Ora., 2 year HCL, 3 year TCS

for example : age here age change time to time.

3. **UCD (unchanged Dimention) :-**
If the data is constant and it won't change then such a kind of dimention is called as unchanged dimention (or) static dimension.

for example : Traffic signals, surnames, country names.

4. **conformed dimension :-** It is a dimention which is shared by the multiple business areas.

for example — Time: JAVA, DWH, oracle → 6 to 9 Time — so working on same timings.

5) **SHRUNKEN Dimension :-** subset of one dimention (or) sub part of one dimention is called as shrunken dimention.

Eg Quarter is the shrunken dimention of the year.

6) **Roll playing dimention :-** one dimention is playing multiple roles in the fact table is called roll playing dimention.

Eg take date dimentions, the date dimention contains data of order, date of delivery, date of invoice, date of shipping (date of travelling)

* In the roll playing dimention one dimention contains multiple foreign keys in the fact table.

7) Degenerated Dimention :- It is a dimention where all the values gets stored in a fact table, not in a seperate dimension table.

* Degenerated dimention always contains the dimentions keys, it won't contains any other values.
* If we maintain a separate table for the degenarated dimention these values separately gets stored in the dimention and fact table.
* As here these values are same if you store them in two tables it may consumes space. So for that reason directly we can store all the values in a fact table.

Note :- Degenerated dimention is the only dimention which is the part of fact table.

8) Junk Dimention :-

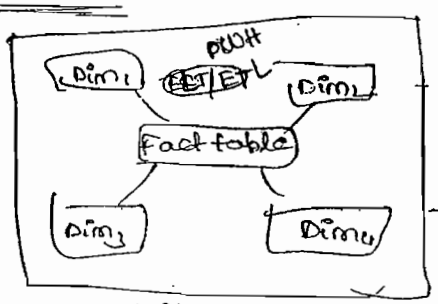
* Junk (useless) Dimention is a dimention where we store Junk (useless) data.
* It is a single table with a combination of different and un related and different data values like flags, (flag means true (or) flas), indicators, some other unwanted data.
* Junk dimention is mainly used to avoid the large no. of foreign keys in the fact table.
* It is oftenly created to manage the large no. of foreign keys created by the rapidly changing dimention.

9) Infored Dimentions :-

student

Soragate key	S.ID	S.name

artificial primary key → It has sequence (incremented)

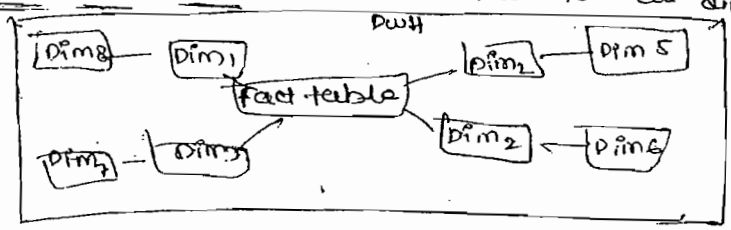


Star schema.

Here all dimention are attached to fact.

If we want to load empty dim table to fact, it would be done by Soragate key.

Snow flake schema: Here no need for all dimentions tables to connect



* If you want to load the data from a dimention into the fact and if the dimention table is empty and if you want to load the data simply we can add the surogate key column to the dimention and we can load the data into the fact.
* so If the dimention is empty expee except the surogate key then such a dimention is called as Infered dimention

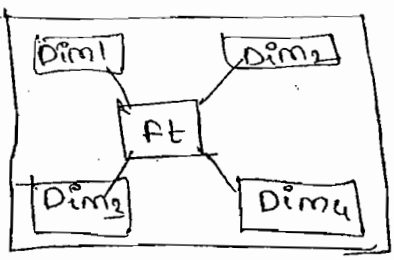
Surogate key :-

* It is the artificial primary key.
* It is automatically generated by the system by making use of sequence.
* sequence :- It is a data base objects, which automatically get incremented when ever it is used.

Types of fact schemas :- In DWH totally we are having 3 different types of schemas.

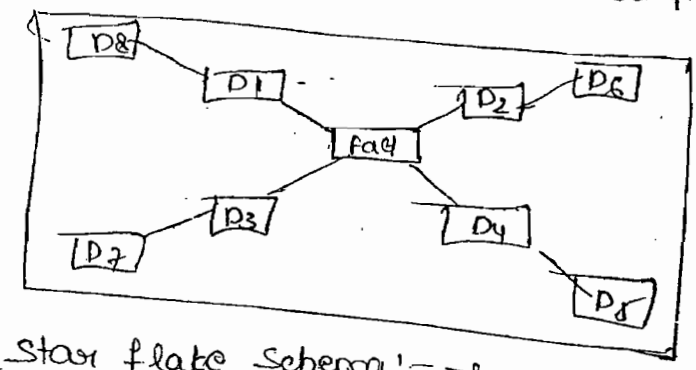
1. star schema.
2. snow flake schema.
3. star flake (or) mixed (or) Gelaxy schema.

1) Star schema :-



* If all the dimention tables are directly attached to a file then such a kind of schema is called star schema.
* In design it looks like star so thats why it is called star schema.

directly attached to the facts then such a kind of dimention is called snow flake schema.



3) Star flake Schema :- The combination of star and snow flake is called star flake schema.

Note :- Always star schema is good in performance because being as star schema conduct contain fewer tables so it is more easy to fetch the data and analyse the data.

Types of facts (or) measures :-

Fact (or) measure = Numerical data + foreign key

* Facts are 3 types.
  1) Additive fact
  2) Semi-Additive fact
  3) NON-Additive fact

* Depending on the measure values the facts are devided into 3 types.

1) Additive fact :- It is type of fact where it supports all the group functions (sum, min, max, min, AVG, count, Distinct count, standard deviation, variance) for example we can profit we can apply all the group functions which gives the meaning full outputs.

2) Semi-Additive fact :- It is a fact which supports only the few of the group function.

For example if we take account balance on the account balance we can apply MAX (or) min which

gives the meaningful output, where as apply any group function it won't give meaningful output.

3) Non-Additive fact:- It is a type of measure where we can't apply any type of aggrigations. for example we will take on Ratios, percentages we can't apply any group functions

Note:- Any currency will take as Additive.

Fact Tables :- Based on the facts the fact tables are devided into 3 types.

1. cumulative fact table.
2. Snap shot fact table.
3. fact less fact table.

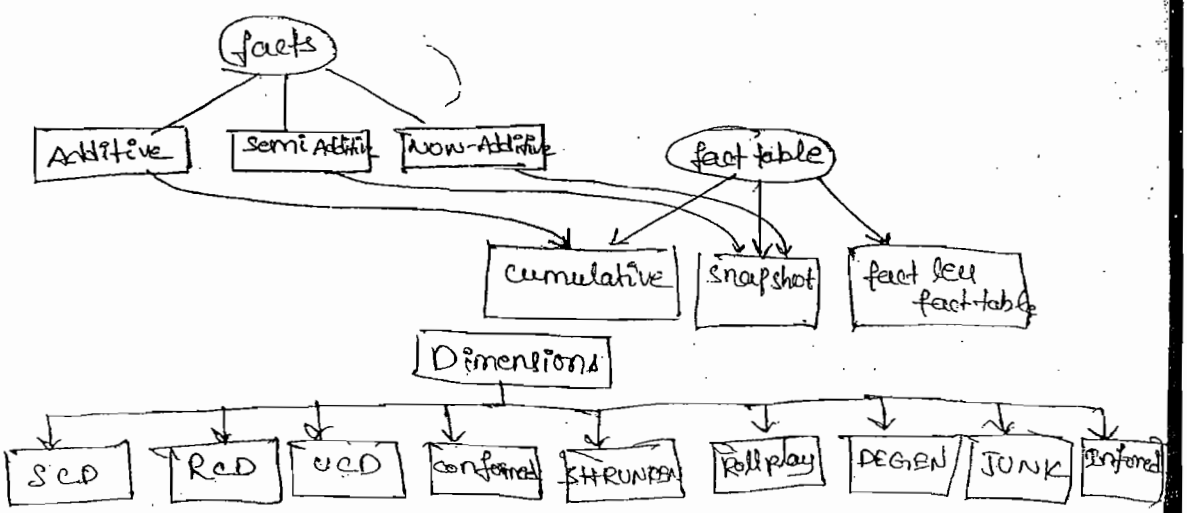
cumulative fact table :- It decribes what happened over a period of type time. This cumulative fact table contain always the Additive measures.

Eg profit over 2 years.

snapshot fact table :- It decribes what happend over the particular or instance of time. This snapshot fact table contains semi additive and non-additive facts.

Eg profit over month (or) wheek

fact less fact table :- it is a fact table which always contains a keys with out any facts (or) measures.



(1) what are the different types of dimentions ?

(2) what are the different types of facts ?

(3) " " " " schemas in DWH and which schema is good at performance and which schema you are implemented in your new project? → snow flak (because star is very complex)

(4) star Explain star and snowflake schemas?

(5) what are different fact tables and what is fact less fact table ?

(6) which dimention is part of the fact table ? Degenerated dimentin

(7) what is conformed dimention and how it is different from Role playing ?

(8) Is it possible to convert ~~star~~ snowflake to star schema (or) not ?

(A) yes. But degrated the performance. so it is not recommended.

23-4-24

Senario 3: Building views in TABLEAU

Task1: finding the department wise total sales in the TABLEAU

step1: Drag the department and drop into the column shelve.

step2, drag sales and drop into the row ~~shet~~ shelve.

step3: click on Abc.

Task 2:- find the department wise state wise total sales.

step1 :- create a new work sheet.

step2 :- drag the state and department to the row shelve and sales to the column shelve.

Step 3: click on abc.

Task 3: find the state wise department wise average sales

step1: create a new work sheet and drag state and department to the row shelve.

step2: Drag the sales to the column shelve.

step3: Right click on the sales goto measure and select average.

Task 4:- obtain the state wise department wise average profit and encode each deparment in a different colour.

step1: Create a new work sheet and drag state and department to the row shelve.

step2: drag profit to the colum shelve.

step3:- right click on profit and select average.

step4:- drag the department and drop into the colour. It will automatically encode each department in a different colour.

Task 5:- obtain the year wise total profit and display each year in a different colour.

step1: drag the order date and drop into column.

step2: drag the profit and drop into the rows.

step3: drag the order date and drop into the colour.

step4: click on abc

Note(1): while displaying the date field in TABLEAU, TABLEAU will automatically display the top most distinct value.

Note(2): At a time for a single worksheet TABLEAU will accept only single field in the colour legend.

inside the another field then it is called as nested Table

Task 6: Design a view to display the year wise, quarter wise total profits.

Step1: Drag the order date to the column shelve and profit to the Row shelve.

Step2: Again drag the order date to the column shelve.

Step3: Now to display quarters inside the every year and their profits.

So given an example for nested year.

Small multiples :- If I deviding the data into small small parts then such a kind of view is called as small multiples

Task 7:- obtain the year wise and quarter wise total profits in each department.

Step1:- Drag the order date to colum shelve and profit to the row shelve.

Step2:- Drag the order date and again drop into the column shelve.

Step3:- Drag the department and drop into the row shelve

Step4:- if you we want to encode each department in different colour drag department and drop into colour legend.

Note:- If we drag any dimention to the right of a measure it will automatically get placed to the left of the measure, because measures won't accepts any dimentions to its right.

Note :- Always the dimension fields are indicating in the blue colour where as the measure fields are indicating

in the green colour.

Note :- the different data types we are have in TABLEAU

① Abc indicates – Text fields
② Globe indicates – Geographic fields.
③ calender indicates – Date fields.
④ # indicates – Number fields

Tasks :

① Design a view to find the continent wise total sales.
② Design a view to create the nested table based on the continent wise average sales in its each state.
③ Design a view to find the ship more wise shipping cost.
④ Design a view to find the year wise quarter wise total discounts on each item every year in the form of small multiples.
⑤ Obtain the item wise unit price every year.
⑥ Design a view to display the customer wise category wise product base margine on each item.
⑦ Design a view to display the country wise average sales every year on each department and encode each country in a diffent colours ?
⑧ obtain the year wise, region wise maximum sales on each customer segment each year ?

21/4/14

Building the views automatically in TABLEAU :

In TABLEAU even we can build the views automatically with out draging any fields to the column shelve and Row shelve.

Task :- Designing a data view with two fields automatically

Step :- first select any dimention field hold your ctrl button select any measure field click

Task②: Designing a view automatically with more than 2 fields.

step①: select any dimention field from the dimention list hold you control button, select other dimentions and measures click on show me and select any data view.

Task③:

Design a view ~~to~~ for title, summery, caption for customer segment wise sales every year.

step1: Drag the customer to row shelve and drag the order date to colum shelve and sales to ~~row~~ colum shelve.

step2: select the tool bar select the entire view in the data view fitting window.

step3: click on work sheet tab and select show title

step4: click on work sheet tab and select show caption
click on work sheet tab and select show summary

step5: drag customer segment to colour legend.

Different parts of view :- In TableAU the data view also called as table.

* In TABLEAU each data view contains some basic components, those basic components are categorized as table components.

* In TABLEAU the data view or Table is a collection of rows and columns and it contains components like headers, panes, field lables, marks cards, legends, titles, caption, summery, axes.

Headers: In the TABLEAU data view headers are automatically created when we place a dimentio field any decreat field on to the row shelve (or) column shelve.

* The header simply displays different names in the fields on the data view.
* In TABLEAU even we can able to hide (or) display he if we want to hide right click on existing header an un-check show header.
* If you want to show the header right click on the field and select show header.

Axes:- If we drag any measure field (or) continuo field on to the rows and column shelve TABLEAU will automatically create the axes.

* By default the values of the measure field are displayed along that continuous axes.
* ~~If you want~~ In TABLEAU even we can able to hide (or) display the axes.
* If you want to hide the axes right click on the axes and select and un check the show head
* If you want to show the axes right click on the field and select show header.

Panes:-

* Panes are created by the intersection of rows an columns in a table.
* Depending on the table type panes might be created by the inter section of axes with the header axes with an axes, head with the header.

Eg 2010 box is one pane
2011 box is " "

* cells are the smallest individual components in the data view.

* collection of cells is called as a pane.

* cell is the intersection of row and column.

<u>marks card tab</u>:- If you drag any field to the data view the data displayed using marks card.

<u>Title</u>:- In TableAU if you want to add a title to a data view click on worksheet tab and select show title to TABLEAU automatically adds title at the top of the data view.

similarly the other components <u>caption</u> and <u>summary</u>

<u>field lables</u>:- ~~The~~ If you place any field to the column shelve and row shelve TABLEAU displays the field lables.

* If you want to hide the field lables right click on field lable and select hide field lable (or) go to analyze tab go to table layout and uncheck show field lables for rows and columns.

<u>Legends</u>:- If you drag any field to the colour, size, shape they will automatically create the legends.

<u>properties of dimention</u>:-

* Dimentions always contains decreate (Independent) data. Dicreate means different values.

* In the dimentions all the values are independent.

* <u>properties of measures</u>:-

* measure always contains the dependent data.

* It contains always continuous fields. we can convert

any measure values to dimentions. It means we can convert continuous data to the discreate data.

25/4/14

Task ④ :- converting a dimention to a measure.

Step 1: ~~convert~~ First right click on any Dimention and select convert to measure. It will automatically converts that dimention to a measure (or) drag the Dimention field ~~to~~ and the drop into the measure.

Senario 4: Joins

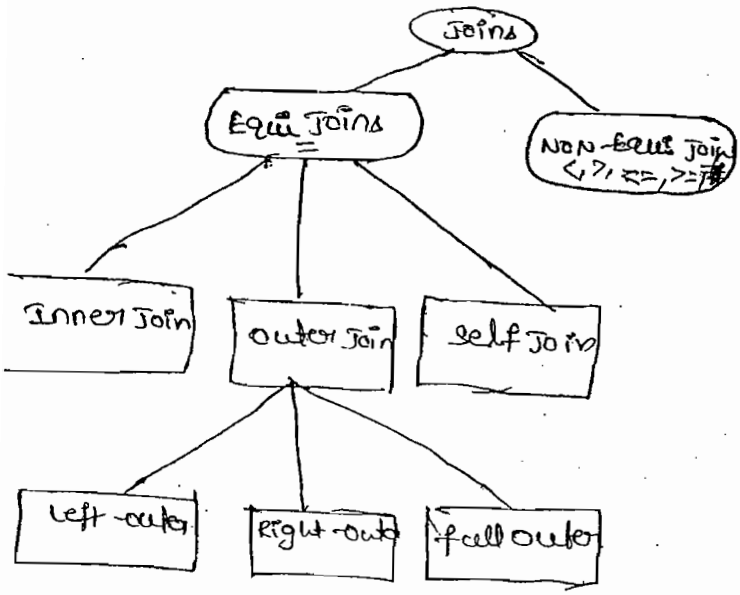
* In TABLEAU if you want to display the data from multiple tables we need to combine the data from multiple tables and then we have display the data.
* combining the data from multiple tables is know as Joins
* Always the joins can be performed in two ways
  1. By making use of common column
  2. " " " common Datatype.
* Based on the join condition the joins are devided into two type.
  1. Equi Joins.
  2. NON- Equi Joins.

Equi Joins :- In the Join condition if you use the equality operator then such a kind of Join is called as equi Joins.

* Again the equi Joins devided into 3 types.
  1. Inner Join
  2. Outer Join
  3. self - Join

1. Left-outer Join
2. Right-outer-Join
3. full Outer Join.

ON-EquiJoins:- Apart from the equality we will use any operator like $<, <=, >, >=, \neq$ then such a kind of Join is called as non-Equi Join.



Equi Joins:

Inner Joins:- Inner Join will loads only the matching records from both the tables.

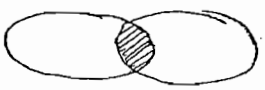


TABLE A

Name	ID
madhu	1
madhav	2
swapna	3
vani	4

TABLE B

ID	Name	Designation
1		professor
2		professor
3		professor
5		Principal

TABLE A. ID = TABLEBID

Name	designation
madhu	professor
madhav	professor
swapna	professor

Task ① : Implementing inner Join in TABLEAU.

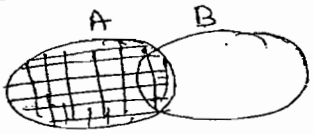
Step 1: Right click on super store connection and select edit connection. select multiple tables, click on add table and select the returns and join those two tables.

Step 2: click on ok. click on preview results in order to check the values. click on ok.

Step 3: finally the data window click on viewdata.

Left-outer-Join :- Left-outer join will loads complete data from Left table plus matching records from right table.

TABLE A . ID = TABLE B . ID (+)



Name	Designation
madhu	professor
madhav	professor
swapna	professor
vani	

Task ② Implementing Left-outer Join in TABLEAU

Step 1: Right click on super store connection and select edit connection. select multiple tables, click on add table and select return and select Left Joint and join those two tables. ~~In work book~~

Step 2: click on ok. click on preview results in order to check the values. click on k.

Step 3: ~~finally the~~

Step 3: In the editable window click on Join type window and select Join type as Left click on k.

Step 2: click on existing Join connection and click on edit.

table (+) matching records from the left table.

TABLE A. ID (+) = TABLE B. ID

Name	Designation
~~swapna~~	professor
madhu	professor
madhav	professor
swapna	principal

Task 3 :- Implementing a right-outer Join In TABLEAU.

Step 1: Right click on the data source connection and select edit connection.

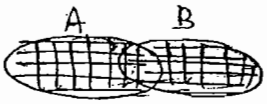
Step 2: click on the existing Join connection and click on edit

Step 3: In the edit table window click on Join and select Join type as right and click on OK.

Step 4: click on preview results in order. to check the output. no. of rows.

Step 5: click on ok and click on view data window.

Full-outer Joins: + loads the complete data from left table and right table.



Name	Designation
~~madhu~~	professor
madhav	professor
swapna	professor
Vani	~~professor~~
	principal.

Self - Join : with in the same table if we are performing the Join then such a kind of Join is called as self Join -

Task 4 : Implementing self Join in TABLEAU

Step 1: Right click on the data source connection and click on edit connection.

Step2: In the work book connection window click on existing join and click on remove.

Step3: click on add table and again select returns and click on join.

Step4: select order id and order id and click on add click on OK.

Step5: click on view data window.

NON-Equi Joins:- A join condition if you gives any other operator apart from equality then such a kind of join is Non-equi join.

Student

S.ID	SOB	Percentage
1	S1	70
2	S2	80
3	S3	90
4	S4	95

Grade.

P_1	P_2	GRADE
65	78	B+
75	85	A
85	95	A+
95	100	A++

output

S-ID	Grade
1	B+
2	A
3	A+
4	A++

percentage >= P_1
and
Percentag <= P_2

Task5: Implementing NON-equiJoins in TABLEAU.

Step1:- Right click on existing connection and select edit connection.

Step2: In the work book connection window remove the existing join.

Step3: click on add table and select the table as orders

Step4: click on Join tab and click on existing join and click on delete.

Step5: select the order ID from the return table and select O.ID from order table and select the operator <> and click on add. It displays order-ID's which are not that data will displayed.

check the results.

Task 6: Design a view to display the states wise sales.

Step1: Drag the states from the returns table into the row shelve and sales into the column shelve.

Step2: click on abc. It displays states wise sales.

26/4/14

Senario 5: working with multiple measures.

① Individual axes :- If you are creating a seperate axes for each measure on the data view then such a kind of view is called as individual axes.

Task① :- Design a view for state wise total sales and profits in a seperate axes.

Step①: Drag the state to the row shelve, sales to the column shelve.

Step②: Drag the profit to the column shelve, it will automatically create an individual axes for both sales and profits.

Task② :- Design a view to display the state wise total sales, total profits, total shipping cost and unit price and display the sales with unit price in the colour.

Step1: Drag the state to row shelve and sales, profit, shipping cost and unit price to column shelve.

Step②: select sum(sales) in the 'marks card and drag the state and drop into the colour.

Step③: click on unit price in the marks card and drag the state and drop into the colour.

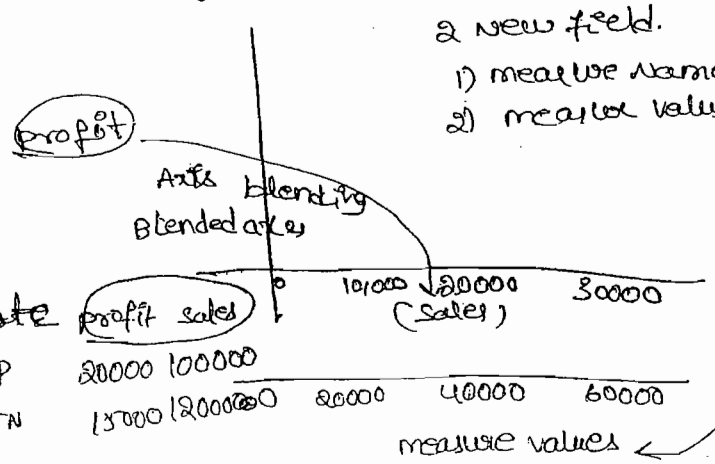
② **Axes Blending (or) Blended axes** :- The concept of mixing the axes for the two measures is known as axes blending. Blending means simply combining (or) mixing. If we blend the axes all the measures will state to the single axes so that all the marks show on a single pane.

* So in the blended axes all the values for each measure is shown along one continuous axes.
* In order to blend the multiple measures simple drag one measure to the existing axes of another measure.
* When we blend the measure TABLEAU creates two new fields with names ① measure names ② measure values
* measure names contains all the names of the different measures which are participating in blending and all the measure values will get stored in the measure value field.
* The axes for the multiple measures is shared existing measure values field.

Note :- Blending axes is the most appropriate way while comparing measures that have similar scale and units for example profit and sales are having same unit called as currency.

2 New field.
1) measure Names
2) measure values.

measure Names
- sales
- profit



measure values
- Sales value + profit value

* Design a v

shipping cost for each state wise.

Step①: Drag the state to the row shelve, sales to the column shelve.

Step② Drag the profit and drop into the existing axes

Step③: Again drag the shipping cost and drop into the existing axes.

③ Dual axes :- The third way to compare the multiple measures in the table AO is by creating a dual axes. In the dual axes we are having two independent axes that are placed on top of each other. Dual axes are useful if you want to compare the measures having different scales and units. for example profit and discount.

* If you want to create a dual axes. drag the measure and drop into the other end of axes. It will automatically create dual axes.

Task①: Design a view to display the customer segment wise sales and discount -

Step①: Drag the customer segment and drop into the column shelve.

Drag the sales into rows and discount drop into the other end of the axes.

It will automatically create a new axes and it will create a new field which contains the measures.

Note:- max we can create max we can add up four layerd axes using dual axes, two on column and two on the row shelve.

Note:- There are the different ways to compare the multiple measure in a single view, by default (us) tableau can create individual axes for each measure (or) we can blend the measure to share an axes and even we can add dual axes where there are two independent axes layered in the same pane.

Combination of charts: If we customise the default shapes in the marks card and if you create our own charts then those kind of charts are called as combination of charts.

* In this charts usually we combines two different charts in a single pane.
* Task-5: Design a combination chart for the customer segmat wise dicount and total profits.

Step1: Drag the customer segment to the column shelve and discount row shelve.

Step2 Drag the profit and drop into the other end of the axes.

Step3 Click on discount in the marks card and select bar.

Step4 click on profit in the marks card and select line.

Step5 Click on abc. It will automatically displays the values in the combination chart.

Tasks :-

① create an individual axes for the quarter wise total profits and total sales.

② create an individual axes for month wise profit, average sales, discount and total quantity order and display profit and sales in colour.

③ Design a blended axes to the quarter wise total sales and total profits.

④ Design a blended axes for the customer segment wise region wise units order and units shipping.

⑤ Year wise total sales along with the total profit and represent each year in diff colour?

⑥ Region wise total profits along with avg sales in each product category?

⑦ state wise total sales and discounts in a dual axes?

⑧ Product category wise total sales and the product based margine in a dual axes?

⑨ Region wise total sales and discounts in a combination chart?

⑩ month wise total profits and shipping cost in a dual axes?

⑪ product category wise total sales and the product based margine in a individual axes combination charts?

Note :- For the axes blending we can't create a combination chart because in the axes blending all the measure values are combined and displayed in a single field called as measure values field.

Interview questions :-

① what is a Join and what are different types of Joins in TABLEAU?

② what is the difference b/w equi Join and non-equi join?
③ what are the difference b/w inner join and outer join?
④ how to work with multiple measures in TABLEAU?
⑤ what is individual axes, dual axes and blended axes and what are the differences b/w them?
⑥ what is combination chart, is it possible to create the combination chart for axes blending (or) not?
⑦ what are the different parts of data view?

28/4/14

Senario 6: Filters: In TableAU by using filters we can restrict the unwanted data by displaying only the required data.

Advantages:
1. Filters will improve the performance and the data view contains the required data.

* In TABLEAU we can apply filters for.
1. Textual (or) character data.
2. Numeric (or) Number data.
3. Date Data.

Filtering textual data:- In TABLEAU textual data can be filtered directly from the data view (or) by making use of filter shelve.

Task①: Filtering the data from the data view.

~~Step①~~: display the customer wise segment sales.

~~Step②~~: display only the consumer and the small busing

Step①: Drag the customer segments to the row shelve
Drag the sales to the column shelve

Step②: click on the customer segment header and click on corporate and select exclude. click

on home business and select exclude. It will display only the consumer and small business.

Task ② :- Filtering textual data by adding fields to the filter shelve. ~~Disp~~ Design a view for state wise sales, for those states whose name is starting with 'A'.

step ①: Drag the state to row shelve and sales to the column shelve.

step ②: Drag the state and drop into the filter shelve.

step ③: select none and check only the states starting with 'A' in the general tab.

(or)

step ④ :- Uncheck the state names starting with 'A' and click on exclude.

step ⑤ :- click on apply and click on ok.

* while filtering the textual dimention in filter shelve we can filter the dimension in four different ways.

1. General 2. wild card 3. condition 4. Top

General :- In the general tab we can filter the data in 3 ways.

1. select from list.
2. custom value list.
3. Use all.

(a) select form list :- Here we can able to select the list of values, manually ~~all~~ at a time, none at a time, few at a time, and even we can exclude all the values, few of the values, none of the values.

② Custom value list :- Here we have to enter the list of values manually.

③ Use all :- If you want to use all the options then we have to select use all.

(II) wild card :- while filtering the textual data if we don't know the complete name and if you know only the part of th string (or) single character and if you want to perform filtering then such a kind of filtering is called wild card filtering. As here we are filtering the data based on a single character that single character is known as wild card.

* using the wild card we can perform the filtering in two ways.
  (1) Including wild card.
  (2) Excluding wild card.

Task③: Display the state wise sales for those states whose name contains "s".

Step1: Drag the state to the row shelve, and sales to the calums ~~to~~ shelve.

Step2: Drag the state to the filter shelve and click on wild card.

Step3: In the match value enter 's' and select contains, click on apply and click on OK.

Note :- while performing the filtering using wild card that filtering is not case sensitive.

* while filtering the ~~character~~ data using ~~wild~~ wild card we can filter it in four ways.
  (1) contains
  (2) Start with.
  (3) End with.
  (4) Exactly matches.

ending with "d". with sales for those

on home step1:- Drag state to row shelve and ~~data~~ sales

only the column shelve

Task ②:- step 2:- Drag the state and drop in filter.

filter step 3:- Select wild card and enter math we

sales, and end with and click on apply and cli

'A'. on ok.

step ③ step 4:- click on exclude if you don't want to d

— lay the states whose name is ending with

step III) Condition:- Filtering the textual data using the condition

Tab.

step * In TABLEAU if you want to filter the textual data

based on some condition then we have to make us

condition tab.

ste Task ⑤:- Display the states whose sales is more than 50000

step①: Drag state to row and sales to column shelve

step②: Drag the state to the filter.

step③: click on condition tab select by field and

select sales sum more than 50000.

(iv) Top:- If you want to filter the top based on the

top n analysis then we have to create the

Task ⑥: filter based on top Tab.

Display the top 10 states based on their total

sales.

step①: Drag the state to the row and sales to

column shelves.

step② :- Drag the state to the filter shelve click

on Top

(48) Step 11: If you want to display the bottom 10 states based on sales click TOP Tab and select bottom (49) 10 sales sum. click on apply and click ok.

Tasks :-

1. Display the continent wise sales for only Asian and African continents.
2. Display the continent wise country wise sales in a nested table. For only the countries belongs to Asian and Europe continents.
3. Design a view to display the product wise sales whose product name contains 'P'.
4. Design a view to display the product wise customer segment wise sales for those customer segments belongs to small business and home office and those product whose name doesn't contains "p".
5. Display the region wise, state wise, total sales and profits for those states who belongs to the east regions and also include Texas and Lucian states.
6. Design a view to display the item wise average sales whose minimum average unit price of the item is 25?
7. Design a view to display ship mode wise shipping cost for all the states for those states whose shipping cost should be more than 1000 dollars.
8. Design a view to display the year wise sales of the containers for those containers whose average sale is more than 500.
9. Design a view to display the category wise total profits in each department those departments whose minimum profit is more than 1000.
10. Design a view to display the top 10 states based on the

(11) Disign a view to display the continent wise total quantity ordered ~~those~~ ~~to~~ and display ~~on~~ top 3 ~~quant~~ continents based on ~~continent~~ quantity order.

(12) Display ship mode wise continent wise total profits where the container doesn't contains small pack and wrap pack.

(13) Display the top 15 categories based on the units ordered.

(14) Design a view to display the top 3 containers on ship mode based on the profit?

29/4/19

Filtering the measure Data :- In TABLEAU we can ~~to~~ filter the measures by taking all the individual values and also by making use of the combined values.

Task (1):- Design a view to display the country wise total sales, whose total sales more than 3,00,000

Step (1):- Drag the country to the row shelve and sales to the column shelve.

Step (2) :- Drag the sales to the filter shelve and select sum.

Step (3) :- while filtering the sales click on atleast and specify the atleast value as 300000 and click on OK.

Step (4) :- Drag the country and drop into the colour legend.

Task (2) :- Design a view to display the countries wise ~~case~~ total sales, whose total sales is b/w 2,00,000 & and 7,00,000

Step (1): Drag the country to the row shelve and sales to the column shelve

Step②: Drag the sales to the filter shelve, select (ST) sum click on range of values specify the minimum value as 2,00,000 and max value as 4,00,000

Step③: Drag the country and drop into the colour legend.

Task②: Design a view to display the country wise total sales where ~~sal~~ total maximum sales is not more than 1 lack

Step①: Drag the country to row and sales to column shelve

Step②: Again drag the sales to the filter shelve, select sum and click on next.

Step③: click on atmost and ~~spe~~ specify the value as 1,00,000 and click on apply and click ok.

* while filtering the measure on the grouped records (or) on the individual values we can perform the filtering in 4 different values.

1. Range of values
2. Atleast
3. At most
4. special

1. Range of values :- If you want to filter any measure based on a particular range (based on min and max value) then we should filter the measure using range of values.

2. At least :- If we know only the minimum value and if you don't know the max value of the measure then we should filter the measure using Atleast.

3. At most :- If you know only the max value of a measure and if you don't know the min value then we should filter the measure using Atmost

4. special :- while handling the null values in the measure this special option is used.

Note :- NULL is an undefined value, it is an empty field we can't define any data for NULL's.

Task (4). Design a view to display country wise sales for those country whose individual sale value more than 5000

Step(1): Drag country to row and sales to the column shelve.

Step(2): Again Drag sales to the filter shelve and select All values and click on Next

Step(3): select at least on specify ~~500~~ 500/. click on apply and click on ok.

Step (4): Drag the country and drop into colour.

Note :- It is not recomended to perform the filtering on measures because as the measures contain large amount of data it may degrade our performance. so insted of applying on measures directly create sets and perform the filtering.

Tasks :-

(1) Design a view to display the year wise total profits for the different years and display the total profits which are in range b/w 5,00 lacs and 10,24,34

(2) Region wise sales whose total sales are in b/w 20 lacks and 50 lacks.

(3) state wise sales whose maximum individual value is 50,000 (4) region wise sales whose maximum individual minimum sale value is 2000

(5) Design a view to display the year wise cost whose total shipping

cost are in range b/w 50,000 and 1,00,000. (53)

(III) Filtering the Date Data :- In TABLEAU the dates can be filtered in 3 different ways.

(1) Relative dates
(2) Range of dates.
(3) Discreat dates.

(1) Relative dates :- In TABLEAU if you know the want to filter the dates for a specific period of time then we have to go with Relative dates.

(2) Range of dates :- If you know the starting and ending values of the date fields it means that if you know the fixed range of dates then we have to go with the range of data.

For example If you want to find the sales from 1-mar-2014 to 29-Apr-2014 as here we know about the fixed range (starting data and the ending data) then we have to go with Range of dates.

*(3) Discreat If you don't know the ending date even we can filter the data using starting date option.

* If you don't know the starting date even we can filter the data using ending date option.

*(4) In order to handle the NULLS we have to go with the special values

(3) Discreat dates :- If you want to filter the each individual dates ~~then~~ with as oppose to the range of dates then we have to go with the discreate dates. This type of filter is called as discreate date filter because we are defining discreat values insted of range.

* This discreat date filtering can be done in 3 ways (1) using general tab (2) using condition tab (3) using TOP

Task①: Design a view to display the 2011 and 2012 sales.

Step①:- Drag the order date to row and sales to the column shelve.

Step②:- Drag the orderdate and drop into the filters, select years and click on next.

Step③: In the general tab select 2010 and 2011 and click on apply and ok.

Task②: Design a view to display the country wise sales for a period b/w 1-June-2013 to 31-July-2013

Step①: Drag country to row and sales to column shelve

Step②: Drag the order date and drop into the filters select range of dates and click on next

Step③: ~~click on~~ select the starting date as 1-June-2013 and ending ~~date~~ as 31-Jul-2013. ~~sel~~ click on apply and click on ok.

Task③: Design a view to display the country wise sales up to the date 31-3-2013.

Step①: ~~Drag country to row~~

Task④: Design a view to display the countrywise sales from 1-4-2013.

Task⑤: Design a view to display the 2013 top 5 countries based on sales

Step①: Drag the country to rows and sales to the column shelve.

Step②:- Drag the order date to filters shelve and select years and click on next.

Step③:- click on general tab select 2013.

Step④:- Drag the country field to the filter

shelve, click on Top Table Select top 5 sales sum,

Task ⑥: Design a view to display the last 3 months sales Anchor to 31-Dec-2013

Step① Drag the country to row shelve and sales to column shelve.

Step② Drag the order date to the filter shelve select relative date and click on months and select last 3 months.

Step③: Select anchor relative to and select the date as 31st dec 2013. click on apply and click on OK

Tasks:-

① Region wise sales for period b/w 1-Jan-2012 to 31-dec-2013

② Region wise sales for the last 3 years. 2013

③ Region wise sales for the quarter Q1.

④ Design a view to display the top 15 item based on profits for the year 2013.

⑤ Design a view bottom 10 states based on profits for the year 2012 (~~only same left~~)

⑥ Design a view top 10 product each region whose sale is more than 2 lakhs and encode the product in diffent colour.

⑦ Region wise total sales furniture for the month Jan and encode them in diffent colour.

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Task①: Design a view to display the current day sales and last 3 days sales.

Step①: Drag the state to the row shelve, sales to column shelve. order date to row shelve.

Step②: Drag the order date to the filter shelve select

oday and change the anchor to 31-Dec-2013. click on apply and click on ok. It will display the current day sales.

:P③ :- Again click on filter select last 3 days click on ok.

ick filter :- The another type of performing filtering the BLEAU is by making use of a quick filter.

It allows the user to filter the values dynamically directly from the dataview.

This quick filter adds the interactivity and dynamism to the data view.

we can add 'n' no. of quick filters for the data view in the Table AU.

Quick filters can be enabled for the textual data, numeric data, date data.

E② : Design a view to display the country wise sales for the year 2013 whose sales are in the range b/w 10 lacks and 15 laks, for those countries which doesn't contains "V" in their name using quick filter.

P①:- Drag the country to the row shelve and sales to column shelve.

P②:- Right click on order date select show quick filter. In the quick filter un check all the years except 2013.

P③:- Right click on sales and select show quick filter and select the range as 10 lakes to maximum

ep④:- again right click on the country click on drop down box goto edit filter, goto wild card select exclude

step⑤ :

Note :-

Filter is share

* By r in respe

* upto sho

* filter

Task ⑥ :

step⑦

- enter U.

Step①:- Drag the country and drop into the colour shelve.

Note:- Even we can add the quick filter on fields which are not part of the data view.

Filter sharing options:- Even in the TABLEAU we can share the filter globally across multiple work sheets

* By making use of this feature we can define the filter in one sheet and simply we apply the filter in the respective sheets.
* upto TABLEAU 7.0 we are having two options for sharings. (or) we can share filters in 2 ways.
  1. local
  2. Global.
* From TABLEAU 8.0 we can share the filters in 3 ways
  1) local. only this work sheets it indicates the filter get applied only to the current work sheet
  2) Global
  3)
  2) All using the data source, it means this filter will get apply to all the sheets which are using the data source
  3) only to the selected work sheets. It indicates if you want to share the filter for the selected work sheets then we should go this option. It is a new option, that doesn't available in TABLEAU 7.0

Task①: Design global filter for the region wise monthwise sales for the months Jan and June and apply this filter for all the sheets using this data source.

Step①: Drag region to row and sales to the column shelve

step② :- Drag the order date to the column shelve.

step③ :- Right click on the orderdate and select months.

step④ :- Right click on the month order date and select show quick filter.

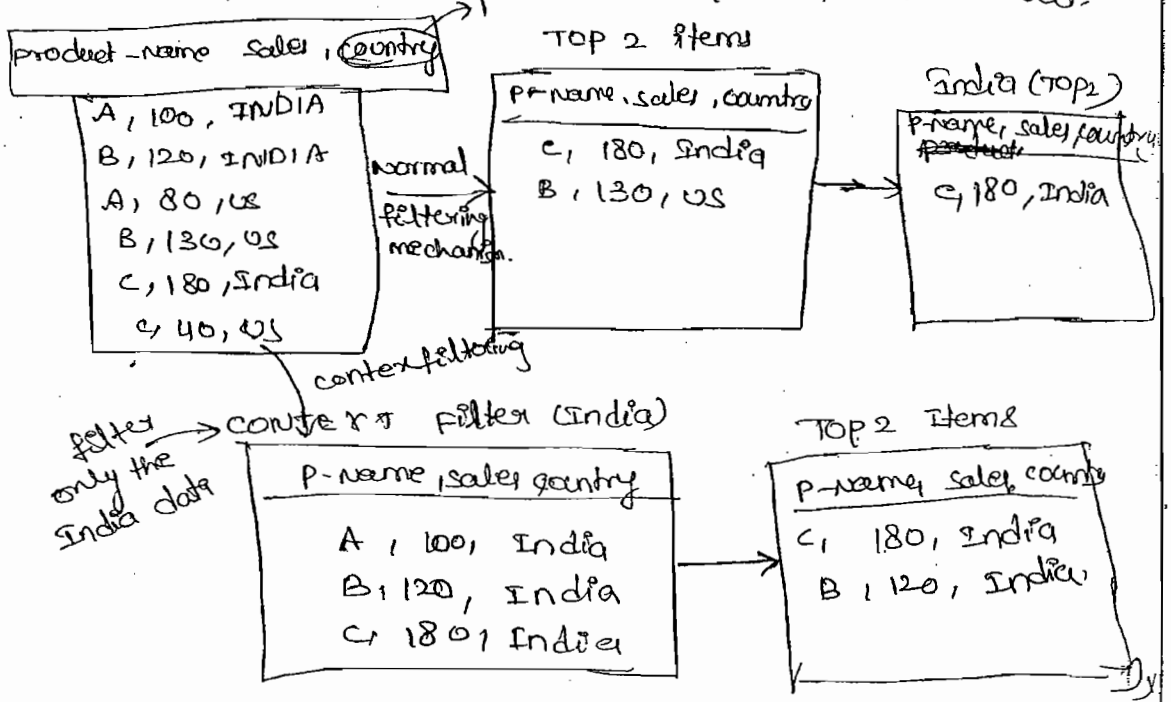
step⑤ :- from the list of months on check all the months and select only January and June

step⑥ :- Right click on the filter, in the filter sheet select apply to worksheets and select All using this data source.

(or)

step⑦ :- click on the drop down box on the quick filter - select apply to worksheets and select all.

⇒ to see top items in India the process like below.



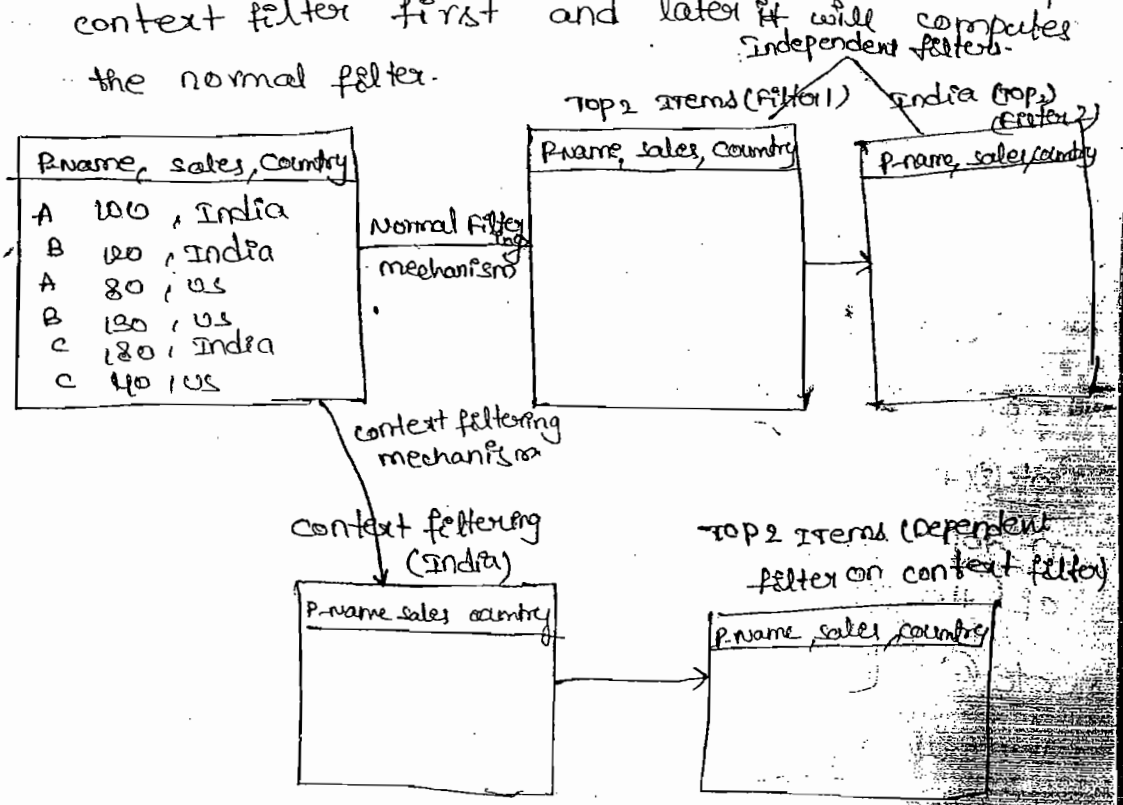
Context filters :- By default all the filters in TABLEAU are computed independently, it means each filters access all the rows with out depending on other filter.

* In TABLEAU if you want to define dependent filter then we have to make use of context filters. 59
* context filters act as the independent filters all other filters that we defined (or) set will act as dependent filters because they process only the data that passed to the context filter.

Advantages :-

1. The context filter is mainly used to create the dependent top n filters.
2. It improves the performance.
3. If you have lot of filters (or) if you are having larger data source the query may be slow, we can set one (or) more context filters to improve the performance.

Note :- Even through if we define the normal filter first and the context filter next, TABLEAU will computes context filter first and later it will computes the normal filter.



Note :- In order to perform the context filtering a temporary table is created automatically by TABLEAU when we set the context. It is mainly used for relational data sources. For EXCEL, MS-ACCESS, TEXT FILES the temporary table created as Acc table.

* For SQL SERVER, MY SQL, ORACLE data source must have permission to create a temporary table

Task (4): Design a view to display the top 10 items based on sales for the furniture department.

Step (1):- Drag item to row and sales to column shelve.

Step (2):- Right click on item select filter and select top 10 sales sum click on apply and click on OK

Step (3):- Drag the department and drop into filter shelve and select only furniture department.

Step (4):- Right click on department in the filter shelve and select add to context. It will display top 10 items of furniture department

Step (5) :- Drag the item and drop into colour legend.

Note (1): context defines an environment where the similar group of resources are available.

Note (2):- Always the context filter is indicated in the grey colour.

Note (3):- Even the always the context filter will appear on top the filter shelve. we can't change the position of the context filter in the filter shelve.

Note (4):- If we remove context from the filter the filter will appears on the filter shelve itself by convert into the normal filter.

1/5/2014

Task 5: Design a view to display the top 10 states for the year 2010 (61)

Step(1): Drag the state to row and sales to column shelve.

Step(2) Right click on state and select filter goto top and select top 10 sales sum, click on apply click on OK.

Step(3):- Drag the order date to the filter shelve and select year and click on next.

Step(4):- select the year 2010 and ~~click on~~ Right click on the orderdate ~~on~~ filter shelve and select add to context.

Task 6 :- Design a view to display the top 10 items for the california state in the year 2010.

Step(1): Drag the state and items ~~to~~ to the row shelve and sales to the column shelve.

Step(2):- ~~Drag th~~ Right click on order date and select show quick filter ~~and select o~~ in the year select only the year 2010.

Step(3):- Right click on the ~~quick fil~~ order date in the filter shelve and select add to context.

Step(4):- Right click on the state and select show quick filter and select California ~~state again~~ in

Step(5):- Again Right click on state and select add to context.

Step(6):- drag the item into filter shelve select top 10 sales sum click on apply and click on OK.

Drag the item and drop in colour legends

It will automatically displays the top 10 items for State california in the year 2010

Note :- we can add one (or) more context filters for a single data view.

Tasks :-

1. Display the top 10 technology states based on sales.
2. Display the top 10 customers in each state for the different years on the home office customer segment.
3. Display the top 10 products by dicount for the years 2013.
4. Display the top 10 products by discount in each and every state for the year 2013.
5. Display the top 10 low priority states based on the the shipping cost ?
6. Display the top 10 customers in each department for the year 2010 in each state under USA.
7. Display the small size top 10 containers based on the order quantity.
8. Display the top 10 items in the office machines product category based on the product based margine.
9. Display the least 10 items based on the shipping cost for the year 2013 in Jan, June, November months
10. Design a view to display the technology wise least 10 items based on sales for the corporate customer segment in the Asian continent for year 2012 under south region.

Data source filters :- From TABLEAU 8.1 the new feature available in TABLEAU is Data source filters. This allows the users to perform the filtering at the data source level.

TASK :- perform the filtering at the data source level for the year 2013 technology data.

step① :- Right click on data source and select Edit data source

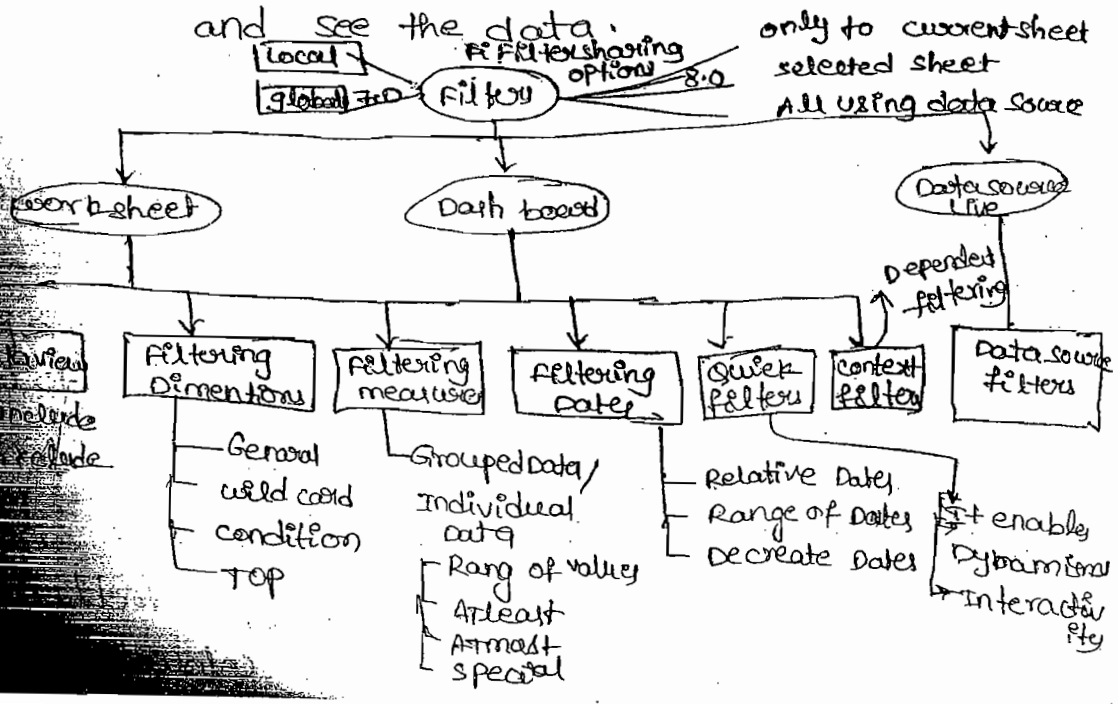
step② :- In that edit data source we want to first add and select order date edit the years so click on and select years and click on 2013 and click on ok. It will 2013 technology data.

step③ :- Again right click on data source click on edit data source and select Department and select technology and click on OK. Finally we get the year 2013 technology data.

step④ :- In that edit data source and click on add and select order department and select technology and click on OK.

step③ :- Again edit data source and click on add and select field order date and select year 2013 and click on ok.

Step④ :- click on view data in the data window and see the data.



3/9/14

Scenario 7: Building maps in TABLEAU:

In TABLEAU maps can be build in 2 ways.

1. In the automatic way.
2. In the manual way (It is also called as custom geo coding)

Building maps automatically in TABLEAU:

* In TABLEAU we can able to build the maps automatically by making use of geo graphic fields. If TABLEAU identifies the geographic fields it automatically creates two fields known as latitude and longitude.
* The latitude and longitude fields won't exists in the data source.
* TABLEAU automatically creates these two fields directly in the data window of the TABLEAU.

Task ①: Building a basic symbol map in the TABLEAU for the different states of USA.

step ①:- click on state geographic field. It ~~autom~~

step ②:- It automatically creates maps with different states.

step ②:- select only the states belongs to USA and select keep only.

step ③:- Drag the state field and drop into the colour.

step ④:- By default it will create a symbol map in TABLEAU with all the states belong to USA.

Task ②: Building filled maps in TABLEAU for the different states of USA.

step ①:- click on the state geographic field, drag the state and drop into colour, el map

automatically creates a ~~f~~ symbol map.

step②: click on marks card and select filled map.

step③: ~~click~~ Drag the state and drop into the lable.

Task②:- Design a filled map to display the state wise sales and profits of USA and also enable the user to select the required state on the map at run time.

step①:- click on the state geographic field.

step②:- Drag state and drop into calour.

step③:- ~~click~~ on marks card and select fielded map

step④:- Drag the state, profit, sales to the lables.

step⑤:- Right click on the state and select Quick filter.

Task③:- Design a symbol map for the quantity ordered in the ASIAN continent.

step①:- click on the country geographic field,

step②:- Right click on continent select show quick filter.

step③:- uncheck all the continents except Asia

step④:- Drag the order quantity and drop into the ~~lable drag the~~ lable.

step⑤:- Drag the country and drop into color.

step⑥:- ~~If we want~~ Drag and Drop the order quantity to size. ~~It you~~ will display the size of the symbol based on order quantity.

Note:- In the TABLEAU we can able to build the maps in Online and Offline. ~~click on map in tool bar and select options online or offline~~

Task5:- Designing Style maps in TABLEAU. (66)

Here we can design the maps in 3 styles -

1. Normal
2. Grey
3. Dark

* The default style is ~~grayy~~ grey..
* In TABLEAU we can build the maps in offline & online.
* If you are building the maps in online even we can add the data ~~yea~~ layer and map layer also, where as in offline we can't add the data layers, map layers.
* In the online mode tableAU connects to the remote server and fetches the data.

step①:- click on the state geographic field.

step②:- click on map tab goto map options select the style as either normal grey (or) dark. Even adjust the washout place in the requirement, even add the map layers and data layers which are in the online mode.

Note①:- In tableAU we can build the maps in the online mode by default.

Note②:- If you want to build in offline mode click on map tab goto background maps and select offline.

* If you want to design a maps in offline mode click on the map tap and goto background select the mode either offline (or) online and set as default.

Task6: Design a map to display the state wise profits for the states belongs to India, for the different year in each department.

step①:- click on the state geographic field.

step②:- Right click on the country and select show quick filter.

step③:- From the list of countries check only India and uncheck every thing.

step④:- Drag the profit and state into the lable.

step⑤:- Drag the department drop into the row shelve and order date into the column shelve.

step⑥:- click on lable and click on edit, and edit the profit lable and state lable and display them in a single line. click on apply and click on ok.

Task⑦:- Design a view map to display the state wise sales and profits for the ~~ind~~ India in a dual axes.

step①:- click on the state geographic field.

step②:- select only the state belongs to India and select keep only.

step③:- Drag one more latitude and drop to the row shelve.

step④:- In the marks card of the 1st latitude drag the profit into lables. In the marks card of 2nd latitude drag the sales into size.

In the marks card of the 2nd latitude select pie chart and drag the department

into the color legend of the latitude 2 marks card.

step(6):- In the 1st latitude of marks card select filled map and drag state into the color.

step(7):- Right click on second latitude in the row shelve and select dual axes.

step(8):- After selecting dual axes in a single map it combines both the single map and filled map.

note:- If the ~~tal~~ TABLEAU is not defaultly identifying the geographical fields even we can add the geographic property by right click on field and goto geographic property and select the available property based on field.

Tasks:-

1. Design a filled map for the state wise sales and profits belongs to us.
2. Design a map to display the country wise profits and the no of customers for the Europe in the filled map and symbol map.
3. Design a map for the city wise profits of the state California in a filled map and sales in a symbol map and combine these two in a single map.
4. Display the country wise shipping cost for the north india continent for the different years.
5. Display the country wise total units ordered for the different department on the African continent every month.
6. Design a map in the offline mode and display the different year wise profits for the Asian countries.

4/4/14 ~~[illegible]~~

Custom Geocoding :-

Building maps manually in Tableau :- In Tableau we can build maps with our own data, even with our own latitude & longitude fields, with the help of Batch geocoding, the process of building the maps on our own data with out using automatically generated, latitude & longitudes is known as custom geocoding.

Task1 :- Implementing custom geocoding on a single table (or) single file.

step①:- Create an excel file with the following data country, state, city, Address, Pin code.

India	A.P	Hyd	Atm	mytrivanam Ameerpet. 500072

step②:- open Google & enter batch geocoding, click any batch geocoding websites & copy the data from the excel file & paste it in to the input select the delimiter [Tab▽] & click on [gecode]

step③:- copy the output from the batch geocoding & paste it in to the excel.

step④:- Remove all the copied data except latitude, longitude data & for the latitude data give the field names as Latitude & for the longitude data give the field names as longitude & save the file as excel. geocoding.

step⑤:- In Tableau click on connect to data & MS excel & select that custom geocoding file, click on open.

step⑥:- In the work book connection window → sheet1 & Data connection window select → Live connection

step⑦:- click on state geographical field inorder

to create the map automatically.

Step8 :- If you want to create map with our own geo coded fields, drag the longitude field to the columns shelf, latitude fields to the row shelve. (Latitude, Longitude fields which we created)

Step9 :- Drag the state to the color ~~ste~~ shelf & Address to the Label shelf.

Task② :- Implementing the 'custom geocoding' on jointy

Step①:- modify the existing data file by removing Latitude & Longitude from the 'sheet1' & copy it into the 'sheet2'.

Step②:- copy the city data from the sheet 1 & paste it in to the sheet 2 & save it.

Step③ :- Right click on data source click on Refresh

Step④ :- Again right click on source & select edit data source connection multiple tables click on add table & select sheet2 & click on 'join' & join sheet1 & sheet2 with common dimension using common column 'city'.

Step⑤ :- Drag the Longitude from the sheet2 in to column (~~comm~~ commonseparatedvalues (csv) shelve & Latitude to row shelve.

Step⑥ :- Drag the address from the sheet1 to the color & to Label shelve.

Step⑦ :- now it displays a map with a latitude & longitude from the sheet2 & Address from the sheet1

Task②:- performing the custom decoding on different sources belongs to two different technologies.

step①:- cut the sheet to data from excel and pasted into the notepad.

step②:- save the notepad as DB2. click on save.

step③:- click on connect to data select text file and select the file DB2 from the desktop and click on open.

step④:- In the text file connection window select ~~live~~ DB2 connection and click on ok.

step⑤:- In the data connection window select live connection and click on OK.

step⑥:- Right click on the existing excel file and click on refresh.

step⑦:- create new work sheet drag the latitude to row and longitude to ~~colum~~ column shelve from the DB2 text file.

step⑧:- Go to excel sheet one click on the broken relationship it will automatically defines the relation-ship between excel and the text file

step⑨:- now drag the add to the color and label.

step⑩:- The DB2 text file is indicated with the blue color, because it is acting as a primary data source as we took the latitude and longitude fields with the work sheet first and the excel sheet is indicated with orange color as we took the address field.

Note:- In data blending data sources with blue color ~~pri~~ indicates primary data sources,

data source with orange color indicates secondary (22)

* In data blending we can able to blend the two different sources based on the common dimention.
* In data blending even through with the common dimensions are existing in both the data sources in order to display the values, atleast on value in both the fields should match.

Note:- In data blending always we should have one primary data source and 'n' no.of secondary data sources.

Task (4):- performing the custom Geocoding in the import method.

step(1):- In TABLEAU even we can perform the custom Geocoding from a CSV file.

Steps to perform the custom Geocoding from a CSV file.

step(1):- click on map tab → go to geocoding and select import geocoding.

step(2): select the location of the file and click on import.

Note:- Import the file which contains Latitudes and Longitudes and place the file in the folder.

step(3):- If we want to remove the file from the geocoding select map tab.

Senario 8 :- Sets : sub set of some data called as set.

* These sets are the custom fields, that stores the subset (or) sub part of data based on some condition.
* A set can be based on computed condition (or) based on a specific data point in the data view. By using the sets we can compare & able to perform Analysis based on the subset of data.
* TABLEAU displays the sets at the bottom of the data window & lables them with a 'set icon' [ ]
* In TABLEAU we can able to define 2 types of sets
  i) constant sets
  (or) computed sets.

i) constant sets :- The values in the constant set won't change always they are static.

ii) computed sets :- The values in the computed sets changes when the underlying data changes, based on some condition (or) 'TOP'.

* when ever if you drag any computed sets (or) constant sets in to the columns (or) Row shelves it will be displayed in the In/out mode.
  In → indicates 'In' members of the set (or) members which are part of the set.
  Out → Indicates 'Out' members of the set (or) members which are not part of the set.

creating a 'constant set' in Tableau for TOP 5 customer based on profit.

Task①:- creating a 'constant set' in TableAU for top 5 customers based on profit. (74)

step①:- Drag the customer name to the row shelve & profit to column shelve.

step②:- click on sorting ~~bo~~ button in the toolbar, in order to display the customers based on profits in the decending order.

step③:- In the data view specifically select top 5 customers & select create set.

step④:- In the create set window, Give the set name as 'top 5' customers by profit constant & click ok.

step⑤:- Drag the top 5 customers by profit constant to row shelf.

step⑥:- Right click on top customer by profit select show ~~menu~~ ~~bars~~ members in the set, it automatically displays the members of the set.

Task②:- creating a 'computed set' in Tableau

step①:- Right click on any dimension & select create set (customer name)

step②:- In create set window, give the set name as 'top5' customer by profit ~~to~~ dynamic click on top tab select By field top5 profit sum click on ok.

Note①:- Always 'sets' can be created only on the measure 'dimentions' it is not possible to create a set on the ~~dimention~~ measure because measures always contains the continuous data where as Dimension ~~are~~ creating discrete data.

Note②:- Even through if we convert a measure to discrete it is not possible to create a set on the discrete measure.

Note③:- If we convert a measure to Dimension, then we can able to create a 'set' on the measure

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Combined sets :- In TABLEAU even we can combine the sets based on single dimension in order to compare the members in both the ~~sells~~ sets. when we combine two sets, it will create a new set in four different ways

1. All the members in both the sets.
2. only ~~st~~ the shared members in both the sets.
3. only the members which are part of the left set
4. only the members which are part of the Right set

* Based on thing four ways we can create a new set which allows ~~the~~ to answer most complex problems

Note :- It is not possible to create a combine set on the multiple dimensions, always combine set can be created based on only the single dimension.

Note :- we can create a combine set based on two other combine sets.

Task (1) :- (1) Obtain the states information which are participating in both TOP5 sales and TOP5 profits

(2) only the top5 states which are part of sales.

(3) only the top5 states which are part of profits.

(4) All the ~~m~~ states in both TOP5 sales and profits

step (1) :- Right click on the state field and create set. give the set name as top5 states by sales. click on Top tab select By field and select top5 sales sum. click on apply and click on ok.

step (2) :- Right click on state again and select create set and give the set name as top5 states

click on Top tab select By field and select top5 profit sum click on apply and click on ok.

Step③:- In order to find the states which are part of both sales and profits select two sets top5 states by profits and top5 states by sales Right click on the two sets and select create combine set. Give the set name as common states in Top5 sales and profits. And select shared members in set combined option in both sets. click on apply and click on ok.

Step④:- In order to find only the top5 states based on sales give the set name as top5 sales states and in the sets options select top5 by sales except shared members. click on ok. Similarly create a combine set for top5 profit states and all the states for both sales and profits.

Step⑤:- Drag all the four combine sets to row shelve and also state to the row shelve.

Task②:- Design a view to display the Repeated customers for the year 2012 and 2013.

Step①:- Drag the customer name to the row shelve and drag the order date to the filter shelve select years and click on next.

Step②:- In the list of years select only 2012 and click on ok.

Step③:- select all the customers by pressing in the data view using Control+A, Right click on the data view and select create set, give the set name as 2013 customers.

step④:- In the filter shelve unselect the years ~~and~~ select 2012 and click ok.

from the list of customers select all customers using control +A Right click on data view and click create set and give set name as 2012 customers.

step③:- select those two sets and right click on that sets and select create combine sets and give set name as repeated customers and select shared members in both the sets and click on ok.

step⑥:- Drag the repeated customer set to the row shelve.. Right click on repeated customers set and select show members in the set.

step⑦: create a new sheet and drag the repeated customers set to the row shelve and sales to the column shelve in order to find the sales contribution from the repeated customers.

Tasks:-

① Design a view to display the top 10 repeated states based on sales for south region, for the years 2010 and 2012.

② Design a view to display the least 5 states based on profits for the years 2010 and 2011.

③ Design a view to display country wise top 10 shipping cost for the years 2010, 2011, 2012 and display only the countries which are part of only 1 year.

Tk ③:- Design a view to display the sales contribution of frequently ordered items in which each item is ordered at least for 20 times

step①:- Right click on item and select create set and

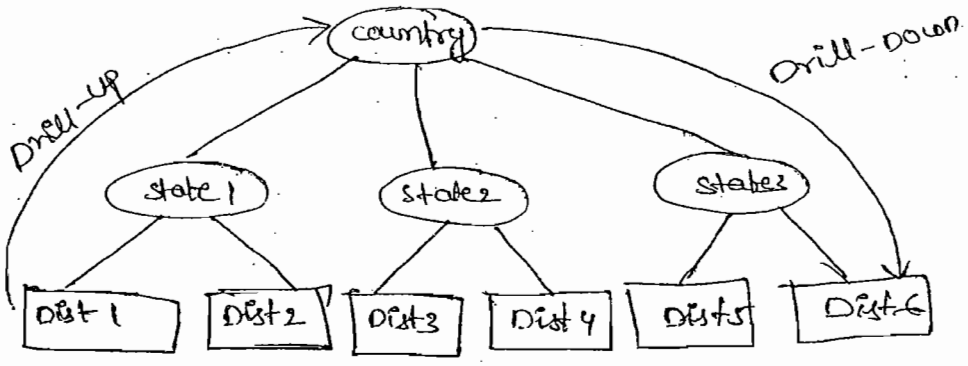
give the set name as frequently ordereditems and click on condition tab select By field order ID count (Distinct) more than or equal to 20 click on apply and ok.

Step(2):- Drag the frequently ordered items to row shelve and sales to column shelve.

Step(3):- Right click on sales go to quick table calculations and select pecentage of total, we get the percentage sales contribution of the ordered items.

~~Scenario 10:~~

Hierarchy:- Defining one-many relation-ship is known as hierarchy.



* The process of viewing the data from the higher level to the lower level (or) from the top to bottom is known as Drill-Down..
* The process of viewing the data from the lower level to the higher level (or) from bottom to top is known as Drill-up.

Task(1):- Create a hierarchy on the country, state city, postal code in TABLEAU.

Step(1):- Select country, state, city, postal code right click on this fields and select Remove from hierarchy

step②:- select country state right click on these two fields and select add to hierarchy. Give the hierarchy name as country.

step③:- Right click on city and select add to higherarchy and add to country. Similarly done with postal code.

step④:- click on country to the row shelve drill down the country to state, state to city and city to postal code. (Here must click on + symbol on country in row shelve then it shows state vise versa) for drill-down.

Tasks:-

① create a set to find the dynamic top 25 customers based on sales.

② create a set to create north region top 5 states based on profits and display the percentage contribution.

③ Display the ~~top 5~~ bottom top 5 countries based on units ordered and display the country names.

Note:- Even through if we convert any dimension to the measure, then we can able to create a section the dimension. Even through here after converting a dimension to measure how we can able to create a set means, Dimension contains the 'independent' values.

Tasks:-

① Design a view to display the set in such a way that display all the in members in the set and for out members display as others.

wise discount and display the average discount for all the items for the different years.

(3) Design a view to display the month wise total orders total sales and total profits in each and every country for the different month and for the year 2013 -

(4) Design a view to display the population growth in the different states of India (custom geocoding) and also display the illiterate percentage.

(5) Design a view to display the units ordered for all the items for the south region based on the display the top 5 items in each category.

(6) Design a view to display the region wise total shipping cost and average profits and enable the dynamism for each year.

(7) Design a view to display the category wise total sales for each department and also display the average profit for the different quarters.

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Senario 9 : Actions : In TABLEAU actions are mainly used to add the interactivity and context to the data'.

* In TABLEAU by making use of this actions we can ~~link~~ add the interactivity b/w multiple worksheet we can link the web pages to the work sheets, files to the work sheets.

* Using this actions we can use the data in one view to filter the data in another view. After filtering the data even we can call the attention to the specific results by highlighting them.

* There are 3 types of actions in TABLEAU. (84)

1. Filter action.
2. URL action
3. Highlight action

1. Filter Action :- filter actions are used to enable the interactivity b/w multiple work sheets.

* This filter actions allows the used to send infor-mations b/w work sheets.
* In filter action we need to define the source sheet and the target sheet.
* Using the filter action we can send the information from the source sheet to the target sheet by displaying only the related information.
* Filter actions adds the interactivity at the worksheet level and at the dash board level. At the work sheet level it adds the interactivity in b/w multiple work sheets.

Task (1) :- Design a Action to enable the communication b/w two work sheets (by using Filter Action) in such a way that if you are click on 1st work sheet it should display the data on the 2nd work sheet.

* First work sheet contains Region wise year wise data.
* 2nd work sheet contains state wise year wise data.
* If we click on in the Region to display the fields dependent on that region.

Step (1) :- create a work sheet and ~~nam~~ Rename that work sheet as Regionwise sales which cont ains Region-wise - year-wise sales. By

dragging Region to Row shelve and sales to column shelve and order date to column shelve.

Step ②:- create a second work sheet and Rename as state wise sales which contains state wise - year wise sales by dragging state to columns and sales, orderdate to rows.

Step ③ :- click on work-sheet tab and select actions

Step ④:- click on add actions and select the filter and name that as Region-State-filter.

Step ⑤ :- select source sheet as region wise sales and target sheet as state wise sales and select run action using Hover and click on OK.

Task ② :- Design an action to display only the department wise each item profit By clicking on one department it should display only the items belong to the department. Here item we are having department wise sales on 1 sheet and item-wise - profits on other sheet.

Task ③ :- Design an action in such a way that if we are clicking on multiple sheet we have to display the common target. If we are having 4 work-sheets one work sheet contains Region-wise sales and 2nd sheet contain state-wise sales and 3rd contains department wise sales and 4th contain item wise profits if we click on any region (or) state (or) department it should display that particular item wise profits

Task (4):- Design an action in such a way that if you click on any state it should display the cities under that state which contains profit information.

(2) URL Actions:- URL Actions are mainly used to enable the communication and interactivity b/w work sheet and web page, and also in the URL actions we can able to add files and other web based resources out side of the TABLEAU.

* URL actions is just a hyperlink that points the web page, file (or) any other resources.
* URL actions are mainly used to add more information to the data view in the TABLEAU.

Task (1):- Design an Action in such a way that display the complete information of state having highest sales

step (1):- Drag the state to row shelve and row to columns shelve.

step (2):- open any web browser and type california wiki copy the URL.

step (3):- click on worksheet tab select actions and click on add action and select URL. Give the action name as california info and select the source sheet as only the sheet that contains statewise sales info and in the URL just place the california info URL and select the run action on menu and click on ok.

step (4):- click on ok just place your pointer on the california state and click on hyperlink.

Note (1):- we can add the multiple URL actions to the single sheet. Here all fields can enable the URL actions in that single sheet.

Note (2):- we can add the URL's actions to the multiple

Note③:- URL ~~action~~ for the ~~filter~~ URL actions we can run the action we can using menu (or) select.

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Highlight Actions :- In TABLEAU highlight actions allows to call the attention to the particular part of the data view and dimming the other part of the data view.

* In TABLEAU we can added the particular part of the data view by selecting the marks in the data view.
* If we define a highlight action and if we select the marks in the data view all other marks will get dimmed by calling the attention to the part we selected.
* All selections is saved in the work book. we can perform the hightlighting in multiple ways.

1. using either work sheet (or) dash board tab and directly adding the 'Action'.
2. using the color legend hightligting.
3. using the tool bar highlighting option.

Task①:- ~~cre~~

Task①:- Design a dash board in such a way that if we click on any state it should highlight only the cities under that state.

step①:- create a map by dicking on the state geographic field. Drag the state to color legend.

step②:- In the marks card select filled map. Drag the state to lable.

step③:- create a map by clicking on the city geographic field.

step④:- Design a dash board by dragging the state and city into the dash board.

step⑤:- click on the dash board tab and select action

step⑥:- In the action window select highlight action (88) specify the action name as state-city. In the source sheet select the dashboard states by unchecking cities. In Target sheet select the city and by unchecking state. click on ok.

step ⑦:- click on any state in the dashboard and check weather the respective city is highlighting (or) not.

Task ②:- performing highlighting using the color legend.

Design a view to display the continent wise sales and display the continents in such a way that highlight only the continents having top most sales by dimming others.

step①:- Drag the continent to the row shelve and sales to column shelve.

step②:- click on show me and select packed bubbles.

step③:- In the color legend window select highlight selected items and select the continent having top most sales.

step④:- Right click on the color legend window and select assign colors to the palet.

Note①:- If you perform the highlighting using the color legend it will automatically add the action in the ~~background~~ ~~background~~ background.

Note②:- Even the tool bar also if we click on the highlighting button we can able to perform highligting and even we can disable the highlighting using the highlighting option at the tool bar. We can disable highlighting at the work sheet level even at the work book level

Note③:- If we disable highligting we cannot perform further highlighting but it won't happen any thing to the existing highlighting.

Note④:- Assigning the colors to pallet means it will [illegible] highlighting with the

(88) Assigned color-

(89)

Senario 10 :- Sorting, Grouping, working with dates and ~~physical~~ fiscal years, missing References.-

Sorting :- In TABLEAU we can able to perform the sorting in two ways. 1. computed sorting.
2. Manual sorting.

computed sorting :- In the computed sorting TABLEAU uses the programatic rules to arrange the data in either ascending (or) Descending order.

* In the computed sorting we can sort the data in four different ways. 1- Data source order.
2. Alphabetical order.
3. Field ~~orde~~
4. manual

(i) Data source order :- In the data source order TABLEAU will sort the data according to the data in the data source.

(ii) Alphabetical order :- In this order TABLEAU will sort based on first character of the value it will sort the data.

(iii) Field :- Even using the field also it will sort the data based on some condition.

(iv) Manual :- In the manual way we can ~~create~~ sort the data according to our way.

Task (1) :- perform the computed sorting on the state wise sales, and sort the states in all possible available ways.

step(1) :- Drag the state to the row and sales to column shelves.

step(2) :- Drag the state to the color legend.

step(3) :- Right click on the state and select sort ~~or~~ order, either ascending (or) Descending and select sort by either Data source ~~order~~ (or) Alphabetical order (or) field (or) in manual way, click on apply and click on ok.

Note①:- TABLEAU orders the data according to the data source by default.

Note②:- Even we can sort the data from the axis (or) from the headers.

Note③:- From the tool bar also we can sort the data either ascending (or) Descending.

Task②:- perform the computed sorting, the year wise category wise total average discounts and sort the data based on each category

Step①:- Drag the category to row shelve and order data to the columns. ~~and~~

Step②:- Drag the discount to ~~lable~~ lable. Right

Step③:- Right click on category and select sort, select sort by field discount average ~~sort~~ and sort order as descending click on apply click on ok.

Step④:- click on analysis and go click on goto Tab and click show Rows grand total.

manual sorting :- The 2nd way of arranging the data in an order is in the manual way. In the manual way we need to arrange the data values manually in our own order. This ~~so~~ type of sorting is helpful if you want to arrange the in some specific order.

Task①: manually sort the region wise sales, by arranging west region to the top and central region at the bottom.

Step①:- Drag the Region to row and sales to column shelve

Step②:- ~~select~~ ~~the~~ Drag the region to the color legend.

Step③:- manually select the west and drop into the 1st place.

Step④:- manually select the central and drop into the last place.

Aliases :- In TABLEAU we can create the alias names to the field values, Aliases can be created only for the dimensions, Alias is nothing but an alternate name.

Task①:- Design a view in such a way that display west region for west, east region for east, south region for south and central region for central.

Step①:- Right click on region goto default properties and select aliases and enter south for south region and similarly edit all the regions and click on apply click on ok.

Step②:- Drag the region to the row shelve and sales to the column shelve.

Note①:- we can't create the aliases for the measures

Note②:- we can able to create the aliases for the sets.

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Grouping :- In TABLEAU if you want to organize the data at higher level we need to combine the data at the higher level in order to store all the similar objects at one place.

* A group is a combination of all the similar dimensions members and measures that make higher level categories.

* In TABLEAU the groups can be created in multiple ways directly from the data view.

By selecting the marks in the data view.

From the header in the data view, from the

* In a single data view we can create multiple groups and that field will get added in the data window separately (or) In other words if we create any group automatically a new field get add in the TABLEAU data window.

* on the newly created group field we can't perform any calculations.

Task①:- create a group from the data view. Display the groups in dataview, group all the office related categories in one group and document related categories in to the document group and the computer related categories into the computer group.

step①:- Drag the categories to row, sales to column shelve.

step②:- select all the office categories in the toolbar select group members.

step③:- select all the document categories in the tool bar select group members it will automatically created a group. Right click on created group and click on edit Alias and select enter name as document group and click on Ok.

step④:- select all the computer categories in the tool bar select group members it will automatically created a group Right click on created group and click on edit alias and enter name as computer groups and click on ok

step③:- again drag the category to the row shelve in order to see the group which categories belongs to which groups.

Task②:- Designing a group using the marks in the data view, for the order priority wise total sales and profits.

step①:- Drag the profit to row and sales to column shelves.

step②:- Drag the order priority to the level detail shelve (space under the Detail and Tooltip is called Level detail shelve), select the values whose value is more than 2lakh

In tool-tip select group members.

step③:- Immidiatly after selecting the group member TABLEAU will place all the members in a group and rest of the members in the other group.

note:- The main difference b/w grouping the at the header level in the data view and marks in the data view is marks will automatically add other group and display all other members in a seperate color-wise

while if you create a group under header it will display all groups in same color.

Task③:- Grouping the data from the data window.

In TABLEAU even we can group the data from the data window, immidiatly after creating a group from the data window it will create a separate field for that particular group.

Task③:- Group the customer names in such a way that place all the customers whose name starts with 'A' in one group and rest of the customers in other group.

Step①:- Right click on customer name and select create group.

Step②:- In the create group window select the 1st customer name starting with A and hold your shift button select the last customer and click on group, and give group name as 'A group'.

Step③:- select the 1st customer in the list, hold shift button and select last customer and click on group and give group name as other (or) simply check 'include other' in the bottom to create the other group click on apply and click on ok.

Step④:- Drag the customer name (group) to the row and customer name to the row shelve.

Task④:- How to edit an existing group.

Step①:- In the existing customer name group create one more group for the customers whose name starting with 'B' and indicating the group as B group.

Step①:- Right click on the existing group and select the edit group.

Step②:- Drill Down other group select the 1st customer whose name starting with B hold

shift button and select last customer whose name starting with 'B' and click on group and edit group name as cust B group and click on apply and click on ok.

Note :- If we want to un group all the members at a time, we have one option Reset ~~click on~~ in the edit group window, click on that Reset. click on apply and click on ok.

Note :- we can able to create a group on the multiple dimentions but we can't create a set on the multiple dimentions.

Task (4) :- creating a group based on multiple dimension.

Design a view to display the region wise, department wise category wise total sales in that

(i) Group the data based on category and create office group and Document group

(ii) create a group for the furniture and technology Department

(iii) create a group for the central and east region.

(iv) create a group based all the dimension.

Note (1) :- If we want to un group the members in the data view just select the group in the data view and the tool tip select undo.

Note (2) - Even we can move the members from one group to the other in the edit group window.

Note (3) :- Even on the maps we can able to create the sets and groups.

Task 6:- Design a map in such a way that display all the states in the north region in the north group and south region in the south group and display all the other groups as others. ~~click on state~~

step①:- click on state geographic field.

step②:- Select the states which are in the north ~~and~~ end and it tool tip select group members, Right click on the group and select ~~add~~ edit area st and specify the name as north group.

step③:- ~~Right click on the~~ select all the state which are fall in the south region and its the tool tip select ~~in~~ group and specify the group name as south group.

step④: Drag the state group to the lable shelve. In order to display ~~select the~~ the group names in the map.

Task 7:- combining two fields in the TABLEAU. Design a view in such a way that display the region and state in a single field along with their sales.

step①:- Drag the region and state to row and sales to column shelve.

step②:- select region and state in data window and select combine fields.

step③:- Drag the region state combine field and drop into the row shelve.

Note:- All the combine fields will get stored in the TABLEAU level it won't get created at the data source level. the combine fields are stored

In the TABLEAU work book

Note:- we can combine a group field and normal data field into single field in the tableau.

Note:- Even we can combine two groups into single groups using combine field option but we are not having any combine group option.

Note:- Even we can able to create a group on the measure but we can't create a set on the measure.

Note:- Even if we create any group on the measure, that group will get automatically stored in the dimension

Note:- Even we can able to combine a measure group and dimention group using combine field option.

Note:- Always sets and groups contains the default properties equal into the dimension.

Note:- If we combine two groups it will create a new field not a new group, where as if we combine two sets we can it will create a new set.

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Note:- we can create a group on dimension, similarly on the multiple groups also we can able to create a new dimension.

Working with Dates:-

Fiscal year:- fiscal year also called as ~~calender~~ Budget year. It is the year ~~where~~ (or) period where all the financial statements in business and other organizations are calculated.

* fical year also called as financial year. In other words the fiscal year refers to year used for income reporting.

* Every time it is not possible to display the date fields in the default way. In some times a date field needs to be expressed in terms of the organization's Fiscal year, which different from normal calender year which commonly runs from Jan 1st to Dec 31st.

* But organization fiscal year start from might start from different year.

* A company fiscal year may start from Jan 1st, May 31st. In that case we have to display the date values appropriate to the organization Fiscal year.

* Task①:- Design the organization fiscal year from June 1st to Dec 31st and display the sales in that fiscal year.

step①:- Right click on the order date goto default properties, In that goto fiscal year start and select June.

step②:- Drag the order date to the row shelve. Now it will convert normal to fiscal year. and in the worksheet it prefix the year with FY (fiscal year).

step③:- Again drag the orderdate to row shelve and convert that level order date to month. Drag the sales and drop into the columns.

~~Eg~~ ~~Fiscal year from Aprit to march~~ :-

~~cal-year~~ cal month ~~cal-quarth~~ ~~Fiscal year~~ ~~fiscal mor~~

Fiscal year from April to March :- comparision b/w cal and fiscal years

cal-year	cal-month	cal-Quarter	cal-week	Fiscal year	Fiscal month	Fiscal Quarter	Fiscal week
2013	Jan	Q1	w1-w4	FY2013	Jan	Q4	w40-w44
2013	Jun	Q2	w23-w27	FY2014	Jun	Q1	w1-w13
2013	Dec	Q4	w48-w52	FY2014	Dec	Q3	w36-w40
2014	Feb	Q1	w5-w8	FY2014	Feb	Q4	w45-w48
2014	April	Q2	w13-w17	FY2015	April	Q1	w1-w4

Note:- while comparing the normal calender values with the ~~nor~~ fiscal year values the year, quarter, and week number they won't match. Always the fiscal year prefixed with FY.

Task(1):- Obtain the total amount of profit obtain for the different fiscal years in south region.

Step(1):- Drag orderdata to row and profit to column shelve.

Step(2):- Drag the region to filter shelve and select the region as south.

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Data Binning:- In TABLEAU it is not pallible to create a set on measures, if we went to create a set on measure we want to create some set kind of data then we need to design a bin.

* Bins are useful to organize the values of a measure into decreate points.
* In TABLEAU Bins are created only for the relational data sources. This feature is not supported for the multidimentional data sources.

* In TABLEAU if you create a bin, it will automatically create a new dimention. This is because we are creating the different categories of data for the continuous numeric values.

* Task :- Design a Bin for ~~pr~~ the profit ~~(or)~~ of size 10,000 and display the states falling in the different categories.

Step ①:- Right click on the profit and select create Bin. enter the bin name as profit Bin and enter the size of the bin as 10,000. click on ok.

Step ②:- It will automatically create bin in the dimensions with a profit ~~of~~ Bin.

Step ③:- Drag the PROFIT Bin to the row shelve and ~~and~~ state to the text.

Note:- In TABLEAU always the Bins are indicated with the histogram diagram.

Task ②:- Design a bin for the order quantity of size 10 kgs and display the items falling in each order quantity.

Step ①:- Right click on the order quantity and select create Bin.

Step ②:- specify the bin name as order quantity bin and bin size as 10 click on ok

Step ③:- Drag the order quantity (bin) to the row shelve and items to the text.

Differences b/w Group and Bin.

Group	set	Bin.
1. we can create groups on both dimentions and measures.	1. sets can created only on the dimensions	1. we can created bins only on the measures.
2. If we create any group on the dimenti	2. If we create any set all the sets will get	2. If we create any bin all the

Group	set	Bin (102)
(or) measure it will create a new field on the dimention.	seperately stored of data in the sets window.	TABLEAU will create a new field for the bin in the dimensions.
3. we can't create any calculations of group	3. we can create calculations on sets.	3. we can't create calculations on Bins.
4. on the group we can create a set.	4. we can't create any groups and bins on the sets.	4. we can create a set on the bin but not create group on bit.
5. In the group it is not possible to see all the values (or) members	5. In sets we can display all the members in the form of In and Out.	5. In Bins we can see the value in lower to (or) upper limit.
6. groups support para-meters.	6. sets supports para-meters.	6. Bins also support para meters
7. we can't combine ~~gro~~ two groups directly. But we can combine fields using ~~eor~~ that fields we can combine two groups.	7. we can combine two sets directly	7. we can't combine two Bins directly but we can combine two bins using combine field option
8. If we combine two groups the result will not be a group. it will create a new dimention (or) field.	8. If we combine two set it will create a new set.	8. If we combine two bins the result will not be a bin, it will create a new dimention field.

~~Dashboard~~ :- Sorting using calculations

Task:- Design a view to display the continent wise dynamic measure and also based on the user selection of the measure it should sort the view automatically.

Step(1):- create a parameter with name sort_measure select the data type as string and allowable values as list and in the list values enter the following ~~values~~ sales, profit, unit price order quanty. click on OK

Step(2):- create a calculated field with name sort_option and enter the following formula

```
CASE [sort -opti measure]
    WHEN 'sales' THEN sum([sales])
    WHEN 'profit' THEN sum([profit])
    WHEN 'order quantity' THEN sum([order quantity])
    WHEN 'unit price' THEN sum([unit price])

    ELSE 0
    END    click on ok
```

Step(3):- Drag the continent into row shelve and sort -option field into the column shelve and also into the color.

Step(4):- Right click on the sort-measure parameter and select show parameter control.

Step(5):- Right click on the continent select the sort select the sort order as descending and sort by sort by field and select the field name as sort-option click on ok

Step(6):- In the parameter select the required measure and check the view according to the sorting

order (or) not

Note :- In TABLEAU to the parameter we can add the values in 4 different ways.

1. manually
2. we can add from a field
3. we can add from a clip board
4. we can add from another parameter also

senario 4:-

Dashboards :- Dash board is a collection of several work-sheets in a single place and we can compare and monitor the varity of the data simultaniously.

* If we are having large no. of work sheets and if you want to see the information from work sheet it will take somuch of time, where as if we combine all work sheet in a single dash board we can display all the required information in a single place rather than opening each worksheet every time.
* Similar to work sheets dashboards also shown as Tabs at the bottom of the work book.
* we can create dash board in multiple ways.
  1. using the dashboard button at the bottom
  2. From the tool bar
  3. from the dashboard tab.
* Dash boards supports all the worksheets which are existing in the work book.
* we can add 'n' no. of worksheets to the dash board, and also we can add a varity of supporting objects such as images, web page, text.
* Even from the dashboad we can perform the format, we can edit actions. etc

Note:- when ever if you modify any worksheet and if you are using the work sheet in the dash board the dash board will get automatically updated

Note:- Even if we modify the work sheet at the dash board level it will automatically reflected in the work sheet level.

Task ①:- Design a basic dashboard in the TABLEAU (146)

step ①:- click on dashboard tab and select new dash board.

step ②:- In the new dash board window drag all the sheets either in the horizontal (or) in the vertical way.

step ③:- If you want to hide to sheet name goto the right most top corner of each worksheet and uncheck title. perform with for all remining worksheet

step ④:- If you want to perform the quick filter again dropdown box on top most corner and select the quick filter and add required get filter the required field.

Task ②:- Adding a work sheet, image, web page to the dash board in TABLEAU.

step ①:- create a new dashboard by clicking on the dash board tab select new dash board.

step ②:- Drag one worksheet in dash board container

step ③:- click on image select any image available and click on ok, it will automatically add an image to the dash board.

step ④:- By default any object in TABLEAU will get added as Type: click on image dropdown and select floating it will automatically placed the image on to the existing sheet.

If you want to add a web page click on webpage and enter the link and it will automatically added to the dash board,

step ⑥

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step ⑥:- If you want to change vizualization in the dashb (Lo) ar select the existing worksheet click on show me and select required visualization.

Note①:- we can add the objects to the dash board in two ways. 1. tiled
2. floating.

The default method is tiled

Note②:- In the tiled method each sheet (or) image (or) web page (or) text will occupy a specific amount of space in the dashboard container.

Note③:- In the floating method all the objects like worksheets, images, webpages, texts will get overlapped.

Note④:- Even at the dash board level we can able to change the visualization of each work sheet which will automatically even at work sheet also

Note⑤:- Even we can hide the dash board window also by click the hide button to the right of the dash board. If you want to display the dash board window again click on windo and select show side bar.

Tasks:-

① performing all the filter actions for the tasks performed at the worksheet level in dashboard

② perform all the URL actions at the dashboard level for the tasks performed at work sheet level.

Interview questions:-

① what is group and how it is differ from sets?

② In your latest project how you implemented the

groups and in which requirement you created the sets?

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(3) How to change the ~~physical~~ fiscal dates in TABLEAU and how a normal calender year differs from ~~physical~~ fiscal year?

(4) what is aliasing and how to perform the aliasing in TABLEAU?

(5) what is a dashboard in TABLEAU and what does it contains?

(6) If you perform any modification in dashboard will it reflect in worksheet (or) not similarly if you perform any modification in work sheet will it reflect in dashboard (or) not?

(7) what is the difference b/w tiled and floating

(8) what are the actions and what are the advantage?

(9) How you implement action in latest project

(10) How a action in the work sheet level differs from the action at the dash board level.

(11) what is filter, URL, Hilight action?

(12) How a filter action differs from quick filter?

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Note:- In TABLEAU we can add a 'URL' Action to the work sheets in the dash boards but not to the webpages in the dash board.

Task:- Design a dashboard to enable the communication b/w multiple web pages.

Step(1):- click on dash board tab and select new dash board.

step②:- click on webpage in the edit URL enter www.google.com and click OK.

step③:- Dashboard tab and selection actions click on add action and select URL action. specify the action name as communication b/w two web pages. In the URL enter www.yahoo.com click on OK.

step④:- Drag any sheet and drop into the web page in the layout container.

step⑤:- Again click on dashboard tab click on actions and click on existing action and edit the action check weath sheet ~~has~~ ~~checked~~ is checked (or) not click on ok.

Organising the dashboards in TABLEAU :-

In TABLEAU we can organize the dashboards in order to display and share the views effectively. As dash board is made up of several views, leg: measures each view (or) object can be rearranged hidden in order to hilight the most important information.

- In TABLEAU organise dashboards with several components like
  1. Layout container
  2. tiled and floating layouts.
  3. position
  4. size. etc.

* Layout containers are particularly used for to build the dashboards dynamically in order to adjust and resize based on data displaying. In other words Layout containers are mainly used to display the worksheet in dash board in variable (or) different size.

* Even using the tiled and floating layouts we can add the objects separately (or) combindly. (10)

Layout container :-

① Horizontal : If you select the horizontal object in the dashboard it will automatically adds a horizontal layout container.

② vertical :- If you click on the vertical object in the dashboard it will automatically adds a vertical layout container.

③ Text :- It allows us to add a block of text to the dash board. using text we can add captions, titles ... etc.

* If we add any text the text will get automatically displayed in the lay out container.

④ Image :- we can add static image files to the dash-boad, using this image object.
For example if you want to add logo (or) diagram then we can use this object.

⑤ web page :- It allows us to embeded webpage in dashboard in order to combine the information from webpage to the TABLEAU dashboard.

⑥ Blank :- It allows the users to add the blank areas in the dashboard in order to place the work sheet.

* If we add any objects to dashboard all this objects will get placed in the layout container.

Note :- If we add any object that object by default will be added as tiled. If you want to convert any object from tiled to floating we can do it in two ways. At the dashboard level.

2. At the worksheet level.

* If you want to performing floating at worksheet level click on the specific worksheet uncheck floating at the bottom.

* If you want to perform floating at dashboard level above to the layout container click on floating.

Dashboard size :- In TABLEAU we can control the size of a dash board using the width and height which appears at the bottom.

* In TABLEAU we having 4 optiontion for dashboard size

1. Automatic
2. Exactly
3. Range.
4. ~~Prefelled~~ previled sizes.

1. Automatic :- In this automatic TABLEAU automatically resizes the dash board to fit the worksheet in the window.

2. Exactly :- In the exactly dashboard always remines in the fixed size. If you having more no. of worksheet in dashboard ~~then~~ in dash board we have a scroll button.

3. Range :- In this the dash boad displays b/w the max and min sizes.

4. previled sizes :- In this the list of previled sizes are available the desktop, Ag ---etc.

* Based on our screen fitting we can select the sizes.

Notes :- If you duplicate a worksheet at the worksheet level it won't reflect at the dashboard level.

Note :- If you hide a worksheet which is part of dashboard it wont reflect that work sheet will not be hided in the dashboard level.

Note :- we cannot delete worksheet which is part of dashboard, but we can able to hide the sheets.

Note:- If you want to ~~unable~~ unhide a sheet, Right click on the sheet, which appears in the dashboard window & unselect hide sheet. (TIP)

Task(6):- Design a dashboard with the water mark filter.

step(1):- create a worksheet which contains region wise sale information & also enable the Quick filter for the region.

step(2):- Design another worksheet which containing state wise sales.

step(3):- create a dashboard & Drag the region wise sales in to the dashboard.

step(4):- Right click on the sheet & unselect the title.

step(5):- ~~Select~~ select the horizontal object, hold the shift button & drop in to the existing view.

step(6):- select the Quick filter in the dashboard, hold the shift button & place in to the horizontal container.

step(7):- Right click on the filter & select single value slider.

step(8):- Again right click on the filter go to customize and uncheck show all values & again uncheck show readout.

step(9):- create a new work sheet & drag the region in to the rowshelve & drag the region into the text.

step(10):- Right click on the region in the rows & uncheck show header.

[illegible] on the data view which

contains regions & select format.

step(12):- In the format window, select text, in the worksheet select the different format style & increase the format size.

step(13):- Rename the sheet as Region water mark.

step(14):- select the Rigion water mark hold shift butte & drag in to the existing horizontal contain de decrease the size of the region water mar according to the size of the container.

step(15):- Right click on the Region water mark worksheet & select hide title.

step(16):- make the rigion quick filter Global by right clicking go to → worksheet → ↓ All using this data source.

step(17):- Right click on rigion water mark worksheet. Go to format select borders → in the row devider set select none ~~select~~ in the column divider select none.

step(18):- goto the region water mark click on color legend & decrease the transperancy in order to display like region water marks.

Task(2):- Design a work sheet in such a way that if we select the rigion it should display all the state & their sales in the map and also design water mark filter for the both state & Region.

step(1):- create a work sheet which contains Region wise sales.

step(2):- Design a map which contains state wise sales.

step(3):- Design a work sheet which contains all the region for the watermarks & name it as region water mark.

Step(4):- Design a worksheet which contains all the state name

for the state water mark & Rename the sheet as state water mark.

Step(5):- Design a dashboard & drag both state wise sales & Region wise sales work sheet into the dash board

Step(6):- Design water marks for the state & Region work sheets.

Step(7):- Right click on the Region sales work sheet & select use as a filter.

Step(8):- It will automatically add a filter action to the dash board & if we click on any region it will display only the states under that region.

Note:- In the dashboard if we want to add any object specifically in the floating way, use the shift button, hold it & drag that object in to the container.

Note:- By using the layout containers we can efficiently manage the space.

Note:- In the dashboard level we can add multiple targets to the 'Actions'.

Task(3):- Design a dashboard ~~in such a way that, if we select the region, it should display all the states & their sales in the map and also design water mark filter for the both state and region.~~

Step(1):- ~~Create a work sheet which contains region wise sales.~~

Step(2):- ~~Design a map which contains state wise sales.~~

Step(3):- ~~Design a work sheet which contains all the regions for the water marks & name it as~~

~~step4~~ Task③:- Design a dashboard in such a way that if we click ~~if we~~ on any Region, it should display all the states in that region in the same Dashboard, if we click on any state, it should display all the cities under that state in a separate dashboards & if we click on any city it should display that particular city information.

step①:- Design a dashboard which contains state wise sales & Region-wise sales & enable fit for action in such a way that, if we click on any region, it should display all the states in the form of a map.

step②:- create a worksheet which contains city wise sales in the form of map.

step③:- create a dashboard & drag that city wise sales in to the ~~Database~~ Dashboard.

step④:- Go to the first ~~database~~ dashboard which contains region state sales click on the dashboard 'Tab' select actions, click on add Action select filter →

step⑤:- In the filter action window ~~sep~~ specify the filter action name as state, city in the source sheets select dashboard: region state Analysis & target sheets select dashboard which contains city ~~or~~ state analysis. click on ok.

step⑥:- Go to the city-Analysis dashboard, click on the dashboard Tab select select actions select add action select URL action specify the action name as city-Info, in the URL enter the following www.bing.com/images/search?q=<city> click on ok.

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Task (11):- Creating an Index for the dash boards.

Step(1):- create a new work sheet with name index-sheet & goto analysis tab and click on analysis and select create calculated field give the field name as index and in the formula write the following formula.

"RIGHT - CLICK ON THIS TO VIEW THE CONTENTS"

Step(2):- Drag the index to the row shelve, in the marks card select shapes and click on shape and select more shapes and click on the select shape palette and select arrows, select any one of the arrows click on apply and click on ok.

Step(3):- In the size increase the size of the arrow shape click on size in the marks card and increase the size

Step(4):- create a new dash board name index-dashboard.

Step(5):- In the dash board drag the index sheet and Right click on the sheet and select hide title.

Step(6):- Right click on fields and select hide field lable.

Step(7):- click on dash board tab and click on actions and select add action and select filter action, select the source sheet as index sheet target sheet as region ~~sheet~~ state analysis dash board, give the filter name as Region-state-Analysis click ok.

Again click on add action select filter select source sheet as index sheet [illegible] analysis dash boar click on o/c.

Repeat the same in order to add all the dashboard to index. from finaly right click on the (117) shape to see the indexes.

Task ⑤: Dynamically update the titles for worksheet and dash - board

~~Task ⑥~~:- ~~create a sheet name~~ ~~with~~ create a sheet with name dynamic title sheet

step①:- click on analysis tab and create calculate filed and specify the field name as today, in the formulab ~~tab~~ enter TODAY()

step②:- Drag this today() to the row shelve right click on this today goto custom and select the date format as mon-Day-year.

step③:- click on worksheet tab and select show title.

step④:- Right click on the title and select edit title.

step⑤:- In the edit title window click on insert and select the calculated field Today. click on apply and click on ok.

step⑥:- Now change date of the system and check wether the title is changing (or) not.

→ Dynamically updating titles for dash board.

step①:- create a dash board with name dynamic title dash board. Drag the ~~order~~ dynamic title sheet order sheet ~~and~~ also ~~Dadrag~~ ~~other sheet into the dash board~~ and change in the system date and check the title is changed (or) not

~~Task~~

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Task (6):- Configure display sheet option for the dashboard (18)

Step (1):- create a work sheet which contains state wise-sales, Rename the sheet as state-sales

Step (2):- create a work sheet which contains Department wise profits; rename the sheet as Dept-profits.

Step (3):- create a parameter by right clicking in the empty area of the parameters and select create parameter.

Step (4):- In the parameter window enter the name as display options select the data type as string in the allowable values ~~enter state~~ select list and enter state-sales, Dept-profits, All.. click on ok.

Step (5):- Go to analysis for create a calculate field and select create a calculated field give the fieldname as Display and in the formula tab select parameter display options. click on ok.

Step (6):- Drag the calculate field display to the filter shelve, and in the filter select custom value list and enter All click on plus and state-sales and click on plus for the state wise sales work sheet.

Step (7):- go to the department profit work sheet drag the display field to filter shelve select custom value list and enter all and dept profit and click on apply and click on ok.

Step (8):- In both the sheet right click on the parameter select. show parameter control

(9):- Create a dashboard and drag the ~~state~~ sales

to the dash board.

Step(10):- It will automatically add the parameter to the dash board select the ~~state~~ Required sheet (or) all sheets.

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Advanced maps:-

wms servers:- By default in the TABLEAU we can add the background map in two ways.

1. Online mode.
2. Offline mode.

* If the online mode maps and offline maps are not meeting your requirements even we can add our own background maps from the wms server. wms stands for web map servers service servers.
* These wms servers are available in two ways.
  1. As a free service.
  2. As a paid service.
* In Real time normalli the client will buy their own background maps from the wms servers.

Task(1):- Add a custom background map for the state wise sales.

Step(1):- open any web browser and enter neowms.sci.gsfc.nasa.gov.

Step(2):- open the neowms site and copy the path in the address bar.

Step(2): open TABLEAU and click on map tab goto background maps and select wms servers and ~~copy the URL into~~

Step(3):- click on add and paste the neowms server into

step④:- close the wms server connections window click on state geographic field, click on map tab and goto background maps and select 'Neo wms'.

step⑤:- Again click on map tab and goto map options in the map layers of the map options select any one of the layer.

step⑥:- drag the sales to size and color.

step⑦:- If we want set this background map as default click on map and goto background maps and select set as default.

Note:- If you save the wms map source it will automatically saves that map source into the map sources folder of the TABLEAU Repository

Note:- That TABLEAU map source will get stored with the extension '.tms' (.tms mean TABLEAU map ~~service~~ source)

Task②:- create state wise sales map and add wms background map using import.

step①:- click on state geographic field.

step②:- click on map tab goto Background maps and click wms servers.

Step③:- click on import and select TABLEAU map source click on open.

step④:- Again click on map tab and goto background and select 'Neo wms'.

step⑤:- click on map tab again goto map options and add any of the map layers.

step⑥:- Drag the state to the color and sales to the sales size.

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Image processing:- In TABLEAU if you want to perform visual based analysis by taking the back-ground images then we need to analyse the data by taking the images dynamically.

Task①:- Design image processing for category wise sales. and each category take 3 items and in the output represent the items in the form of images and perform the analysis.

Step①:- create a excel document with two sheets one sheet contain the category information and 2nd sheet contains the item information.

Category sheet

Category	item
computer	Desktop
computer	laptop
computer	keyboard
peripherals	pendrive
peripherals	scanner
peripheral	printer

Item sheet

Item	x	y
Desktop	100	50
Laptop	100	50
keyboard	100	50
pendrive	100	50
scanner	100	50
printer	100	50

Step②:- Save this excel file as image processing and dowload all the item images from the google.

Step③:- connect to the excel sheet in TABLEAU by connecting to both the sheets product and items using multiple sheets.

Step④:- Drag the x and y coordinates to the columns and row shelves.

Step⑤:- click on the map tab goto background images select image processing 5.

Step⑥:- In the background images window click on add image and click on Browse select

the desktop image and click on open.

step(7):- click on ap for the 'x' field and for right enter the value as 100 and for 'y' field and for top enter the value as 50.

step(8):- click on options and click on add.

step(9):- click on itemes and select the 'desktop' and click on ok. and again click on apply and click on ok.

step(10):- Repeate the same steps for all other items available.

step(11):- Right click on both the 'x' and 'y' axes and uncheck show header.

step(12):- Right click on the category and select show quick filter; In the quick filter check only the particular category items.

step(13):- finally create a dashboard and drag this image processing sheet into the dash board and create another work sheet which contains the sales of this items.

Tasks:-

① Design image processing for the two wheeler, and four wheeler items of any four vendors and compare their sales for the year 2013.

② Design image processing for the list of BI tools available in the market and take all tools as other and display the no. of Jobs for each tool. (Take each tools logos) and also indicate from howmany years these tools were in the market.

③ Design image processing for top 5 richest cities in the world and top5 poorest cities in the world and also display their GDP growth.

(4)

(123)

category ~~Category~~ A		category ~~category~~ B	
style style	impge 1 imag 2	style 11 style 21	Image 11 image 21

Senario (12) :- Reference line, Band, Box, Distribution (12)

* In TABLEAU the reference lines are used to mark a specific value on an axes, and also we can shade (or) color the particular area along the axes and also we can display the distribution values and full values.

* In TABLEAU we can add unlimited reference lines, bands, boxes

* if you want add reference line just right click on the axes and select add references lines, bands, boxes

Types of references :- In TABLEAU we can add 4 types of refence lines.

1. Line
2. Band.
3. Boxes
4. Boxplots

Line :- Reference line add a line at a value on the axes. It will add the line for the constant value (or) for the computed values

Bands :- Bands shades (or) colors an area in the data view b/w two constants (or) computed values on along the axes.

Distribution :- In the distribution we can add the coloring (or) shading along the axes to indicate the distribution of the values.

1. Distribution of values can be defined by confidence intervals, percentages, percentiles (or) standard deviation

* This type of references are mainly used to create a bullet chart.

Boxplot :- Boxplot also describes the distibution of values by adding the boxplots. this boxplot shows quartiles, viscus.

* TABLEAU provides different boxplot styles and allows you to configure the location of the viscus.

Task①:- Add a reference line inorder to indicate the states for those states whose total profit is more than the average profit of all the states.

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step①:- Drag the state to the either rows (or) ~~column~~ shelve shelve. Drag the profit to column shelve. Drag the state to color.

step②:- Right click on axes select add reference line, band (or) box

step③:- Right click on axes select add reference line, add the scope select entire table, add the computation line for the value of sum (profit) and computation of averge, in the lable select custom and add the computation and value in the RightSide box of lable box. In the formating select line and fill above as green and fill billow as red click on apply and click on ok.

step④:-

Note:- The scope of reference line, band, and distribution is for table and per pane and per cel.

Task②:- Design a reference line for the department wise sales for each year and display a line for those states whose sale is more than average sale of all the department for one year.

Step①:- Drag the orderdate and Department to the columnshelve.

Step②:- Drag the sales to the row shelve.

step③:- Right click on the existing axes and select add reference line and ad' in the reference box windowselect the scope as per pane and values as sum (sales), and the lable as custom and add computation and values, in the format to select dotted line. ~~and fill above~~ click on apply and click on ok.

Task(5) :- Create a reference line to add year wise, dept wise and total ~~with~~ profits for the constant ~~reference~~ value (128)

Note:- In TABLEAU if we want to add the constant value for the reference line, we need to take the help of parameter.

step(1) :- Drag the orderdate, Dept to the Column shelve. Drag the profit to row shelve.

step(2) :- Right click on existing axes and select add reference line band (or) box. select line and select scope as per pane and in the value select create a new parameter and give the parameter name as constant reference and the current value as 1Lack and list of values select all click on apply and click on ok.

step(3) :- Right click on the existing parameter click on edit in the allowable values select list and the list of values enter 1Lack, 2Lack, 3Lacks, 4Laks ... upto 8 Lacks click on ~~Sta~~ ok. In the parameter select the values.

step(4) :- Again rightclick on parameter goto edit, in the allowable value Select range assign the min values as 1Lack and max as 80Laks and step value size as 2Laks click on ok.

Task(6) :- Design a reference band for year wise, dept wise total profits and fill the band in b/w average total profit and maximum total profit.

step(1) :- Drag the orderdate to column shelve and dept to column and drag the profit to the rows.

Right click on the existing axes and select add reference line, band (or) box select band and scope

and fill it with pink color.

Task (5): create a constant band for the dept wise, year wise total profits

Step (1) :- Right click on existing ~~axes~~ reference axes and select goto band select scop as entire table and band from select const and band to select constant and in format line as dotted and fill with orange color click on apply and click on ok.

Task (6) Design a band for the customer segment wise, dept wise total sales and for each customer segent display a band for the customer constant value and change the value dynamically.

Step (1) :- Drag the customer segment, department to column shelve and sales to row shelve.

Step (2) :- Right click axes and select add reference line band (or) box and select band and scope as per Rene. In the band from select create a new parameter, in the parameter window select range, in the range of values select min as 1 Lack and max as 10 Lack step size as 1 Lack and click on ok.

Step (3) :- In Band to select create new parameter, in the parameter window again select range in the range of values select min as 2 Lacks max as 20 Lacks and stepsize as 1 Lack, click on ok

Step (4) :- click on apply and click on ok

Tasks :-

(1) Design a reference line for continent wise total quantity ordered and display the continents whose average sale is more than the minimum sale of all the continents.

(2) Design a reference line for the product category wise

department wise total profits and design a band perpane for those whose total sales is more than the average sales (126)

③ Implement the above two tasks using the parameters and also for the bands?

Senario ⑬:- Anotation:- In TABLEAU if you want to highlight for a particular part of Data view (or) if you want to call attention of the specific points in the dataview then we need to make use of annotations

* These Anotations sometimes called as call outs.

it is most commonly displayed as a text box with the line pointing to a specific point (or) mark.

* In TABLEAU there 3 kinds of anotations.

1. mark.
2. point
3. Area.

* After adding this anotations we can edit, we can for-mat, we can change the position, and even we can remove the Anotation also.

1) Mark anotation :- mark anotation used to add an anotation that is associated with the select mark. This option is available only if you select any mark

2) point anotation :- it is used to anotate a specific point in the data view.

3) Area anotation :- It is used to anotate an area in the data view for the targeted region of the data view.

Task①: Design the different annotations for the region wise total sales and also reference the region wise total sales with those region whose total sales is more than total average sales.

Step(i):- Right on axis click on-re and goto existing band and select ne...

step(2):- In the scope of the reference line select per table and in the computation as sum(sales) average.

step(3):- Right click on the area where state sales is more than average total sales, and select anotate and select area and. It will automatically add a box in that area and in the box mention sales more than total average sales

step(4):- Right click on the same area select anotations and select point in the annotation window enter the required information and click on ok. It will automatically add anotation.

step(5):- If you want to add the annotation at the particular mark right click on mark select anotation and select mark. In the annotation window specify the required information and click on ok. It will automatically adds annotation at the particular point

step(6):- If you want resize (or) edit any annotation just click on the annotation and resize it (or) re arrange it (or) even reorder it.

Note:- Even we can format the annotations also. If you want to format rightclick on the view and select format (or) click on format tab and select annotation

25/5/24 **Formating :-** Formating is an important part of both the analysis and presentation. (134)

* In TABLEAU we can format every thing what we will see ~~almost~~ on in the work sheet which includes fonts, shading, alignment, borders and graphlines.
* In TABLEAU we can perform the formating ~~to all~~ for entire work sheet, all rows and all columns how ever TABLEAU also allows to format the individual parts of the data view also.
- for example we can format the specific fields on the data view, we can resize the ~~set~~ cells, panes, TABLE, and even we can edit the individual axes also.
* So In TABLEAU we can perform the formating in the following different levels.

1. worksheet level
2. column level.
3. Row level
4. Each field level
5. cell level.
6. At the title level.
7. For the parameters
8. For the quick filter
9. For the Legends.

* At this different levels we can perform formating for font, Alignment, shading, borders, Lines.

Task(1):- Format a sheet in such a way that display the continent wise container wise, category wise total sales for each year and include the ~~boxes and~~ border for each value of a field and also display the totals in different color at the work sheet level

step(1):- Drag the continent, container, category to ~~row~~ coloumn shelve and Orderdate to the row shelve.

step(2):
step(3):
step(4):
step(5):
step(6):
Note(1):
Note(2):
Task(1):

step②:- Drag the sales and drop into the text.

step③:- In order to form click on format Tab (or) Right click on the data view and select format.

step④:- click on the sheet goto borders, in the borders add a different color at the cell, and add a specify the size of the border. click on the header and specify a different size for the header and specify a different color for the header.

step⑤:- Goto the grand total and specify a different color for the grand totals and specify it for the pane and header. Repeat the same for column devider and Row devider.

step⑥:- click on the font in the format, increase the font size at the work sheet level and for the grand total at pane specify the font size and font type and for the header also specify the font size and fonttype.

Note①:- If we perform formating on one sheet and if you want to apply that formating to other sheets just simply copy the formating in current sheet by right click at the sheet tab in the current sheet and again right clicking on the sheet tab at the target sheet and selecting paste formating.

Note②:- If we clear the formating in one sheet that clearness won't affect to the second sheet.

Tasks :-

① Format state wise, yearwise, dept wise total profit color each state in a different color in the sheet and the state values in different color and also color the title, caption in different color and also add different border sizes for each field and with different colors, and also display the

highest value of each state for the four different years in a separate color and fill the color of the value, in the background.

② Design a blended axes for customer segment wise, dept wise total sales and profits and format the view by your own.

Note :- Even in the TABLEAU we can perform the formating for the cell level also. ~~right click on~~ goto format click on cell size

Note :- In TABLEAU we are having 3 different types of work book themes 1. Default 2. modern 3. classic.

goto format and click on work book themes

Note :- Even in the TABLEAU we can perform the formating for the legends and Data view also.

For legends → right click on legend and go click format
for Data view → right click on Data view and click format

~~28/5/14~~

~~Image processing~~ :-

27/5/14 Senario 14 : Saving and migrating the work in TABLEAU

* In TABLEAU we can save our work in 3 different formats.
  1. TABLEAU workbook.
  2. TABLEAU packaged workbook
  3. TABLEAU Book mark.

* In the 3 different formats we can export (or) migrate our work in the TABLEAU in its different formats, and this different formats which can be used in diffent application which are MS power point and MS Excel.

* TableAU workbook :-

The first way of work saved in TABLEAU

in the form of TABLEAU work book

* The extention is '.twb'. it will save all the work sheets developed in that work book.

② packged work book :- It is a new feature in the TABLEAU 8.0. It will store every thing what a work book stores + it will also store all the local file data sources and images into a single file.

Tableau work book + all the local data files and images = .Tableau packged work book

* The extention of the TABLEAU packged work book is '.twbx'.

3) TABLEAU Book mark :- If you want to save the current sheet in TABLEAU then we can use the TABLEAU Book mark.

* The extention for TABLEAU Bookmark is ~~.Tbm~~ '.Tbm'.

* All the ~~work~~ book marks will stored in the book mark folder of the TABLEAU Repolitory.

Note :-

* All the custom fields such as calculated fields, sets, groups, bins are saved with the Workbooks, book marks, packged work books.

Task ① :- saving the current work book in the form of TABLEAU work book.

Step ① :- click on file TAB and click on save.

Step ② :- ~~RA~~ ~~wi~~ in the save as window specify the file name and the ~~file~~ file type as Tableau work book (.Twb). click on ~~ok~~ save.

Task ② :- saving the work in the form of packged work book

Step ① :- click on file Tab and select save as.

Step②:- In the save as window specify the file name as book-package workbook and specify the type as tableau packged work book. (.twbx) (138)

Now this time it will add the local data files.

Note:-

* TABLEAU packged work books are mainly used to access the resources externally. for example if your work book contain background images, local data sources such as excel, access, extract files.

* when you save our work in the form of work book work book will save the link to this resources but not the actual resources.

* If you want to move (or) share the workbook to the other machine which doesn't have access to the referenced resources and if you want to open the work book from other machine it won't opens our work because table work book only stores the links to the resources.

* If you save the work in packged workbook and if you want to move the work to other machine which contains the local files so we can able to see our work on other machine also, Reason being packged work book contains work book + local data files.

* The different types of local data files included in the packged work book are.

1. Excel files
2. Text files
3. Access files
4. Images files.
5. local cub files.
6. TableAu data extract files.
7. custom geocoding.

* All the work books and packges work books will gets stored in the work books folder of the TABLEAU Repository.

Task③ :- saving the work in the form of book mark

Step①:- click on the window tab select book mark and select create book mark

Step② :- specify the book mark file name in the book mark window and click on save.

Step③ :- It will automatically create a book mark with extention ".tbm which gets stored in book mark folder of the TABLEAU Repository.

Note :- when we select create a book mark option. It will take the snap shot of the current work sheet and it places the book mark folder.

* Book mark includes the data connection, formating calculation field ... etc but a book mark doesn't include the parameter value. ~~There~~

* These book marks can be accessed from any work book under the same Tableau Repository.

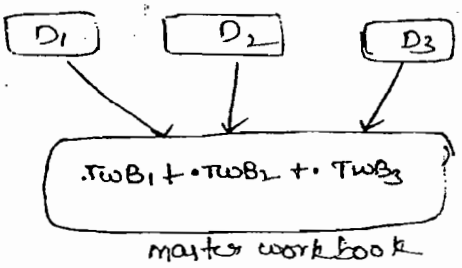
* If you are using work sheets frequently book mark is the convenient way to handle the work sheet.

Migration :- Case①: moving the objects from one enviroment to the another environment is called migration.

* Normally in the real time each developers will work on one work book but finally at the end of the development we will combine all the workbooks into one final work book called as master work book. ~~only one final~~ master workbook can be migrated to

he other environment and we can perform the testing.

ABC:-



e (1):-

Designing a master work book :- The master work book an be design a in a two levels.

(1) At the work book level
(2) At the work sheet level.

ik(1):- Create a master work book at the work book level.

p(1):- click on file tab and click on import work book.

p(2):- select the required work book and click on ok.

(3):- Repeate the same for all other work books. Again click on file click on save specify the file name as Master work book and save the book type as TABLAU package work book. click on save.

e(2):- Designing the workbook at the sheet level.

p(1):- open all the source work books and create a new target work book by clicking on file and clicking on new.

(2):- copy the sheet from the source work books and by right click on sheet and selecting copy sheet.

p(3):- goto the target workbook and right click on the target sheet and select the paste sheet. in this way do it for remaining sheets.

→ : It is also known as copying the work sheets to multiple work book.

case (B):-

* There are export th
* In TABL as (1)
(2)
(3)
(4)

Task(1):-

step(1):- Rig

step(2):-

Task(2):-

step(1):-

step(2):-

Task(3):-

step(1):-

step(2):- R

step(3):-

Task(4):-

step(1):-

Case (B):- Exporting the data directly.

* There are some cases in TABLEAU where we need to export the data directly without exporting the workbook.
* In TABLEAU data can be exported in multiple ways such as (1) CSV files
  (2) Excel files
  3) Access files (or) .mdb files
  (4) Images

Task(1):- Exporting the data in the form of CSV from the TABLEAU

Step(1):- Right click on the data view and select view data. click on export all.

Step(2):- In the export data window specify the output file-name and click on Save. It will ~~ex~~

Task(2):- Exporting the data in the form of access (or) .mdb files.

Step(1):- click on worksheet tab click on export and click on data.

Step(2):- in export data to access window specify the output filename and click save. It will show data file as .mdb file.

Task(3):- Exporting the data in the form of excel files.

Step(1):- Right click on the existing data view and click on select all.

Step(2):- Right click on data view again goto copy and select data.

Step(3):- open a new excel sheet and paste the data into excel. It is also called as copying the data to the clipboard.

Task(4):- Exporting the data in the form of Image

Step(1):- click on worksheet tab goto export and click on Image.

Step(2):- In the export image window select the

required image option and click on save.

(141)

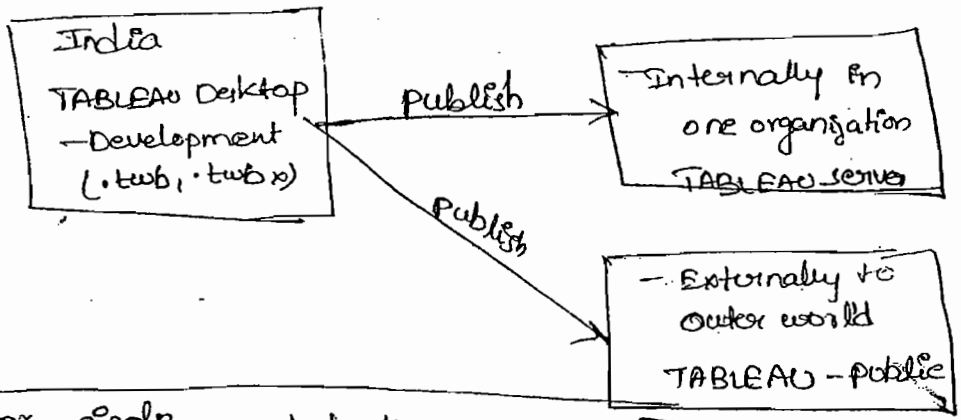
step(6)- In the save image window specify the output file name and output file type and click on save.

moving (or) migrating the objects to the TABLEAU desktop

* In TABLEAU after completing the development and saving the object in the required format finally we need to move that object either TABLEAU server (or) TABLEAU public in order to share the developed reports to the out side world (or) internally with in your organization.

* In TABLEAU if you want to sharge the objects internally we need to publish the work books to TABLEAU server.

* From the TABLEAU desktop if you want to publish the objects externally to the outside world we need to publish the workbooks to TableAU public



- For single work book max work sheet we can take for good performance, ~~take~~ we can take 25-30 sheets, Dash boards 8-16 boards.

organizing work sheets :-

* In TABLEAU we can organize the worksheet in 3 different ways.

(1) using the sheet tab
(2) using the phillips ~~trial~~ ~~filtips~~ ~~to~~ filmstripe
(3) sheet sorter.

(1) using the sheet tab :-
using the sheet tab we can normally navigate from one sheet to the other in one work book

(2) sheet sorter :- In this sheet sorter sheet will display which ~~which~~ will show us thumb nail image of all the sheet ~~of~~ work book in our window.

(3) filmstripe :- All the ~~thumb~~ thumb nail images will be shown at the bottom of the work book.

Task :- printing the work book in the form of PDF.

step(1) :- click on file tab and click on print to PDF.

step(2) :- In print to PDF window select entire workbook (or) active sheet and click on ok.

step(3) :- In the save as PDF window specify the output filename and click on save.

step(4) :- Goto the target directory and check weather the PDF file is created (or) not.

Performance recording :-

* In TABLEAU we are having a brand new feature performance recording which is not available in other BI Tools.

* TABLEAU records the performance using 3 parameters
(1) Timeline (2) Event (3) Query

Task :- Record the performance in the TABLEAU desktop.

Step 1 :- click on help tab goto settings and performance

and select start performance recording.

Step②: If you want to see the performance of the data view again goto help and goto setting and performance and stop recording. It will automatically new performance recording work book and it will display the performance in dash board which contains three views namely timeline, event, query.

Timeline :- Timeline is the top view in the performance recording workbook which displays the time taken by the particular workbook.

Events :- The middle view in the performance recording workbook show the events. In this it can display the different types of events generally in TABLEAU we can performs like

(1) generating the extract
(2) connecting to the datasource.
(3) Geo Coding.
(4) Executing query
⋮
etc

* In the events it shows the time taken by the each event in a different color. By seeing the events we can identify where the performance is lagging so that we can speed up (or) improve the things.

Query :- The bottom view in the performance recording workbook where we can see the report query in the form of text.

* performance tips In TABLEAU while development:

1. Turn off the automatic updates:

when we place any field on columns (or) Row shelve tableau automatically generate the views by querying the source. If we

are connecting to complex data source the queries might be time consuming and degrage the performance in this case turn off the automatic update while build the views in development once after complete the development we can turn on the automatic update again.

(2) Avoid generating two many panes :-
In TABLEAU it is not recomended to generate two many panes because such a view is not very useful.

(3) Look for warnings :- In TABLEAU the another way to improve the performance is look for the warnings before adding the field to the columns (or) row shelve.
For example the row shelve max we can add values upto 1000

(4) context filter :- In context filter will significantly decrease the data set size compare to the normal filters and it will improve the performance. It is applicable only for the relational data sources.

(5) Add filters first :- If you working with the large data source it is possible to improve the performance by adding the filters first which eliminate the un-necessary data.

(6) It is Applicable only to the relational data sources.

(7) Extract :-

large text and excel files :- If your data source is large text (or) excel file, if

you want to improve the performance just create the extract file and improve performance with tableAU Data engine. (done import connection)

30/5/14

Scenario 15: Data Blending and clipBoards

Data Blending and clipboard Data connections

Data Blending: In TABLEAU one work book can contain multiple connections to the multiple data sources, each connection is displayed on the top of the data window.

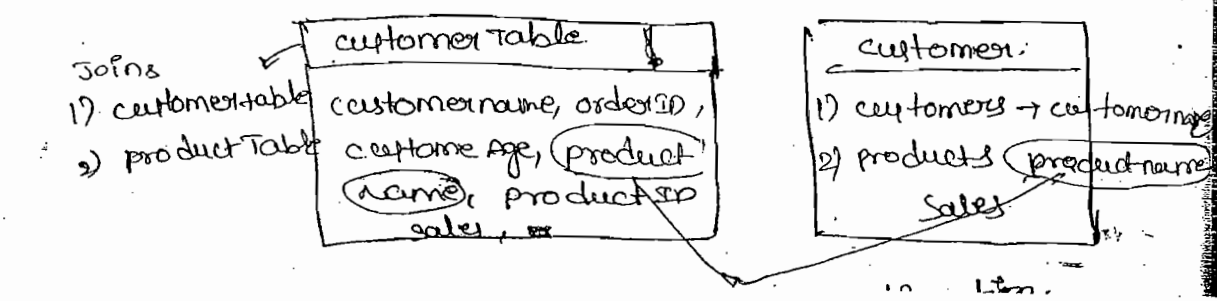
* If we want to combine the data from the different data sources and if you want to perform the single analysis of the multiple data sources then we need to combine all the data sources into a single combined data connection. This process of combining the multiple data sources is known as data blending.

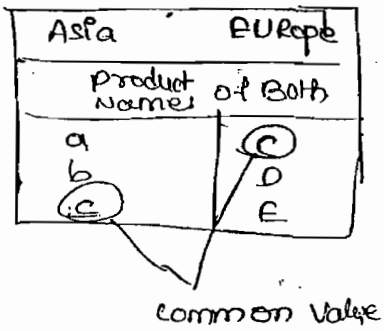
* Data blending will merge the multiple data sources by taking some rules into consideration.

Rules to perform data blending:-

1. At least one common dimention should exist b/w the multiple data sources.
2. In the common dimention atleast one value should match. If the one value is not matching it's not possible to perform the blending.

eg DataBlending → Joins oracleDB(ASIA) + oracleDB (Europe)





Task①:- performing the blending with two different data ~~sources~~ data sources.

step①:- create a note pad which contains the following data.

product Name	sales
A	100
B	200
C	300
D	40

~~step②~~:-

save the notepad with name Asia Data.

step②:- create a Excel sheet ~~with~~ with the following data.

product-Name	sales	profit
A	50	5
B	30	4
C	80	3
D	20	2

save the excel file as Europe data.

step③:- create connections to both the data sources from the TABLEAU.

Test case①: Testing the blending with matching values.

1. Drag the product Name from the Asia data and drag the sales and profit from the Europe data.
2. It will automatically create the blending b/w two data sources and displays the output.

Test case result: Blending is possible with the matching values.

Test case(2): Testing the blending with un matched value (48)

1. modify the product names in the Asia's data as A1, B1, C1, D1 save the changes.
2. Goto TABLEAU and refresh the data source of Asia and refresh the Asia's data.

Result: If the values are not matching it won't gives any meaning ful output, and it will display every thing in the form of NULLs.

Test case(3):- Testing the blending with one matching value.

1. modify the Asia's data by changing product name ~~d to d~~ D1 to D, save the changes.
2. Refresh the Asia's data in the TABLEAU and check weather blending performed (or) not.

Result:- Blending is possible for outputs of matching values.

Test case(4):- Testing the blending with un matched dimention name

1. modify the Asia's ~~product~~ Dime product - name dimention to product Name, save the changes
2. Goto to TABLEAU and refresh the Asia data connection.
3. check weather the blending is possible (or) not

Result:- If the dimention names are not exactly matching automatic blending is not possible but we can able to perform the blending in manual ~~way~~ way.

Performing the blending in the manual way.

- click on data and select edit relationship, pop
- select the primary data source as Europe and secondary data source as Asia.
- and select custom and click on add.
- From the ~~data~~ primary data source and secondary

data source select the common dimention with the unmatched name and click on OK. (147)

Note①: In TABLEAU the data blending is performed in two ways. 1. Automated way 2. In the manual way.

Note②:- If the dimention names are exactly match TABLEAU automatically performs the blending. If the dimention name are not exactly matching we can able to perform blending but manually.

* TABLEAU performs the data blending by merging two (or) more data sources in the same worksheet by creating the relationships among common fields of the data sources. These relationships are indicated with orange icon, and the blending is limit only to the particular worksheet.
* In each work sheet in the data blending we can have the primary connection and secondary connection. The primary connection is also called as primary data source and secondary connection is also called as secondary data source.
* These primary and secondary data sources are linked with the specified relationships.

Testcase⑤:- Testing for the no. of primary and secondary in a single data source.

Step①:- create another data source with the name African data in notepad with the following data.

Product Name	Units ordered
A	10
B	20
C	30
D	40

Step②:- create a connection to the notepad for in the TABLEAU and define the relationships in the TABLEAU.

Step③:- Drag the product from Europe and sales from Asia and unit's ordered from Africa. It shows the Europe data source is indicated with Blue tick mark which indicates primary data source where as Asia's data and africa data is indicated with orange tick mark which indicates secondary data sources.

Result:- In data blending only one primary data source is possible and it may contain 'n' no. of secondary data sources.

Eg Like in this type of situations we can use data blending.

SONY TV's :-

different data sources for different countries.
1) India → Excel
2) US → DB
3) UK → XML
4) France → TEXT FILES.

products	work sheet			
	India	US	UK	France
A				
B				
C				
D				

* The advantage of the data blending is we can combine the data from the different sources and we can perform the analysis in a single worksheet.
* In TABLEAU adding a secondary source (or) secondary connection to the worksheet is very useful when we have the data in the multiple data sources and that data if you want to intigrate into a single analysis.
* In data blending we can combines the data from the different technologies textfile, db, online data ...etc.

Steps to access FTP server:-

1. open any web Browser and enter ftp://192.168.1.253:46/ and hit enter.

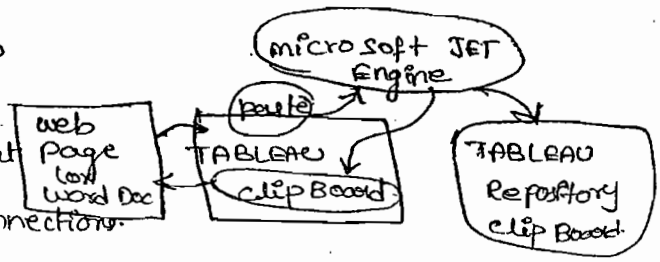
step②:- Enter the username as AimODIftp. Pass
Aimtech123

Commonly occured issues while peforming the data b

1. with out defining the relationship between the d sources it's not possible to perform the data blending.
2. No relationship to the primary data source.
   (If no match dif for dimention and no value matching)
3. secondary multi dimentional data sources can't be act as secondary connections (or) secondary data sources in TABLEAU.

Clip boards :-

* Even in the TABLEAU we can analyse the data directly ~~Data~~ web page without creating any data connections.



* some times if you want to pull the data from the out side data sources for quick analysis directly we can copy the data and paste the data into the TABLEAU.
* TABLEAU automatically creates a data source in the form of clip board and we can perform the analysis directly from the clipboard.
* when we save the work book the clip board datasource also get saved as tab delimited text file into our TABLEAU Repository.
* we can create the clipeboards by copying and pasting the data from various applications like ms excel, ms-word and even from the HTML pages also.
* when we copy and paste the data into TABLEAU, TABLEAU makes use of the microsoft JET Engine.
* microsoft Jet Engine is a data base engine on which several microsoft products have been built.
  JET stands for joint Engine technology.

* This microsoft jet engine copies the data and represent the data in TABLEAU in the form of a clipboard. (15)

Task :- Implementing clipboard in TABLEAU

step① :- open any web Browser and enter 2014 Election results; open any link and copy the data. and

step② :- goto TABLEAU click on Data and select paste data, it will automatically creates a clipboard.

step③ :- perform the analysis by dragging the required dimention and measures to columns and rows shelve.

Interview questions :-

① what is data blending and how it is differs from Joins?

② what are the rules to perform data blending and what are the common issues that may occur with the data blending?

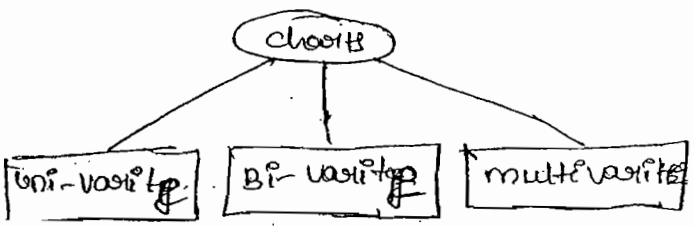
③ what is primary connection and secondary connection in data blending?

④ what are clipboards and how it differes from other data connection in TABLEAU

1/6/14 Scenario 16 : Different types of charts In TABLEAU

* In TABLEAU we can able to create 3 different types of charts.

1. univaritype charts.
2. Bi-varitype of charts.
3. multivaritype charts



Uni variate charts :-

* Analysis involving the single measure in the TABLEAU is known as uni-variate charts.

B) Table :-

(A) Text table (or) cross Tabs and highlight tables :-

* Tables in the TABLEAU are the grate way to represent large amount of data in the smaller area.
* In TABLEAU we are having two types of TABLES.

1. Text table
2. Highlight table.

(i) Text table :- For the text table the minimum requirements are 1 (or) more dimention and one (or) more measures.

(ii) Hlight table :- the minimum requirements for highlight table are 1 (or) more dimention and one measure.

* The highlight table highlighting the value of measures based on value range in TABLEAU.

Note :- In the output view text table will displays all the measure values where as highlight table highlights the value of a measure based on the value range in the TABLEAU.

Note (2) :- Both the highlight table and text tables are uni-variate charts.

Note (3) :- The tables are also called as cross tabs.

(2) Barcharts (or) Histograms :- In TABLEAU we are having two types of bar charts.

1. Horizontal bar chart
2. Vertical bar chart.

(a) Again the vertical bar chart is devided into two types (i) stacked bar chart
(ii) side by side bar chart.

* Bar chart is the great way to compare the data across various categories.
* In the bar chart length of the each bar indicates value of the particular category.
* Bar chart is the easy way to understand the different categorial information such as country, state, region, continents, years, months --- etc.

Horizontal bar chart :- The minimum requirement for horizontal bar chart is zero (or) more dimentions and 1 (or) more measures.

Stacked bar chart :- The first type of the vertical bar chart is stacked bar chart.

* The minimum requirement for stacked bar chart is one (or) more dimention and one (or) more measures

Side by side barchart :- The 2nd type of the vertical bar chart is side by side bar chart. The minim requirement for side by side bar chart is 1 (or) more dimensions and one (or) more measures, and also side-by side bar chart requires atleast 3 fields.

Note :- In the horizontal bar chart each value in a given category is represented with a separate bar. where as in stacked bar all the values of a given category is represented in a single bar vertically.

* side by side bar chart requires at least 3 fields.
* In side by side barchart one field data is placed inside the another field (nested table) and it represents the another inside field data value separately in each bar vertically.

note :- The horizontal bar chart and vertical barcharts are the uni-varity charts.

③ Line charts :- Line chart is the grate way ~~the~~ to compare the categorial data over the period of time.

* It is mainly used to analyse the trends over the period of time.

Types of Line charts :- we are having 3 different types of line charts.

1. continuous line chart
2. Decrete line chart.
3. Dual Line chart.

(i) continuous Line chart :- It requires at least one date field, 0 (or) more dimentions, and 1 (or) more measures.

(ii) Decrete line chart :- It requires at least one date field, 0 (or) more dimentions, and 1 (or) more measures.

→ It requires one decrete date field.

(iii) Dual lines :- It requires at-least one date field which is of either continuous (or) decrete, 0 (or) more dimention and 2 measures.

Note :- The continuous line chart requires continuous date field whereas decrete line chart requires decrete date field dual lines requires two measures.

Note :- In the line charts continuous line chart and decrete line chart are of type uni-varite.

④ Area chart :- Area charts in the TABLEAU are mainly used to indicate the growth of particular category.

* Area chart is an extension of a Line chart.
* An area chart shows the line of a measure how it growing and also fills the area below the line based on the value of the measure.
* Area charts are the greate way to compare the growth of a particular category.

* In TABLEAU we are having two types of area charts (156)

1. continuous area chart
2. Decrete area chart.

① continuous area chart :- It requires one date field, 0(or) more dimentions and one (or) more measures.

② Decrete area chart :- It requires one decrete date field 0(or) more dimentions and 1(or) more measures

Note :- The decrete area chart and the continuous area charts are the uni-varity charts.

Note ② :- Decrete area chart requires decrete date field where as continuous area chart requires continuous date field

⑤ circle charts :- In TABLEAU we are having two types of circle charts.

(1) view circle views.
(2) side-by-side circles.

* circle charts are the another way to represent the categorial data in the form of circles.

(i) circle views :- In order to create circle views in the TABLEAU it requires one (or) more dimentions and 1 (or) more measures.

(ii) side-by-side circles :- It requires at least one (or) more dimension and one (or) more measure.

* It requires at least 3 fields.

Note :- Both the circle views and side by side circles are uni-varity charts.

⑥ other uni-varity charts :-

① packed bubles :- packed bubles is the another way to represent the each categorial data based on their measure value

It requires at least one (or) more dimension and

1 (or) 2 measures.

⑦ pie chart :- It is the another way to represent the data in the form of slices.

Note :- for the effective look of pie chart and for the best practice don't create a pie chart with more then 5 slices.

⑧ Heat maps :- The another way to represent the categorial data is heat maps. A heat map is a visual representation of number in a table (or) in the form of grid in such a way that the bigger numbers are encoded by dark colors (or) bigger sizes and the smaller numbers are encoded by smaller size (or) light colors, this type of representation of data makes the readers pattern very easier, and the reader can able to analyse the data very faitly.

* The minimum requirements for heat map are 1 (or) more dimention and 1 (or) 2 measures.

⑨ Tree maps :- From TABLEAU 8.0 the new chart added in the TABLEAU is Tree map.

* This treemaps are not available upto 7.0

* Tree maps are another way to represents the number of data view by filling the portion of tree map by thicked color if the value is more and it fills the tree map with light color if the value of field is less.

* Tree map require 1 (or) more dimentions and 1 (or) 2 measures.

⑩ Gantt view :- Gantt view is the modified representation of the bar chart.

* It is a new feature in the TABLEAU 8.1, in order to create a gantt view it requires

continuous date field, 1 (or) more dimentions, 0 (or) 1 measures.

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(11) Box-and-whisker plots :- The another new date view added from the TABLEAU 8 is Box-and whisker plots.

* Box-and-whisker plots displays the distribution of the measure values for a given category in the form of box.
* Box-and-whisker plot is also known as Box-plot.
* In order to create box and whisker plot we need 0 (or) more dimentions and 1 (or) more measure.

(12) maps :- In TABLEAU the maps are also comes under uni-varity charts.

* In TABLEAU we are having two types of maps.
  1. symbol maps.
  2. filled maps

(2) Bi-varity charts :- Analysis involving in the two measures in the TABLEAU is known as Bi-varity charts.

* The different Bi-varite charts available in TABLEAU are

1. Text tables.
2. Heat maps
3. pie charts
4. symbol maps
5. Horizontal bars
6. stacked bar.
7. side-by-side bars
8. side-by-side circles
9. circle views
10. Tree maps
11. All line charts
12. All area charts
13. combination chart
14. packed bubles
15. Box and whisker plots.
16. Gantt views.
17. scatter plot
18. Bullet graphs

(3) scatter plots and Bult graphs :-

scatter plots :- There are offenly used to identify and to observe the relationship between two measures (or) any two variables by looking in-to the scatter plots any user can quickly observe the trends.

* It requires atleast 0 (or) more dimentions and 2 to 4 measures.

* The scatter plot displays the relationship in terms of small circle called scatter.

(159)

Bullet graphs :- Bullet graphs are the modified view of the bar chart, Bullet graphs requires o(or) more dimen-tions and & measures

* Bullet graphs are also the new free feature in TABLEAU 8.0

Multivarity charts :- Analysis involving more than two measures are known as multi varite charts.

* The different multi variety charts are.

(1) text tables
(2) Horizontal, stacked, side-by-side bars.
(3) circe view and side-by-side circle.
(4) continuous and decreate line charts
(5) different types of area charts.
(6) scatter plot
(7) Box-and-whisker plots
(8)

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Senario (17) : connecting to the KBC data

Step(1):- click on connect to data. click on oracle.

Step(2):- In the oracle connection window click on advanced

Step(3):- In the advanced oracle connection window enter the server name as 192.168.1.253, enter the service name as aimenv2 and port no. as 1921. Just click on ok.

Step(4):- ~~Here we nec~~ Enter the user name and password and click on connect

Step(5):- select orders and click on multiple tables to join all the dimentions to the order measure in the KBC data.

Step(6):- click on add table. In the add table window

select ~~cable~~ calender and click on join tab (6)
In the calender table select YYYY-MM-DD and in the order table select period key and click on add. click on ok.

step(7):- Again click on add table in the add table window select customers and click on join tab, in the customer table select new key and in the orders table select cust key and click on add and click on ok.

step(8):- Again click on add table in the add table window select products and click on join tab, in the products table select product key and in the orders table select PROD key and click on add and click on ok.

step(9):- specify the connection name as kbcdata and click on ok.

step(10):- In the data connection window select connect live.

Cardinality:- Join defines the relationship between the tables where as cardinality defines how the tables are relating.

* In cardinality it specifies how the relationship should exist ~~b/w~~ between tables.

Types of cardinality:- we are having 4 different types of cardinalities.

1. one-one (1:1)
2. one - many (1:m)
3. many -one (m:1)
4. many - many (m:m)

one-one (1:1) :- In one-one relationship one value in one table is linked to one and only other value in the other table.

Eg person-passport, customer-address, employee-department

one-many (1:m) :- In one-many relation-ship one value in one table is lined to many values in other table.

Eg customer-orders.

many-one (m:1) :- In many-to-one relationship many values in one table is Related to one value (or) single value in the other Related table.

Eg Employees - company, students - cource.

many-many (m:m) :- In many-to-many relationship one (or) more values in one table is related to one (or) more values in other related table.

Eg product - orders

Note :- while creating any connections to the databases from the TABLEAU always go with the Live connection because most of the data bases are configured with the high performance.

7/6/19 Senario (18) :- Caliculations :

* Every time with the default fields (or) existing fields in the TABLEAU, it is not possible to derive the meaningful results from the data.
* Some times we need to create the new fields in the TABLEAU known as caliculated fields.
* These caliculated fields are the reusable fields. We can define them once and we can use them'n

no. of times.

(162)

* when we create any calculated fields all those calculated fields will get stored in the TABLEAU work book which gets stored in the TABLEAU repository.

For example: product, sp, cp

P1,	100	80
P2,	50	35
P3,	40	28

product wise profits

profit = sp − cp

product	profit
P1	20
P2	15
P3	12

Here "profit" is a calculated field... which get stored in TA work book of table au repository. It is not existing in the data source.

Task①:- Displaying the product wise total cuts on the KBC data.

step①:- On the KBC data the cuts field is not available by default. we need to create the cuts field directly in the TABLEAU.

step①:- create a calculated field by clicking on the analysis, select calculations field and create calculation field after connecting to the KBC data.

step②:- In the calculated field specify the name as cuts and enter the formula as sum([unitsordered]) − ([sum of(units shipped)]) click on OK

step③:- In the dimentions open the products table drag the PG code into the row shelve and cuts into the column shelve. drag the PG code into the color and click on abc.

Note and use calc with Note: we of Note: Name Fun Numb ABC

* Ap the lon syr exc Tay st step st -me Sir

Note:- If we create a calculated measure in the TABLEAU and in the calculated field in the formula tab if we use any aggrication functions the aggrigation of that calculated measure in the work sheet is indicated with AGG.

Note:- In the calculated field we can add the parameters, we can add the fields, we can add the different types of functions available in the TABLEAU.

Note(3):- If we create any calculated field that field name is prefixed with equal to (=).

Functions in TABLEAU:-

Number functions:-

1) ABS function:- ABS (is also called absolute value function)

* ABS function takes the input as a number, it ignore the ignores the sign of the number weather is negative (or) positive and just displays the number.

Syntax: -ABS(Number)

example 1) ABS (99) = 99
2) ABS (-99) = 99

Task(1):- Implemention ABS function in TABLEAU.

step(1):- click on the analysis field and select create calculated field specify the name as ABS example in the formula tab ABS(-100) + ABS(100) click on ok.

step(2):- Drag the ABS example to the row shelve and right click on ABS example and click on dimension.

2) Trigonometric functions:- The different trigonometric functions available in the TABLEAU are sin, cos, Tan, Cot

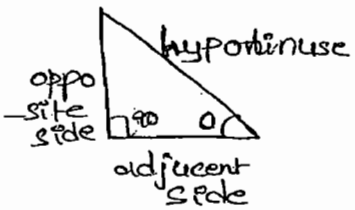
* The different inverse trigonometric functions (LGY) available in TABLEAU are Asin, Acos, ATan, ATan2.

* These functions are mainly used navigation, engineering, physics, Geometric.

* For example These function are mainly used to perform the analysis like finding the distance b/w two sea shores (or) the average length of costal area of a city .... etc.

Trigonometric functions :-

$$\sin\theta = \frac{\text{opposite side}}{\text{hypotinuse}}$$



$$\cos\theta = \frac{\text{adjecent side}}{\text{hypotinuse}}$$

$$\tan\theta = \frac{\text{opposite side}}{\text{adjecent side}} = \frac{\sin}{\cos}$$

$$\cot\theta = \frac{\text{adjecent side}}{\text{opposite side}} = \frac{1}{\tan\theta}$$

Inverse of trigonometric function :

$\sin^{-1}\theta = \text{ASin}\theta$ $\quad \tan^{-1}\theta = \text{ATan}\theta$

$\cos^{-1} = \text{ACos}\theta$ $\quad \cot^{-1} = \text{ATan2}$

3) Cyclometric functions :- The inverse of the trignometric functions are called as cyclometric function (or) inverse trignometric functions.

* The different cyclometric functions available in TABLEAU are ASin, ACos, ATan, ATan2.

~~Step~~

~~4) regress function~~

~~Tan~~

Implementing trignometric functions and cyclometric functions in TABLEAU

Step①:- click on the analysis tab and select create calculated field specify the name as cos and specify cos(π/3) cos(PI()/3). click on apply and click on ok.

Step②:- create another calculated field and specify the name as Acos and specify the formula as Degrees (Acos(0.5)) click on apply and click on ok.

Step③:- Drag the cos function to the row shelve and A cos function to the row shelve.

Step④:- Rightclick on A cos and select dimention.

COS, SIN, TAN, COT functions:-

Syntax:-

COS (RADIANS) = NUMBER
SIN (RADIANS) = Number.
TAN (Radians) = Number.
COT (Radians) = Number.

Inverse Trigonometric functions :-

ACOS, ASIN, ATAN

Syntax: ACOS (Number) = Radians
ASIN (Number) = Radians
ATAN (Number) = Radians

* Inverse Trignometric functions takes the input as numbers and it displays the output as radians.
* If you want to convert the radians to degrees use the degrees function.
* For the 'Acos' and 'Asin' the number value should be in the range -1 to 1

Note:- If you specify the value outof range in the inverse trignometric function it display NULL.

6) Degrees function:- Degrees function takes the input as 'radians' and it display the output as degrees

Eg:- Degrees (PI()/5) = 36.0

5) DIV function:- DIV is also called division function

Syntax: DIV (Number1, Number2)

* The division function devides the number1 with number2 and it will displays the output as quotient.

6) Exp function:- Exp is also called as exponential function.

Syntax:- Exp (Number)

Ex Exp (7) = e^7

7) LN function:- LN is one of the logerithmic function available in the table AO.

* LN takes the input as number at it returns the natural logerithmic value of number, If the number is grater than 0.

* If the number is Less than or equal to zero then it returns NULL.

Syntax: ~~if number~~ LN (Number)

if number >0 return logerithamic value
number <=0 then it returns NULL.

8) log function:- It takes input as number along with the [base] and it displays the logerithemic value of number along with the base.

If [base] is ommited it takes ~~defaut~~ default ~~base~~ as 10.

syntax:- Log (Number, [Base]) [ ] ---> that field is optional
< > ---> that field is mandatory

Eg Log (1) = $\log_{10} 10$

9) max and min function :-

10) PI function:-

11) power function :- The power function takes the input as number and it powers that number with the specified power.

syntax : Power (number, power)

Eg power (10,3) = 1000

12) Radians :- Radian function will converts any number (or) degrees to the ~~rano~~ radians.

syntax :- ~~RADIANS (PI()/3)~~ RADIANS (Number/Degrees) = Radians.

Eg RADIANS (PI()/3) = 0.0183

13) Round function :- Round function takes the input as the decimal number and it rounds that number based on the no. of decimal places.

syntax :- Round (Number, [No of Decimal places])

~~Round functions takes the input~~

Eg: Round (45.421234567, 2) = 45.42
Round (45.421234567, 3) = 45.422

Note:- while rounding If Next number is 5 (or) more than 5 it adds 1 to the current decimal place.

if Next number <5 ~~(or)~~ then it displays same decimal value.

Task :- Implementing round function in TABLEAU. (168)

Step①:- create a calculated field by clicking on the Analysis tab and specify the name as Round and enter the formula as ROUND(45.4567,1) click on OK.

Step②:- Drag the round function to the row shelve right click on the round and select dimention.

output :- ~~For 45.45~~ Round (45.4567,-1) = 50.00

Here if we take -1 then it will rounds the value before the decimal point 5 is equal to 5 so it will adds 1 to 4. ~~is~~ so we get output as 50.00

Note:- If the no. of decimal places are negative it will try to round the values from the left of the decimal point.

while rounding it current number is 5 or more then 5 it adds 1 to the previous value.

If num < 5 then it displays same previous value.

14) Sign function:- sign functions takes the input as number.

syntax:- sign (Number)

If number is +ve it returns +1

If number is -ve it returns -1

If number is zero it return 0

eg :- sign (-100) = -1

sign (100) = 1

sign (0) = 0

15) SQRT function:- The SQRT is also called squareroot function and it will takes input as number and it will display square root of that number.

Syntax:- SQRT (~~[illegible]~~) = ~~[illegible]~~

SQRT (Number) = Number.

SQRT (100) = 10

Square function:- square function takes the input as number and it will gives square of that number.

syntax:- square (number)

eg:- square(10) = 100

17) ZN function:- This function is also called as zero numb functions.

* ZN takes the input as number (or) field
  if the number value is not NULL then it displays that number value
  if the number value is NULL then it displays zero

syntax:- ZN(expression)

Task:- Simplementing ZN function in TABLEAU.

Step①:- create a sample on the text file with the following data.

product	sales
P1	200
P2	100
P3	
P4	
P5	

Step②:- Save the notepad in the desktop with name data.

Step③:- connect to the text file from the TABLEAU.

Step④:- create a new work sheet in the TABLEAU drag the products to the row and sales to column shelve. By default it will display nulls for P3, P4, P5.

Step⑤:- ~~Go to~~ But here our requirement is if we get any null data in place of that NULL we have to display zero.

Step⑤:- click on analysis tab and select create calculated field enter the field name as ZN sales and in the formula write ~~ZN(sum~~ ZN(sum[sales]) click on OK.

Step⑥:- Drag the products to row and zn sales to the column shelves ~~and~~ now it will display zeros in

place of NULLS.

Note:- In number function most commonly used function are ABS, ROUND, SIGN, ZN functions.

II Strings functions:-

1) ASCII function:- It returns the ASCII number of the string. It takes input as string and gives output as ASCII number of starting character of the string.

* syntax:- ASCII ('String')

Eg ASCII ('TABLEAU') = 84 (∵ ASCII number of 'T')
ASCII ('tableau') = ~~undefined~~ 116 (∵ ASCII no. of 't')

Note:- while specifying the input parameters in the string functions we need to specify the input string with in single quotes ('') (or) double quotes (" ").

* The ASCII values of upper case letters and lower case letters are different.

Task:- Implementing ASCII in TABLEAU

step①:- click on the analysis and select create calculated field. specify the field name as ASCII and in the formula tab enter ASCII ('TABLEAU') click on OK.

Step②:- create another calculated field name as ASCII2 and enter formula as ASCII('tableau') click on OK.

Step③:- drag the ASCII, and ASCII2 to the row shelve right click on both ASCII and ASCII2 click on dimention.

2) CHAR function:- If want know character for a particular number we will use this char function.

* character function takes the input as ASCII number ~~and~~ (or) integer and gives the output as character based on ASCII code number.

* The reciprocal of ASCII function is char function.

* Syntax:- CHAR (Integer)

Eg CHAR (84) = 'T'

Task:- Implementing char function in the TABLEAU.

step①:- create a calculated field with name char and in the formula enter CHAR (84) click on OK

step②:- Drag the char and drop into the row and see the output character. output is T.

3) Boolean functions:- In boolean functions the output is either 'true' (or) 'false'.

The different Boolean functions available in string calculations are.
1. start with.
2. End with
3. contains
4. Is date.

* these functions take input as string and outputs either True (or) false.

(i) Starts with:-

syntax:- STARTSWITH ('string', 'searchstring')

Eg:- STARTSWITH ('TABLEAU', 'TA') = TRUE
STARTSWITH ('TABLEAU', BB) = FALSE

* In, startswith it can contains string and search string if string is startwith search string it will give TRUE otherwise display false.

Task:- Implementing starts with in TABLEAU.

step①- create a calculation field with name starts with and formula as STARTSWITH('TABLEAU', 'TA') and click on apply click on OK.

step②:- Drag the starts with to the rowshelve and it display output as True.

(ii) Ends with :-

syntax:- ENDS WITH ('string', 'searching string')

Eg ENDS WITH ('TABLEAU', 'AU') = True.
ENDS WITH ('TABLEAU', UA) = False.

* If the search string is matching the ending characters of the string it will display true, otherwise it will display false.

Task :- Implementing ENDS with in TABLEAU

Step(1) :- Create a calculate with name 'ends with' and formula as ENDS WITH ('TABLEAU', 'AU') click on ok.

Step(2) :- Drag the ends with and drop into the row shelve.

Note :- In the boolean functions if you specify the input string in the upper case and if you specify the search string in the lower case if you specify the exactly matching search string in lower case then it will display 'false' even through if the values are matching.

Eg ENDSWITH ('TABLEAU', 'au') = false.

iii) contains :-

syntax:- CONTAINS ('Input string', 'search string').

* If the search string is existing in input string that it displays true, if it is not existing then it displays false.

Eg CONTAINS ('TABLEAU', 'BL') = TRUE
CONTAINS ('TABLEAU', 'BB') = FALSE
CONTAINS ('TABLEAU', 'bl') = FALSE

Task :- Implement CONTAINS in TABLEAU.

Step(1) :- Create a calculated field with name contains and formula as CONTAINS ('TABLEAU', 'BL') click on apply and click on OK.

Step(2) :- Drag the contains to row shelve.

(iv) Is Date function:- Is date function takes input as string and if the string is valid date then it displays True, if the string is not valid date then it displays false.

* The default date format in the TABLEAU is ~~month day~~ "month day, year".

eg JUNE 8, 2014 Syntax:- ISDATE('DATE')

Is Date example: IS DATE ('08-06-2014') = TRUE
ISDATE ('08062014') = FALSE

* ~~Tra~~ Talk:- Implementing ISDATE in TABLEAU.

Step(1):- create calculation field with name Isdate and formula as ISDATE ('08-06-2014') and click on OK

Step(2):- Drag is date to row shelve and check weather it is displaying True (or) false.

Step(3):- Again right click on Isdate function modify the input string as following ISDATE ('08062014') click on apply and click on OK

Step(4):- Again drag Isdate to row shelve.

Note:- In TABLEAU the boolean functions fields are prefixed with, equal to T/f (=T/f).

4) Trimming functions:- In TABLEAU the different data trimming functions available are.

1) TRIM
2) LTRIM
3) RTRIM

* These functions ~~em~~ eliminates the trialing spaces and leading spaces from a given string.

* leading means the spaces that are in the left side of the string and trialing means the spaces that ~~are~~ the right side of the string.

syntax:- TRIM(' ~~TABLEAU~~ string ')
LTRIM(' ~~TABU~~ string ')
RTRIM(' string ')

Eg TRIM(' TABLEAU ') = 'TABLEAU'
LTRIM(' TABLEAU ') = 'TABLEAU '
RTRIM(' TABLEAU ') = ' TABLEAU'

TASK:- Implementing trimming functions in TABLEAU

step①:- create a calculated field with name 'trim' in the formula tab Enter TRIM(' TABLEAU ') just click on OK.

step②:- Drag the trim field to the row shelve. apply the len function on the TRIM and check weather TRIM is eliminating the empty spaces (or) not.

~~step③:- LEN~~

5) LEN function:- LEN functions also called as length function, it takes input as string and it displays the length of the string.

syntax:- LEN("string")

Eg LEN("TABLEAU") = 7

6) Left, Right, mid functions:- Left functions takes the ~~imp~~ input as string and no. of characters from left and it displays the no. of character from the left.

Syntax:- LEFT(string, no-of-character-from left)

Eg LEFT('TABLEAU', 3) = TAB

* Right function takes input as string and it display no. of characters from right.

Syntax:- Right(string, no. of chars from right)

Eg RIGHT('TABLEAU', 3) = EAU

* mid function takes the input as string and also takes starting position and in starting position it will displays the no. of characters

syntax:- MID ('string, starting posion, no. of characters)

Note:- Even in the TABLEAU we can create the calculates fields with the function names also.

Eg for mid :- MID ('TABLEAU', 2, 2) = AB

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Find() :- Find function takes the input as the string and it search for sub string in that string if the sub string is existing it gives the starting position of the string and also optionally we can specify the starting position in the input string for searching.

syntax: FIND (Input - string, substring, [START])

Eg FIND ('TABLEAU', AU) = 6

Task①:- Implementing find function in TABLEAU

~~Create~~ Step①:- create calculated field with name find, in the formula tab enter FIND ('TABLEAU', A) click on ok.

Step②:- Drag the find and drop to rows.

Step③:- Right click on find and select dimension it displays value as 2

Step④:- Again right click on find and click on edit, and in the formula FIND ('TABLEAU', A, 3) click on ok.

Replace () functions :- Replace () takes the input as string and in the input string it will search for the search string, of the search is exist

it will replace the search string with replace string.

Syntax: REPLACE (STRING, SEARCH-STRING, REPLACE-STRING)

Eg REPLACE ('ORACLE', 'ORA', 'MIRA')
= MIRACLE

Task: Implementing Replace function in TABLEAU

Step①:- Create a calculated field with name replace and in the formula tab enter REPLACE ('ORACLE', 'ORA', 'MIRA') click on OK. Drag the replace field into Rows.

Space function: Using the space function we can provide the space b/w two strings.

Syntax: space (Number)

* space function takes input as number and it provides sp no. of spaces.

Eg 'BL' + 'space' (2) + 'ETL' = 'BL ETL'
two spaces.

Space (2) = " "

Task:- Display only the 1st name from the customers.

Step①:- Right click on the customer name and create a calculate field with name finding space, and in formula tab enter FIND([customerName], " ")

Step②:- Again create another calculated field with name first-name and in the formula tab enter the formula as LEFT([customerName], [finding-the-space]-1) -- calculated field

Step③:- Drag the finding space and first-name to row shelve.

Calculations :-

Task :- Displaying only the first name from the customers -

Step① :- Right-click on the customer name and create a calculated field with name finding space and in the formula tab enter FIND ('customer_name, " ");

Step② :- Again create another calculated field with name first name and in the formula tab enter

left([customer name] , [Finding space] - 1)
↳ calculated field

Step③ : Find the first name length by creating another calculated field with name firstname-length in the formula enter LEN (first name)
↳ calculated field

Step④ :- Drag the customer name to the row shelve, first name to row and first-name-length to column shelve.

Task② :- Display only the customer name except the first name.

Step① :- create a calculated field on customer name: right click on customer name and click on create calculated field and field name as except first-name and formula as MID ([customer name] , [Finding space] + 1)

Step② :- Drag the customer name into row shelve except first name in row shelve.

Note① :- we can use one calculated field inside the another calculated field.

Note② :- calculated fields are reusable, we can define them once and reuse them many times.

Parameters: In TABLEAU using the parameters we can pass the values dynamically from the work sheet without opening and modifying the calculated field every time.

* In TABLEAU we can create different types of parameters like
  1. Interger parameter
  2. String parameter
  3. Float parameter
  4. Boolean parameter
  5. Date parameter
  6. Date and time parameters.
* If we create the parameter all those parameters are visible in the parameters tab of the data window.
* we can pass the values to the parameters in 3 ways based on the types of parameter. The 3 ways are
  (1) All (2) List (3) Range
* Even we can modify the parameters after declaring them also.
* Just Right click on parameter and select edit and just modify the parameter.
* If you want to display the parameters in the data window right click on parameter and select show Parameter control. It will displays in work sheet (or) Data window.

Note:- parameters are re-usable components. we can define parameter once we and we can use them in 'n' no. of calculations.

Task:- Display the container wise total profits and in the containers check weather the small box large box and medium box are available (or) not. If they are available display the particular container as true and other contains as false

② **Step①:-** create a caliculate field on the container with name container_checking. In the formula tab write

CONTAINS ([container], [container_s])
↑ parameter.

Step②:- Here containers is a parameter. create a parameter by clicking create and specify the name as contain_ex and data type as string, allowable values as list that in the list of values small Box, large Box and medium Box and click on OK.

Step③:- Drag the container to row and profit to the column shelve.

Step④:- Drag the container_check in the color.

Step⑤:- Right click on the parameter and select show parameter control.

Tasks:-

① Display the state wise Region wise total profits. Design the dynamism in such a way that if you click on central region it should display the states under the central region. similarly it should display the states along with particular region along with their profits.

② Display the category wise, item wise total quantity ordered if you select one category, it should display the items only in that category. Design the dynamism according to the above requirement.

Note:- where ever we find the word dynamism always the parameters should come into picture.

Task :- Display only the midname from the customer name, Display only th only the Last name from the customer name.

step① :- Right click on customer name and create caliculated field with name find space and in the formula tab give FIND([customer name, " "])

step② :- Again create another caliculated field on customer name, create name as except-first-name and formula as
mid([customer name], [find space 1] + 1)

step③ :- Right click on except first-name and create caliculated field with name find space and formula as FIND([except-first-name], " ")

step④ :- Right click on except first-name and create caliculated field with name except first, mid and formula as
mid([except-first-name], [find space 2] + 1)

step⑤ :- Right click on except first-name and create caliculated field with name mid name an formula as left([except-first-name], [find space])

step⑥ :- Drag the customer name, except first name, except first, mid, midname to row shelve.

Task :- Display, state wise, region wise profits. Design the dynamism in such a way that if you click on central region it should display the state's under the along with particular region along with their profits also

step①:- Drag the state and region to the rowshelve and profits to columns.

step②:- Drag the region to filter and click on condition tab select the formulta and enter the formula, before entering the formula create a parameter on region.

step③:- Enter the formula as [Region] = [region parameter]

step④:- Right click on parameter and select show parameter Control.

11/6/14 Note:- parameters can be used inside the filters also.

③ Date calculations:

→ The 3rd types of functions available in the calculating are Date functions.

(i) year function:- year function takes the input as date and it returns only the year from the date.

Eg YEAR (JUN 11, 2014) = 2014

syntax:- YEAR(Date) = year form date

(ii) month function:- month function takes the input as date and it returns only the month from the date.

syntax:- MONTH (Date) = month form date

Eg MONTH (JUN 11, 2014) = JUN

(iii) Day function:- Day function takes the input as date and it returns only the day from the date.

syntax:- ~~DAY (D~~ DAY (Date) = Day from month

Eg DAY (JUN 11, 2014) = 11

Task :- Implementing month, Day, year functions in the TABLEAU

Step①:- create a calculated field with name year and in the formula tab enter YEAR(orderdate) click on ok.

Step②:- Drag the orderdate into row shelve and right-click on that field and click on dimention. Again right click on measure and change the property to decrete.

Step③:- Again create a calculated field with name month and in the formula tab enter MONTH (orderdate) click on ok.

Step④:- create another calculated field with name Day and in the formula tab enter DAY (orderdate) click on ok

Step⑤:- convert moth and daty to dimentions. Drag the month and day to row shelve-

(iv) DATEAdd function :- DATEADD function adds a particular interval to the input date based on the date field (or) based on the date part.

Syntax: DATEADD(date part, interval, input-date)

Eg DATEADD('year', 2, JUN 11, 2014) = JUN 11, 2016

Task :- Implementing DATEADD function IN TABLEAU (or) ADD one year to current year and one month to the current month and one daty to current day and display the output in such a way that with the view is displaying the current year we should display the next year. with the view is display the current month we should display the next month.

Step①:- create a calculated field with name next year and in the formula tab enter ~~DAT~~

(6) DATEADD('year', 1, [orderdate]) click on ok. (7)

step(2):- create another calculated field with next month and in the formula tab enter DATEADD('month', 1 [orderdate]) click on ok.

step(3):- create another caliculated field with next day and in the formula enter DATEADD('Day', 1, [Order Date]) click on ok.

step(4):- Drag the next day, next month, next year to the row shelve along with the year, month, day.

Note:- In the date add function if you take the date part in the upper case the function won't work. Always we have to specify the date part in the lower case.

(v) DATEDIFF function:- Date diff function displays the difference b/w the starting date and ending date based on the date part.

syntax:- DATEDIFF(date part, starting date, ending date, [starting-weekday])

eg DATEDIFF('year', DOJ, DOL) = 3

TASK:- Implementing DATEDIFF function in TABLEAU by finding the average shipping time b/w the order date and shipped date based on country wise.

step(1):- create a cliculated field with name Average shipping time and in the formula write DATEDIFF('DAY', [orderdate], [ship Date]) click on ok.

step(2):- ~~Drag~~ the click on state geographic field and drag the average shipping time into the color right click on the average shipping time and change the measure to average.

step(3):- Drag the state and drop into the lable.

Note:- DATEDIFF function also ~~[illegible]~~ accept the date part in the upper case.

(vi) DATENAME function :- DATENAME function display the subpart of date in the form of string.

syntax:- DATENAME (date-part, input-date, [starting-week date])

Eg DATENAME ('month', #JUNE 11, 2014#) = JUN

(vii) DATEPART function :- DATEPART function displays the subpart of date in the form of number (or) integer

syntax:- DATEPART (date-part, input-date, [starting-week date])

Eg :- DATEPART ('month', #JUN 11, 2014 #) = 6

Task :- Implementing DATENAME and DATEPART functions in TABLEAU.

step①:- create a calculated field with name current month and in formula write DATENAME ('month', #JUNE 11, 2014 #) click on ok.

step②:- Create another calculated field with name current month number and in the formula write DATEPART ('month', # JUN 11, 2014 #) click on OK.

step③:- Drag current month and current month number to row shelve.

Note:- Date Name function displays the date values based on the input date.

step④:- Edit the current month calculated field and in the formula tab enter ~~Date~~ DATENAME ('year', # JUN 11, 2014 #) click on ok. It will display 2014

Note:- Always keep the hard codded date values in b/w the hashes (#) in TABLEAU.

(viii) IS DATE function :- ISDATE() function is the Boolean function in the dates.

* ISDATE function checks weather the input date is valid (or) not.
* If the input date valid it returns true, if input date is not valid it returns false.

(ix) TODAY function :- In TABLEAU TODAY function displays current day date.

(x) NOW function :- NOW function displays the current date along with the current time also.

Tasks:-

1. Design a data view in order to display the average delays for shipping on the KBC data.
2. Design a view to add 3 months, 3 quarters, 3 weeks, 3 days to the current date and also display the current year, current month, current week.
3. Design a view to display the month wise total sales for the different products on the KBC data and also display the next month sales for the year 2008. and also display the difference in the sales while comparing this month sales with the next month sales.
4. Design a view to display the current day from the today, current week from the today, current quarter from the today and the current day, current week and the current quarter should change based on today (or) every day.

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Date trunc :- Date trunc() is mainly used to perform the truncating of the dates.

→ Data truncating means display the accuracy of the dates.

Syntax :- Datetrunc ('Date part, input-date, [stating-week-day])

Eg Datetrunc ('quarter', '14-Jan-2014') = 1-APR-2014
Date trunc ('month', '14-Jun-2014') = 1-JUN-2014
Date trunc ('week', '14-Jun-2014') = 8-JUN-2014
Date Trunc ('year', '14-Jun-2014') = 1-Jan-2014

Talk :- Implementing Datetrunc() in TABLEAU :-

Step(1) :- create a calculation field with name Date Trunc and in the formula tab enter

Date trunc ('quarter', # June 14, 2014 #) click on ok.

Step(2) :- create new work sheet and drag the Date Trunc to the row shelve.

Step(3) :- Right click on the date trunc field in the row shelve and select exact date.

Step(4) :- Again right click on the date trunc in the dimensions list click on edit, and in the formula in the data part replace the quarter to year. click on apply & click on ok.

Step(5) :- Go to work sheet and see the date

Step(6) :- Again right click on the date trunc field in the data part in case of year specify month click on apply and click on ok.

(4) Type conversion functions :-

This functions are mainly used to convert the data from one type to another type.

The different type conversion functions available are
(1) INT
(2) FLOAT
(3) Date
(4) Datetime.
(5). Str

* Supposte take 1.123
1 → Integer .123 → Decimal part

(1) INT :- It converts any data type to Integer.
Eg INT (1.123) = 1

(2) FLOAT :- It converts any data type to float.
Eg FLOAT(1) = 1.0

3) Date :- It converts any datatype to date.

4) Date time :- Date + time.

(5) ~~String~~ STR :- It converts any dedatype to string.

Task :- Implementing int & float functions in TABLEAU

Step(1) :- create a caliculated field with name int and in the ~~for tab~~ formula tab enter int (12.23) click on ok.

Step(2) :- Drag the int and drop into the row shelve.

Step(3) :- Right click on the int and check dimention.

Step(4) :- Right click on int and click on edit and in the formula tab enter float (12) click on apply and click on ok.

Step(5) :- Goto the work sheet and check.

Step(6) :- Again right click on the int and in the formula tab enter int (12.23) + float (12) click

on apply and click on ok.

Task ②:- Implementing STR() in TABLEAU:

step①:- find the different ID lengths on the super store data.

step①:- create a caliculated field with name length of the ~~cus-to~~ customerID and in the caliculated field Len((Str(customerID)))
click on ok.

step②:- create a new sheet and drag the no. of records into row shelve and length of customer ID in the column shelve.

step③:- Right click on the length of customerID and select dimention and the property as discrete click on ABC.

Note :- Along with the actual data fields tableau will create on more additional field called as no. of records which indicates the total no. of records in the data source.

⑤ Aggregate functions :- Aggregate() function are mainly use to combine the individual data and it display the group value.

* The different aggregate() available are sum, max, min, avg, varience, standard deviation etc.

Task :- Design a view to display the yearwise, deptwise, total sales, avg sales, max sales and min sales.

step①:- Drag the order date and drop into row shelve.

step②:- Drag the department and drop into row shelve

step③:- Drag the sales and drop into the column shelve.

Step①:- click on the analysis tab select create calculation field specify the field name as average sales and in the formula tab avg(sales). Repeat the same step for min (sales) & max (sales)

Step②:- Drag the avg (sales), min (sales), max (sales) into the column shelve.

Step③:- click on the sum (sales) in the marks card and drag the dept and drop into the color.

Step④:- Again click on the min (sales) drag the department drop into the color.

Task②:- Design a view to display the state wise total profits, no. of item and profits per each item.

Step①:- Drag the state → row
profit → column
item → column

Rightclick on the item go to ~~message~~ measure and select count.

Step②:- create a calculated field with name profit per item and in the formula tab int (sum([Profit])/count ([item])) click on ok

Step③:- Drag the profit per item to the column shelve

Step④:- click on profit per item marks card and click on state and drop into the color.

Tasks:-

① obtain the regionwise, max sales and average sales.

② obtain the profit sale ratio for each country.

③ find the average sales and average profits and find the average profit sale ratio for each state and round it to two decimal points.

④ obtain the item wise profits and indicates the items having profit +1 and loss with -1 and encode in different color.

5) perform a calculation to find the unit price of each item, before discount and after this and also find the difference b/w the actual price and the discount price and display the difference amount.

6) find the profit ratio of each item before discount and after discount in blended axis.

7) obtain the percentage of units ordered and % of units shipped and percentage of cuts in each product in each product region wise on the KBC data.

8) obtain the profit for each products in each state before cuts and after cuts in the kbc data.

9) obtain the total amount of revenue on the KBC data and also obtain the total cuts amount and estimate the revenue by adding the cuts amount to the revenue calculated based on each state.

10) obtain the average revenue of each product year wise and also display the revenue share product percentage of each product on total revenue.

11) obtain the each product wise sales and enable the dynamism by selecting each product at run time.

12) obtain the 1st name from customer and also display the length of first name in the total name and also display the percentage of first name in the total name.

13) Design a view to display the product wise total sales based on each month and allow the dynamism in such a way that selecting only one month at a time.

14)

step 1

step 2

step 3

step 4

Syn

Task

Note: you data to step

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median ( ) :- median(), it displays the median of the numbers based on the even no. of numbers and odd no. of numbers. If the numbers are even it will display the average of 2 numbers where as the number is odd it will display the mid number.

for example:- if count of num is odd 10 11 12 = 11

if count of num is even 10 11 12 13 $= \frac{11+12}{2}$

$= \frac{23}{2} = 11.5$

Syntax:- MEDIAN (Expression)

Task:- Implementing median in TABLEAU

Note:- on the text files and on the excel files if you want to use the median function we need the data extract, with the live connection it is not possible to use the median function.

step①:- create a sample text file with the following data

numbers
100
111
122

save the file with name sample data.

step②:- In the tableau connect to the text file with the import connection.

step③:- create a calculated field on the numbers by right clicking on the numbers and select create calculated field specify the name as median and in the formula write MEDIAN([Numbers]) click on OK.

step④:- Drag the median and drop into the rows click on abc.

step⑤:- Add one more number in the sample

data file as 133 and save the changes. (P)

step⑥:- Refresh the extract connection and check the median value.

V.V. imp

ATTR() function:- ATTR is also called as Attribute function

* ATTR is mainly used aggrigate the dimentions.
* ATTR function takes the input as expression and in that expression if the data contains same list of values then the ATTR function it returns that value. If it contains different values then it returns * for dimention and null for measure.

Syntax:- ATTR([Expression])

Task:- Implementing ATTR function in TABLEAU

step①:- create a notepad with same list of values ~~and~~

Sales
100
100
100
100

step②:- save the noted pad and connect the noted in the TABLEAU.

step③:- create a calculated field with name ATTR and in the formula write ATTR([Sales]) Drag the

step④:- Drag the ATTR field into the rows and it display the number 100

step⑤:- modify the data text file by adding a new value '101'. save the data text file.

step⑥:- Refresh the data connection and know it will display 'NULL' in the ATTR.

Steps to perform aggrigations in TABLEAU :-

1. we can't mix aggregate field with non-aggrigated field.

   eg sum(sales) * profit = invalid

2. on the aggregate field again we can't implement an aggrigation.

   eg sum (Avg (sales)) = invalid

3. we can't evaluate aggregated field with individual field.

   eg MIN (sum(sales), profit) = invalied.

   However MIN (sum(sales), sum(profit) = valid

4. we can combine aggregate fields with constant

   eg sum (sales) * 7 = valid.

6. Logical calculated functions :- In TABLEAU

logical calculations are mainly used to perform the conditional ~~calculation~~ evaluation based on the condition. the logical function will check weather the given data value is satisfying the required condition ~~it will~~ (or) not. If that is satisfy the condition it will display the ~~other value~~ required value else display the other value.

logical calculations are mostly performed with KPI's.

KPI's :- KPI stands for key performance (or) progress indicator.

* KPI is one type of performance measurement
* Any organization uses the KPI's to evaluate the success (or) failure of the buiness, to evaluate success in terms of making ~~progress~~

progress towards the stragic goles of an organization (18)

* some times the KPI's are also called as key success indicators because an organization defines and measure progress toword the organization.
* Always the KPI's are define on the measures.

(i) If and only IF (IFF) function :- It performs single condition evaluation.

syntax :- IIF (condition - check , then, else)

If condition is satisfying it will Display "THEN" part

If condition is not satisfying it will display "Else" part.

Task :- Design a view to display state wise sales and measure the performance in each state by taking sales KPI. If the sales more than 20000 then indicate the field name in green color If the sales <20000 then indicate the sales in red color.

step(1) :- Drag the state and sales and drop into the rows and columns.

step(2) :- create calculated field with sales KPI and in the formula tab write

IIF (SUM([Sales]) >20000, "Good", "Bad")

step(3) :- Drag the sales KPI and drop into the color. change the color of good to green and bad to red.

Task :- Design a view to display the region wise customer segment wise discount, sale ratio.

step①:- Drag the region and drop into columns and drag the customer segment to rows.

step②:- create a calculated field with name discount-sale_ratio. and in the formula tab enter IFF ([sales] !=0, [Discount]/[sales],0) click on ok.

step③:- Drag the discount_sale_ratio field and drop into the columns.

step④:- Drag the region and drop into color. click on abc.

step⑤:- Right click on discount sales ratio and convert the Aggrigation to average. Right click on the discount_sale_ration goto default properties goto number format and select percentage and select the decimal places and click on ok.

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Task :- Design a view to display the region wise, customer segment wise average discount ratio (or) dicount sale_ratio for the sale amount more than 2000 and encode it in a the view with the department.

step①:- Drag the region and customer segment to rows and column shelve.

step②:- Create a calculated field with name average discount ratio and it the formula tab write

IFF ([sales] > 2000 , [DISCOUNT] / [sales] , 0) click on ok.

Step③:- Drag the average discount ratio to column shelve and right click on that mesure and select default properties and select percentage

and click on ok.

step(4):- Drag the Department into the color - click on abc.

Task:- Design a view to display the region wise customer segment wise average discounts based on the sales range from 1000 to 10000 and allows the user to change the sales range dynamically in the data view.

step(1):- Drag the region into the column shelve and customer segment to row shelve.

step(2):- create a calculated field with name average discount ratio and in the calculated field window in the parameters click on create and specify the parametername as sales range datatype as integer and allowable values as range, in the range of values check minimum, maximum and step size and enter the min values as 1000 and max value as 10000 and step size as 1000 and click on ok.

step(3):- In the formula tab enter IIF([Sales] > [Sales-Range], [Discount]/[Sales], 0) click on ok.

step(4):- Drag the average discount ratio and drop into the columns. ~~Drag the~~ click on abc. Drag the Department and drop into color.

If statement:- In TABLEAU if you want to perform the multiple condition evaluation then we have to make use of the If statement.

Syntax:- If <condition> THEN <Expr1>
ELSEIF <condition2> THEN <Expr2>

ELSE <Expression>
END

eg continent wise
If select sales then <sum of sales>
ELSE If select profits then < sum of profits>
ELSE If select Discount then < Discounts>
ELSE 0

Task :- Design a view to display the dynamic measures for the continent based on the user selection (In a single view based on the continent display the sales, profits, discount, unit price, ordered quantity based on user selection)

Step①:- Drag the continent and drop into rows.

Step②:- create a calculated field with name with dynamic measure, create a parameter in the calculated field and it by clicking on create and specify the parameter name as measures. select the datatype as string allowable values as list and in the list of values enter sales, profit, discount, unit price, order quantity. click on ok.

Step③:- In the formula tab enter formula as

parameter

```
IF [measure] = 'sales' THEN sum([sales])
ELSEIF [measure] = 'profit' THEN sum([profits])
ELSEIF [measure] = 'Discount' THEN AVG([Discount])
ELSEIF [measure] = 'unitprice' THEN sum([unitprice])
ELSEIF [measure] = 'ordered quantity' THEN sum([ordered quantity])
ELSE 0
END
```

click on ok.

Step④:- Drag the dynamic measure and drop into the columns.

step⑤:- Right click on the measures parameter and display select show parameter control. click on abc.

step⑥:- These kind of data views are called as dynamic views (or) Adhoc views.

~~Task~~ Spot Lighting the calculations :- Based on the data view if we are coloring the values depend on one calculations then those kind of calculations are called as spot lighting calculations.

Task:- create a spot lighting calculations for the category wise customer segment wise total sales in the form of a text table and spot light the data view for those categories whose sales more than 20000 with green color and whose sale less than 20000 in with Red color.

step①:- Drag the customer segment to columns and category to the row shelves, Drag the sales and drop into text.

step②:- create a calculated field with name spot lighting calculation and in the formula tab

```
IF Sum ([Sales]) > 20000 THEN "Good"
ELSE "BAD"
END
```

step③:- Drag the spot lighting calculation and drop into the color.

Task:- Design a view to display the categories wise margins.

step①:- Drag the category drop into rows.

step②:- create a calculated field with margine and in the formula tab

```
IIF ( sum ([Sales]) !=0 , sum ([ profit])/sum([Sales]
```

click on ok.

step③:- Drag the margine and drop into the column shelve and click on abc and drag the category drop into color.

step④:- Right click on margine goto default properties goto number format and in the number format select percentege click on OK.

Task:- Design a view to display the margines for the dynamic dimentions based on the user selection. the required dimentions are continent, deparament, region, category, customer segament, country.

step①:- Drag the margin create a caliculated field with name margine and write the formula as

Iff (sum([sales]) != 0, sum ([profit]) / sum([sales]), 0)

click on ok and drag the margine into rows.

step②:- create a caliculated field with name dynamic ~~measure~~ dimention and to create a parameter in the calliculated field click on create and parameter name as dimention and select data type as string allowable values as list and in the list of values enter continent, deparatment, region, category, customer segment, country and click on ok.

step③:- In the formula tab enter of caliculated field enter

```
IF [Dimention] = 'continent' THEN [continent]
ELSEIF [Dimention] = 'Deparatment' THEN [Deparatment]
ELSEIF [Dimention] = 'Region' THEN [Region]
ELSEIF [Dimention] = 'customersegment' THEN [customer segment]
ELSE 'NO DIMENTION'
END
```

(parameter)

click on OK.

step④ :- Drag the dynamic dimention and drop into the columns.

step⑤ :- Right click on dimention parameter and select show parameter control. click on abc.

step⑥ :- ~~ch~~ select the required dimention from the list.

Task :- Design a view to display the profit for the dynamic dimentions based on the selection of the user and also based on the selection that color of the data view should change.

step① :- ~~create a calculated field~~ field with ~~name~~ dynamic ~~dim~~ ~~measure~~ dimention and ~~and~~, write the formula as

~~IFF~~ (sum ([sales]) ~~!~~= 0 ~~+~~ sum ([profit]) / ~~sum~~

Step ① :- create a calculated field with name dynamic dimention and to create parameter click on create and parameter name as dimention and select data type as string and allowable values as List and in the list of values enter continent, department, region category and click on ok.

Step② :- In the formula tab of calculated field enter

IF [Dimention] = 'continent' THEN [continent]
Elseif [Dimention] = 'department' THEN [Department]
elseif [Dimention] = 'Region' THEN [Region]
else if [Dimention] = 'category' THEN [category]
END click on OK

Step③ :- Drag the dynamic dimention and drop into the columns. Right click on parameter and show parameter contor

~~step④~~ :- ~~select the new~~ dimention

Step④ :- Drag the ~~dynamic~~ parameter ~~int~~ and drop into the color legend.

Step⑤ :- select the required dimention from the list see the color changes in the data view.

V.V.Jay

Task:- Design a view to display the state wise profits based on the user selection of the profit, the KPI should display the result in a different color.

Step①:- Drag the state and drop into rows and drag profit and drop into columns.

Step②:- create a parameter with name 'profit checker' select the datatype as integer, allowable values as range in the range of values select min as 1000 and max as 60000 and step size as 1000 and click on ok.

Step③:- create calculated field with name 'KPI' and in the formula tab write sum([profit]) > [profit checker] ✓ parameter and click on ok.

Step④:- Drag the KPI and drop into the color. and right click on profit checker and display show parameter control.

If we want to display true value create another calculated field with IF KPI = TRUE THEN 1 ELSE 0 END

Task:- Design a view to display the profits based on the user selected dimention and also display the result in the different color based ~~as~~ on user selection profit the KPI should display in different color.

Step①:- ~~create a calculated field with name dynamic dimention~~ and ~~to create a parameter~~ Drag the calculated field dyramic dimention (that is previously created) drop into the rows.

Step②:- Drag the ~~profi~~ KPI that is previously created drop into the color.

Step③:- Right click on profit check parameter (that is previously created) select show parameter control

Step④:- Right click on dimention parameter (that is is previously created) click on show parameter control.

Step⑤:- Drag the profit and drop into the columns

step(6) :- click on abc- check ~~weath~~ in dimentions list click on any values that data view give the required KPI with different color (or) not.

IS NULL and IS DATE:- IS Date, IS NULL two boolean functions that are available in the logical functions of the TABLEAU

IS NULL :-

Syntax:- IS NULL (Expression)

* IS NULL function checks weather expression is NULL (or) NOT. If it is NULL it display true, if the expression is not NULL then it display false

Task:- Design a view to display the region wise discount and if there are any NULL values in the discount display it as true, if there are any values display it as false.

IS DATE Function:- It takes input as ~~dat~~ string if the string is a valid date then it will display true other wise it will display false.

Task:- Design a view to display the country wise dynamic measures based on the user selection display margin average discount ratio, profit sales ratio, quantity ordered.

Task:- Design a view to display the dynamic dimention which include country, state, category, department for the total sales.

Task:- Design a view to display the department wise category wise dynamic measures which include average profit ratio, margine, discount sale ratio and spot light the caliculation by taking

the discount percentage should be more ...

Task:- Design a view with dynamic measure and the dynamic dimentions and the dimention contains year, quarter, month, week and the dynamic measure contains profit, sale, quantity ordered, shipping price unit cost and design a KPI with name measure checker based on the selection of the user the KPI should change the color of the output.

Very imp Task:- Design a view with dynamic measure and dynamic dimentions and dimention includes year, quarter, month, week and day and if the user selects week it should display discount and if the user select day it should display unit price and if the user select month it should display Average profit ratio and user select quarter it should display total sales and profits and if the user select year it should display total profits, sales, quantity ordered, total profit ratio, total margine.

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Task:- Design a view in order to display the state wise sales and if the user select any state it should display only that particular state in the map and the required measure value along with the measure name and the currency indicator.

Step(1):- create a parameter with name state selection and specify the data type as string and in the allowable value select list.

Step(2):- Select add from field and select state and click on ok. It will automatically adds all the states to the parameter.

Step(3):- create a calculated field with name dynamic state and in the formula enter

~~IF [state] = [state selection] [state] THEN STATE END~~

IF [state] = [parameter]. [state] THEN [state] END
click on ok.

step④: Right click on the dynamic state goto geograph role and select state (or) province

step⑤:- click on the dynamic state field it will automatically creates a map.

step⑥:- Right click on the state parameter and select show parameter control.

step⑦:- Drag the dynamic measure and drop into the lable.

step⑧:- Drag the dynamic state and drop into the color and lable.

step⑨:- Drag the measure-selection parameter which we created yesterday and drop into the lable.

step⑩:- Right click on the measure selection parameter and select show parameter control.

step⑪:- click on the lable shelve and click on text and place the parameter and dynamic measure in the same line. click on ok.

step⑫:- Right click on dynamic measure goto default properties goto number format select currency standard and select the required currency indicator and click on OK

uk:- Design a map in the TABLEAU in such a way that if the user select any sales value it should display only those states whose sales more than the user selection in TABLEAU. Based on sales and sales Range is in b/w 1000 to 1,00,000 and check the states for each 1000 range.

Task:- Design a view to display the scatterplot for the sales and profit if the user selects any continent it should display all the countries under that continent.

step①:- create a parameter with name continent values and select type as string, allowable values as list click on add from field and select continent click on ok

step②:- create another par. a calculated field with name dynamic country and in the formula tab enter IF [continent] = [continent values]

THEN [country/region] END

click on ok.

step③:- Drag the sales into columns and profit into the rows.

step④:- Drag the dynamic country and drop into the columns.

step⑤:- Right click on the continent values and select show parameter control.

step⑥:- select the required continent and check weather it is displaying the required countries in that continent (or) not.

IFNULL() function:- IFNULL() takes input as two values if the 1st values is NULL it displays the 2nd value. If the 1st value is NOT NULL it displays the 1st value only.

Syntax:- IFNULL (value1, value2)

Return value1 if it is not NULL

Renturn value2 if value1 is NULL

Eg

IFNULL (1,2) = 1

IFNULL (,2) = 2

CASE() function :- ~~In~~ CASE() function is the another way to ~~perfm~~ perform multiple condition evaluation.

Syntax:-

```
CASE <Expression> WHEN < Value 1 >
                  THEN <RESULT 1 >
                  WHEN < Value 2> THEN
                  <RESULT 2>
                  WHEN <value 3> THEN
[ELSE <Result>] <RESULT 3 >
END.
```

Task :- create a ~~clo~~ calculated field for the region in such a way that suffix each region with region (After the region name, add the word region)

Step①:- create a calculated field with name calculated region and enter the formula as

```
CASE [Region]
    WHEN 'south' THEN 'south region'
    WHEN 'west' THEN 'west region'
    WHEN 'East' THEN 'East region'
    [~~ELSE <RESULT>~~]
END
```

click on OK

Step②:- Drag the calculated region into row shelve and profit into column shelve.

Step③:- Drag the calculated region into the color.

Tasks :-

~~1) Des~~ Design a view in such a way that if user select any particular ~~state~~ country it should display only the states in that country in the form of a map based on

profit and sales based on the country selection

(2) Design a view to display the state wise cuts on the KBC Data and allows the user in such a way that to select only the states whose state cuts are more than the ~~states~~ minimum cuts in each region.

(3) Design a view to display the year wise total sales if the user selects any year it should display only the quarters in the year along with the total profits and sales and if user selects any quarter, it display only the months in the quarter along with the total profit and sales and if the user select any month it should display only the weeks under that month along with sales and profits similary for all the four year.

(4) Design a view to display country wise total profits in the form of a map and also enable to display the dynamic measures in the map base on the user selection, and also perform the sorting sizing in the map based on the user selected measure.

(5) Design a view for the dynamic dimentions on the profit sale ratio and the margin and if the user select any dimention it should display the above mentioned measures and also sort the view based on the required dimention.

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Task:- Design a view to display the item wise prices before discount and item wise price after discount (or) obtain the PAD, PBD, discount value for each item

Step(1):- Drag the item and drop into row shelve

Step(2):- create a calculated field with name PBD and in the formula tab take unit price click on ok

Step(3): create a calculated field with name PAD and in the formula tab [unitprice] = [unitprice] * [Discount

Step(4):- Create one more calculated field with name discount value and formula as [PBD]-[PAD] click on ok.

Step(5):- Drag the PBD and PAD and discount value into the column shelve. click on show me and select text table.

Step(6):- Right-click on the PAD goto default properties select number format and select Currency custom in the decimal places take the value as 2 and click on ok.

Step(7):- Again click on PBD goto default properties goto number format and select currency custom in the decimal places take the value as 2 and click on ok.

Step(8):- Again goto discount value goto default properties goto number format and select currency custom in the decimal pace take the value as 2 and click on ok

Task:- Design a view to display the user selection date part wise total profits, if the user selects any date part it should display only that particular date part in the data view.

Step(1):- create a calculated field with name 'year' and in the formula tab write YEAR([orderdate]) click on ok.

Step(2):- create a calculated field with name 'Marks' and in the formula tab

DATEPART('quarter', [orderdate]) click on ok.

step③:- create a calculated field with name month and in the formula tab write MONTH MONTH([Orderdate]) click on ok.

step④:- create a calculated field with name week and in the formula tab write

DATEPART ('week', [orderdate]) click on ok

step⑤:- create a calculated field with name day and in the formula tab write DAY ([Orderdate]) click on ok.

step⑥:- By default all these calculated fields will gets created in the measures. convert all these measures into dimentions.

step⑦:- create a ~~parameter~~ calculated field with name 'dynamic date' in that create a parameter with name 'date selection' select type as string and select allowable values as list in the list of allowable value select year, quarter, month, week and day click on ok.

step⑧:- In the 'dynamic date' calculated field write the following formula.

```
CASE [date-selection]
    WHEN 'year' THEN [year]
    WHEN 'quarter' THEN [quarter]
    WHEN 'month' THEN [month]
    WHEN 'WEEK' THEN [WEEK]
    WHEN 'Day' THEN [day]
END
```

click on ok

step⑨:- Right click on the date-selection parameter and select show parameter control and select the required date field

Task:- Design a view to display the customer segment wise total profits and color the view dynamically based on the geographic fields namely region, country, state and also lable the view dynamically based on the user selection along with profit.

step①:- create a parameter name as 'demographic field', type as string and list of values 'enter region, country, state click on ok.

step②:- create a calculated field with name 'dynamic coloring' in the formula write

```
CASE [Demographic field]
    WHEN 'Region' THEN [Region]
    WHEN 'country' THEN [country |Region]
    WHEN 'state' THEN [state]
END
```

click on ok

Step②:- Drag the customer segment and drop into the columns and drag the profit and drop into the rows

Step③:- Drag the dynamic coloring and drop into the color and again drag dynamic coloring and drop into lable along with profit

Step⑤:- Right click on demografic field Parameter and select show parameter control.

step⑥:- In the parameter change the demographic field based on selection the color would change.

Task:- Design a view completely with dynamism if the user selects any dimention it should display only that dimention if the user select any measure it should display only that particular measure and dynamically color the view with dept and category and lable the view with profit range, year and quarter.

step(1):- Drag the 'dynamic-date' and drop into calomuns and profit into rows.

step(2):- Right click on 'date selection' parameter select show parameter control.

step(3):- create a parameter with name choose color and select data type as string and in the list of values select department, category click on OK.

step(4):- create a caliculated field with name dynamic color in the formula write

```
CASE [choose-colour]
    WHEN 'category' THEN [Category]
    WHEN 'department' THEN [Department]
END
```

click on ok

step(5):- Drag the dynamic color drop into color, drag the dynamic date and profit to lable.

step(6):- create one more parameter with name profit range select the data type as integer and in the allowable values select range specify the min value as 1000 and max value as 10000 and step size as 10000 and click ~~on ok~~ again convert the allowable values to List. click on OK

Step(7):- Right click on profit range and select show parameter control.

Step(8):- click on the drop down in the profit range parameter and select compact list. It will automatically displays drop down for profit Range

Note:- For the measures in the parameter if you take the allowable values as Range we can't display those measures in the form of drop down list in the parameter we can display either in the form of slider (or) type-in if the allowable values is Range.

Task:- Design a view to perform what if senario for the dynamic date fields for the total sales.

Note:- The view should display in such a way that for the minimum sales based on the date field in should double the sales else display the actual value.

Step(1):- create a calculated field with name 'what if sales' and in the formula tab

```
IF ATTR ( YEAR ( [orderdate] )) = 2010 THEN
                    SUM ( [sales] ) * 2
ELSE  SUM ( [sales] )
END
```

Step(2):- Drag the order date and drop into calorum and profit to rows and drag the what if sales and drop into rows.

Step(3):- Drag the order date and drop into calor.

Tasks:-

(1) Design a view to display the order priority wise total sales based on the dynamic dates. If the user select any date field and any order priority it should display only the sales only in that order

priority and date field.

② Design a view to display the total reminue on KB data for the dynamic dates before cuts and after cuts, and also display the cuts amount for the different date dimentions and in the dynamic dat year, quarter, month week and day, and dynamica color the view with geographic fields.

③ Design a view to display the dynamic dimention wise dynamic measures based on the dynamic date in the dynamic measures take the units ordered, unit shipped, cuts, total revenue. In the dynamic dimentions take the country, state, region. In the dynamic dates take year, quarter and month. If the user selects any dimention it should displa that dimention and if the user select any measure it should display that measure and if the user selects any date field it should display that particula date field and the next lower level. (for example if the user select state it should display state, if the user select cuts it should display cuts, if the user select year it should display year and quarter).

~~Task①:- Solution~~

Task:- Design a view to display the order priority wise total sales based on the dynamic date. If the user select any date field and any order priority it should display only in that order priority and date field.

Step①:- create a parameter ~~with name~~ on order priority' with name 'dynamic order priority data type as string, allowable values list ~~and~~ go select add from fields and select

order priority field critical, high, low, medium click on ok.

Step②:- create a calculated field with name 'dynamic priorities' and in the formula tab

if [~~order~~ dynamic order priority] = 'High' THEN [order priority]

(parameter)

ELSEIF [dynamic order priority] = 'critical' THEN [order priority]

ELSEIF [dynamic order priority] = 'low' THEN [order priority]

ELSEIF [dynamic order priority] = 'medium' THEN [order priority]

end. click on ok.

Step③:- Again create one more parameter on orderdate give name as 'orderdate parameter', datatype as string allowable values as list and ~~take~~ goto ~~add from~~ fields enter values 2010, 2011, 2012, 2013 click on ok

Step④:- create a calculated field with name 'dynamic orderdate' and in formula tab

If [orderdate parameter] = '2010' then year([orderdate])
else If [orderdate parameter] = '2011' then year([orderdate])
else If [orderdate parameter] = '2012' then year([orderdate])
else If [orderdate parameter] = '2013' then year([orderdate])
END click on ok

Step⑤:- ~~set~~ Right click on 'dynamic order priority' parameter and select show parameter control.

Step(6):- Right click on 'orderdate parameter', select show parameter control.

Step(7):- Drag the calculated field 'dynamic priority' and drop into filter, click on condition tab goto By formula and in formula tab write [dynamic priority] = [dynamic order priority]

click on OK.

Step(8):- Drag the calculated field 'dynamic orderdate' and drop into filter click on condition tab goto By formula and in formula tab write [dynamic orderdate] = [orderdate parameter]

click on OK.

Step(9):- drag calculated fields dynamic priority and dynamic orderdate and drop into rows and drag sales into colouns click on abc.

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Table calculation :- Table calculations are the calculations that are applied to the entire values in the table.

* In TABLEAU the table calculations can be performed in two ways.

1) Automatic way
2) In manual way.

* In order to perform table calculation we need to define two things.

1) what type of calculation we are performing
2) where we are performing the calculation

(or) computation.

* Again where we are performing the calculations it is having two parts

(1) Addressing field

(2) Partitioning field.

Addressing field: It Indicates how we are addressing the calculation field.

* Addressing field defines part of the table where we are appling the calculation.

* Addressing fields mostly be dimentions.

Partitioning field:- The dimentions that define how we are deviding the data view to perform the calculation (or) How we are grouping the data fields to perform the calculations are known as partitioning fields.

Addressing options:- In TABLEAU we are having the list of addressing options.

1) TABLE Across

2) TABLE Down

3) Pane across

4) Pane down

5) TABLE Across then down

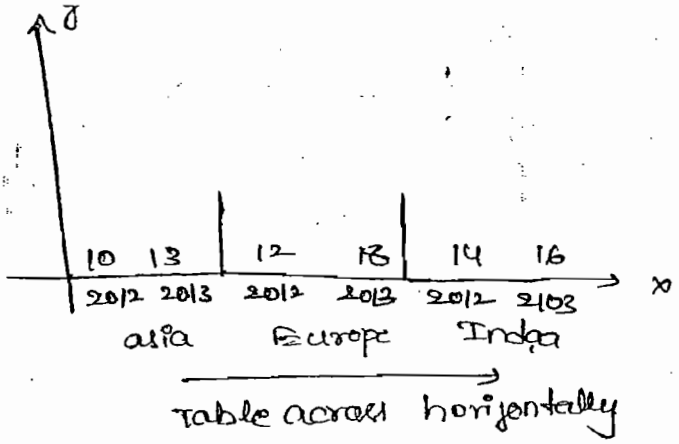
6) Pane across then down

7) cell

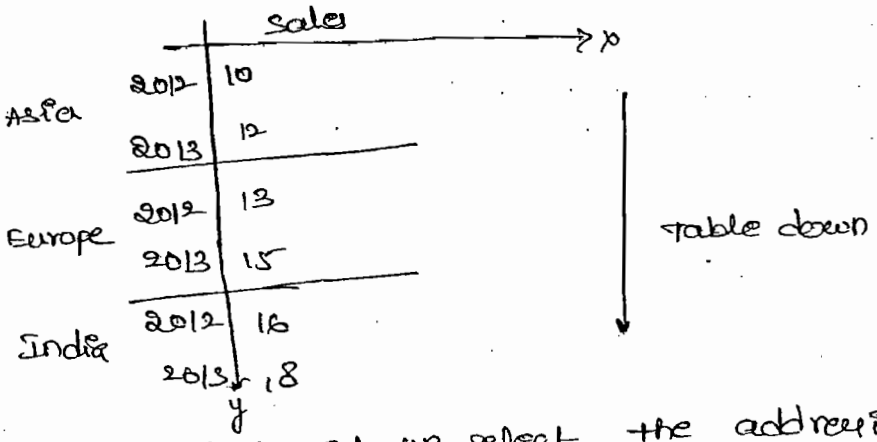
Table across:-

* If you select the addressing options as table across tableau performs (or) address the calculation along the entire table moving horizontally

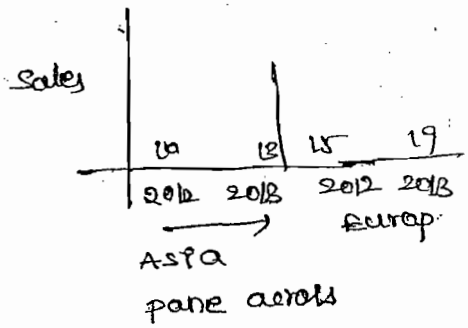
Note:-



2) Table Down :- If we select the addressing option as table down TABLEAU perform the computation along the entire table vertically.



③ Pane Across :- If we select the addressing option as pane ~~down~~ Across tableau perform the calculation across each pane horizontally.



④ Pane down :- If we select the addressing option as pane down tableau perform the calculation across each pane vertically.

		Sale	
Asia	2012	10	↓ Pane down
	2013	12	
Europe	2012	15	↓ Pane down
	2013	18	
India	2012	20	↓ pane down
	2013	28	

5) **Table across then down:-** If you select the addressing option as table across then down, tableau computes (or) addresses the table across the horizontally first then down the table vertically.

6) **Pane across then down:-** If you select the addressing option as pane across then down, tableau computes addresses across the pane horizontally then first then down the pane vertically.

partitioning fields

		Sales	
Asia	2012	10	→ pane across ↓ pane down
	2013	12	
Europe	2012	15	→ pane across ↓ pane down
	2013	18	

Note:- Here the Asia, Europe ~~contin~~ are called as partitioning fields.

7) **Cell:-** If you select the addressing option as cell TABLEAU perform the computation across each cell in the data view.

cells and addressing fields

		Sales
Asia	2012	10
	2013	12
Europe	2012	15
	2013	18

Note:- Here the above sales values 10, 12, 15, 18 are called as cells and addressing fields.

Task :- Design a view to continent wise year wise total sales and their sales growth.

Step①:- Drag the continent and drop into the rows
drag the orderdate and drop into the rows
drag the sales and drop into columns.

Step②:- click on marks and select bar chart

Step③:- Drag continent and drop into the color.

Step④:- Right on sales select create table calculation and select the type of calculation as ~~percent~~ difference and addressing field as pane down and click on apply click on ok.

Step⑤:- ~~name the table calculating with differencing sales drop into columns.~~

Step⑥:- Drag the existing sales ~~into~~ ~~diff~~ onto axes of differencing sales.

Task :- Design a view to display the year wise quarter wise total profits in each customer segment in a single axis along with the profit growth.

Step①:- Drag the orderdate and drop into rows.

Step②:- Drag the customer segment and drop into colums

Step③:- Drag the profit and drop into the columns.

Step④:- Right click on profit select add table calculation and select the calculation type as difference and select the addressing field as pane down click on apply click on ok.

Step⑤:- Drag the profit and drop into the existing axes.

Notes:- All the table calculated fields are indicated with triangle (Δ)

Note :- In the table calculation even the calculation can be performed based on the next value, previous value, last value first value

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Difference from :-

Task :- Design a view to display the year wise quarter wise total profits in each customer segment in a single axes along with the profit growth.

Step①:- Drag the order date to rowshelve

Step②:- Drag the customer segment to columnshelve.

Step③:- Drag the profit and drop into the colums

Step④:- Right click on the profit select add table)

Task :- Design a view to display the dept wise, year wise, total sales and sales difference in each quarter.

Step①:- Drag the department and order date to row shelve.

Step②:- Drag another order data and again drop into colums and sales to columns.

Step③:- Right click on sales select add table calculation and select type as Difference from and along pane down and display the value difference from previous click on ok

Step④:- Drag sales to existing axes.

Step⑤:- Drag measure values from colums to text, measure names to columns.

Percent difference from :- If you want to display difference in terms of % then we have to make use of % difference from.

* It is the effective way to representing the rising growth of any business effectively.

Task :- Design a view to display the growth of a business on the different years for each quarter based on dept in the form of text table and display the sales and difference in same pane in terms of %.

Step①:- Drag department and order date to rowshelve.

Step②:- Drag quarter and sales to columns.

Step③:- Right click on sales select and add table calculation cal-type as percent diff from along pane down click on ok.

Step④:- Drag sales to existing axes, measure values from columns to lable.

Step⑤:- Drag measure names from marks to rows shelve.

Step⑥:- In measure value place the sales first add sales diff next

Step⑦:- click on text edit select the measure values and measure the size of the table click on ok

Task:- Design a view to display the department wise quarter wise sales growth and total sales in each year in terms of text table and display the sales growth in percentages.

Step①:- Drag the department and orderdate and drop into rows. Right click on orderdate and select quarter.

Step②:- Again drag the orderdate and drop into columns.

Step③:- Drag the sales and drop into colums right click sales select add table calculation select ~~tat~~ type as percentage difference from and ~~dd~~ ~~opt~~ option as pane down and click on ok.

Step④:- Drag the sales and drop into existing axes.

Step⑤:- Drag the measure values from the columns and drop into text.

Step⑥:- Drag the measure names from color drop into column

Task 1:- Design a view to display the department quarter wise sales and the sales growth of all the quarter when we compared with Q4 in each year and in each department.

Step①:- Drag the department and orderdate into rows shelf. Right click on orderdate and select quarter.

Step②:- Drag the orderdate and sales into columns

Step③:- Right click on sales and select add table calculation and select calculation type as percent difference from and calculate along pane down and display from last and click on ok.

Step④:- Drag the sales and drop into the existing axis

Step⑤:- Drag the measure values from columns drop into text

Step⑥:- Drag the measure names from color drop into columns.

Task 2:-

① Design a view to display the continent wise total profits in each month every year and display the ~~sales~~ profit growth along with the profit when the current month compared with previous month and also display the growth in terms of percentages in the form of a text table.

② Design a view to display the continent wise total profits for different years in each month and display the total profit growth, profit growth percentage in the same pane individually and compare those

metrics for each month on the different years.

③ Design a view to display the continent wise units ordered in each category for the different years and display the growth and growth percentage for the different years in each category.

④ Design a view to display the each product wise total units ordered and shipped on the KBC dates along with the cuts and display the cuts growth and growth percentage for the each region in the form of a text table.

⑤ Design a view to obtain the customer segment wise, year wise total quantity ordered and the growth in terms of percentages individually based on month.

③ <u>percent from calculation</u> :- It is mainly used to find the absolute change of a particular item.

* It is having the similar functionlity like pecentage difference form.
* where as the 'percent difference from' display the pecentage by taking difference into consideration where as 'percent from' displays the percentages by taking a particular defined value into consideration.

<u>Task</u> :- Design a view to find the absolute change of all quarter when compared with Q4 for each department in each year in the form of a text table.

<u>Step①</u> :- Drag the order date and drop into calums drop the department and again orderdate to rows.

Step(2):- Right click on orderdate and select quarter.

Step(3):- Drag the sales and drop into the colums. Right click on sales and select ~~per~~ table calculation select type as Percent from and calculate along Pane down and display value as percentage of last click on apply and click on ok

Step(6):- Again drag the sales and drop into existing axes drag the measure value ~~for~~ and drop into text.

Step(7):- Drag the measure names and drop into columns.

Task:- Design a view to display the department wise quarter wise absolute change for all the department in one year based on sales and also display the sales in terms of axes blending. (Ans:- Here take table down)

(4) percent of total calculations:- It takes ~~the~~ the all values of a given field and find total of all the values and it displays the percentage of each item when compared with the total.

Task:- Design a view to display the department wise quarter wise total sales for each year and the contribution of each quarter sales in the total year sales for each year in the form of a text table.

Step(1):- Drag the department and quarter into the row shelve, drag the orderdate into the column shelve.

Step(2):- Drag the sales and drop into the colums

Step(3):- Right click on sales and select add table

calculation select cal-type as percentage total select the summarized value from pane down click on apply and click on o/c

Step(4):- Again drag the sales and drop into the existing axis.

Step(5):- Drag the measure values from colums in-to text,

Step(6):- Drag the measure name from marks into colum

Task:- Design a view to display the customer segment wise quarter wise profit contribution for the different years in each quarter in the form of a text table along with the total profits.

$$\text{percentile} = \frac{\text{no. of values} \leq \text{current value}}{\text{total values}} \times 100$$

Usage of percentile: Example : If you want to see the Acevement of each student then we can use percentile

student	marks
S_1	100
S_2	80
S_3	90

percentile calculation :-

$$\text{percentile} = \frac{\text{no. of values} \leq \text{current value}}{\text{total values}} \times 100$$

- percentile computes the percentiles for the set of values.
- This percentile calculation mainly used to see how many values are falling behind the current value.
- This percentile calculation ignores the NULL values.
- For example if you want to know how many students falling behind the current student

we can use percentile.

Task:- Design a view to display the continent wise total sales and sales percentiles for each year in the form of a text table.

Step(1):- Drag the continent and drop into rows, drag the orderdate and drop into columns.

Step(2):- Drag the sales and drop into calums.
Right click on sales select add calculation select cal-type as percentile select the addressing field as table down and click on ok

Step(3):- Drag the sales and drop into existing axes.

Step(4):- Drag the measure values from colums into text

Step(5):- Drag the measure names from marks into colum

Task 2:- Design a view to display the item wise percentiles for each month based on the quantity ordered and also display the total quantity ordered in the form of text table.

Note:- The other way to perform the table calculation is by making use of the quick table calculation. The quick table calculation automatically computes particular calculation in the tabledown way.

* If you want to change the addressing options right click measure and goto compute using and select table across.

Q4:- Design a view to display the continent wise yearwise total sales, sales growth, sales growth percentage, percentile, percent contribution of each year in the total sale contribution of one continent across the four different year in the form of a text table and single axes. Using quick table calculations.

Step①:- Drag the continent and drop into rows drag the order date and drop into columns

Step②:- Drag the sales and drop into columns and right click on ~~int~~ select quick table calculations and select difference.

Step③:- ~~Right~~ Again drag the sales and drop into the existing axes.

Step④:- Again ~~Re~~ right click on sales in the measure value shelf and goto quick table calculation and select percent difference from.

Step⑤:- Again drag the sales and drop into the existing axes.

Step⑥:- Again right click on sales in measure value shelf and goto quick table calculation and select percent ~~off~~ from.

Step⑦:- Again drag the sales and drop into the existing axes. Again right click sales in measure values shelve and goto quick table calculations and select percentile.

Step⑧:- Drag the measure names from rows to columns. Drag the measure values and drop into the text.

Step⑨:- Right click on all the sales field where we perform the table calculation and select compute using table across.

Tasks:

① Design a view to display the country wise total quantity ordered and the sales in each quarter and display the sales growth quantity ordered growth percentiles and percent of totals across the different quarters in each country in the form of a bar chart in the single axes.

② obtain the percent difference of the profit across the different categories when we compared the current year with the previous year.

③ obtain the year wise sales along with the product categories, customer segment and obtain the difference in percentage of sales when we compare the current year sale with the next year sale.

④ Design a view to display the sale profit ratio for the different product categories when we compared this quarter with previous quarter across each category.

⑤ obtain the quarter wise gross profit ratio when we compare this quarter sales with the last year quarter sales and ~~compare~~ with also display the gross profit ratio based on table calculations.

⑥ obtain the each product category wise sales along with customer segment and obtain the % increase in sales for each year across the different categories and also display the total sales contribution of each category in the year sales and also display the percentiles

Rank calculations :-

calculating the ranks will be 4 ways.

1. unique
2. Dense
3. competetion
4. modified competition.

Unique :- uniquely displays the ranks eventhough if the value of the particular measure (or) metric is repeated.

Dense :- It allocate the distinct ranks to the measure (or) metrics the dense ranks will not eliminate the next immidiate rank.

competition :- competetion is the new way of defi-ning ranks in tableau.

* In competition is the values of measure is distinct it displays the distinct ranks.
* If the values of measure is repeating 'n' no. of times competetion assigns the same rank to the repeated values and for the next immediate rank, it will add the no. of times the value is repeating to the current rank.

Note :- Dense rank mainly used to display the distinct rank for distinct values.

4) **modified competition :-** If the values are distinct displays the distinct ranks.

* If the values are repeating 'n' times it will add 'n' to the current rank and displays the next immidiate rank.

Note①:- competition: If values are distinct, distinct ranks. If the values are repeating 'n' times, it allocates same rank to the repeated ranks & add 'n' to the rank & displays to the current rank.

Note②:- modified competition: If the values are ~~distinct~~ distinct ranks. If the values are repeating 'n' times it will add 'n' to the current rank and display the next immidiate rank.

Eg①:

Student	marks(100)	unique	Dense	comp	modified
S_1	99	1	1	1	1
S_2	98	2	2	2	3
S_3	98	3	2	2	3
S_4	97	4	3	4	5
S_5	97	5	3	4	5
S_6	96.5	6	4	6	6
S_7	96	7	5	7	7
S_8	90	8	6	8	9
S_9	90	9	6	8	9
S_{10}	88	10	7	10	10

Eg②:- Distinct Ranks on performance.

manager	~~student~~ sales amount	competetion	Dense	m-competetion
m1	100	4	3	4
m2	120	1	1	1
m3	110	2	2	3
m4	90	5	4	5
m5	70	6	5	6
m6	110	2	2	3

Task:- Design a view to display the ranks for the student for the following data based on marks

student	marks
S1	99
S2	98
S3	98
S4	97
S5	97
S6	96
S7	95
S8	95
S9	94
S10	93

Step①:- connect to the text file with the above data from the Tableau

Step②:- Drag the student for the row-shelve and marks to the column shelve.

Step③:- Right click on the marks select add table calculation select the calculation type as rank and compute along table down and rank type as unique apply ok.

Step④:- Again drag the marks and drop into columns select the cal-type as rank running along table down and the rank type as dense apply ok.

Step⑤:- Again drag the marks to the column shelve repeat the same and select the rank type as competetion

Step⑥:- Again drag the marks to column shelve repeat the same and select the rank type as modified competetion. Drag the marks and drop into columns. click on abc.

Note:- If the rank values are repeating, competetion and modified competetion are skipping the next immediate rank.

Task:- Design a view to display the continent wise total sales and their distinct ranks (Dense Rank)

step①:- Drag the continent and drop to rows.

step②:- Drag the sales and drop into columns.

step③:- Right click on the sales and select add table calculation and select the calculation type as Rank and select the rank type as Dense Rank click on ok.

step④:- Drag the sales and drop into the existing axes.

step⑤:- Drag the measure values to Lable and drag the measure-names and drop into the columns

Task:- Design a view to display the continent wise, country wise, distinct Ranks. If the user selects any continent, it should display only the countries under that continent.

step①:- Drag the continent and country to rows, drag the sales to columns

step②:- Right click on the sales and select add table calculation select dense ~~rank~~ Rank.

step③:- create a parameter with name parameter continents with type string and add all the continent names to the parameter by taking the allowable values as list click on ok.

step④:- Drag the continent and drop the filters drag the country to filters Right click on that, select add to context filter

step⑤:- Again right click on continent and in general

tab use all in the condition in formula click on edit in the formula tab write continent = parameter - continent apply OK.

Step⑥:- Drag the country to color.

Tasks:-

① Obtain the customer segment wise Ranks for all the quarters in every year based on the total profits, if you select any year it should display the ranks only for the quarters under that year.

② Obtain the month-wise, product category wise sales and sales difference and indicate the ranks based on the sales difference.

③ obtain the year wise average profit in each region and the total sales % difference sales compare to the previous year and also display their % diff sales.

④ obtain the product container wise total quantity order in every month and display their ranks based on the quantity ordered and spot light the calculation by with Rank by indicating the first Rank as good and all other as below target.

⑤ obtain the shipping cost of each product year wise based on the ship ~~cost~~ mode display shipping cost. If the user selects ~~only~~ any shipmode it should display the ranks of the products in that ship mode only.

⑥ obtain the % contribution of all the regions and sales every year along with the total profits and display their ranks based on the profits and sales.

6/14 **Running total** :- In TABLEAU running totals are only used to perform the cumulative calculatings. cumulative calculations means adding all the previous values to the current values.

product	sales	cumulative-sales (sum)	cumm-sales (Avg)
A	100	100	100 (100/1)
B	80	180 (100+80)	90 (100+90/2)
C	50	230 (50+80+100)	74 (230/3)

ed of cumulative calculations is if we want see like (Asia, frical, Australia) what is the total contribution of particular fields then we are using this running totals.

ask :- Design a view to display the continent wise total sales and running totals.

ep① :- Drag the continent to columns and sales to rows.

tep② :- Right click on sales select add table calculation select cal-type as running total and diff along table and the aggrigation as sum click on apply click on ok

tep③ :- Again drag the sales and drop into the column drag the continent and drop into the color

In the 'Running totals even we can find the values ~~for~~ and the analysis for the average of the totals and the minimum of the totals and the maximum of the totals.

ote :- In running total based on the result of the 1st calculation again we can perform the secondary calculation.

Task :

step①

step②

step③

moving

Eg

Eg

Task:- Design a view to display the continent wise total sales, running totals and after finding the running totals display the % difference of the running total.

Step①:- Drag the continent and drop into columns and sales to rows.

Step②:- Right click on sales and select add table calculation select cal-type as running total and cal diff as table down the aggrigation as sum click on apply and click on ok. Drag sales drop into columns.

Step③:- again right click on sales where we perform calculation goto edit table calculation and select secondary perform a secondary calculation on the result and select the secondary calculation type as ~~pref~~ ~~pre~~ percent difference from calculating difference along table down and % difference from previous values click on ok.

moving calculations:- -- moving
-- continuous data

* Here the value are very dynamic (changing time to time)

Eg stock markets - 'A' changes -- 4 HRS (20 times)
↓
smoothen short term fluctuations

* Here average calculated based on previous values and next values.

Eg securities data (Atm pewords like), financial data.

* moving calculations are mainly used to smoothen the short term fluctuations on the securities data in order to analyse the longterm trends.

* while performing the moving calculation, this moving calculations takes previous, next values and also current values takes consideration in

order to calicubate the stabilized value.

* Normally these moving caliculations are performed on the securities data and stock data.

* Normally in the stock markets there are main fluctuations every day on the data, so its really hard to find the stabilized value. In order to find stabilized value normally we will take the aggrigation as average in the moving caliculations, and also these moving caliculations are performed on data which is moving continuously (or) on the continuous data.

Task:- Design a view to display the year wise stabilized discounts.

step①:- drag the order date and drop into the rows and drag the discount and drop into columns.

step②:- Right click on the orderdate and select continuous

step③:- Right click on the discount select add table caliculation and select cal type as moving caliculation and select select the aggrigation as average and ~~select at caliculation difference tab table down~~ and previous values as 3 and next value as 3 and select include current value click on OK

Task:- Design a view to display the date wise average discounts based on 3 previous values and next 3 values by taking exact date into consideration

step①:- drag the order date and drop into columns and drag the discount and drop into rows.

step②:- Right click on order date and select exact date

step③:- Right click on discount select add table calicu-lation and select cal type as moving calc..

-lation and moving along table across and aggrigation values as average previous as 3 and next 3 and check across values and check Null if there are not enough values click on apply and click on ok

Note :- with out writing the formula directly from the data view we can perform the quick table calculation

Note :- Even in the moving calculations also we can add a secondary calculation.

Note :- After adding the table calculation if you want to remove the table calculation from field Right click on that field and select clear table calculation

Performing table calculations manually :-

Tasks :-

① Design a view to display the region wise customer segment wise total profit and cumulative profits and display their total percentage

② obtain the fluctuations on the sale data every month.

③ obtain the product base margine for each region and display the average margine for each customer segment based on the order priority.

④ Build a map in TABLEAU to display the country wise variations on the discounts and margines along with sale-profit ratio based on quarter.

⑤ Obtain top 10 product by sales and least top 10 product by sales based on year, if the user selects any year it should display all that product under the year and also display the cumulative sales for top 10 and bottom 10 and later display the percent difference on the cumulative totals.

⑤ Obtain the frequently occuring products having losses based on years if the user selects any year it should display the products having losses in that year and also the cumulative total of the losses.

percent difference from ~~&~~ tasks :-

① Design a view to display dept wise, quarter wise sales and sales growth in each year in terms of text table and display the sales growth in terms of %

② Design a view to display deptwise, quarter wise, select sales growth of all the quarters when compared with Q4 year and in each department.

Performing Table calculations manually :-

* In TABLEAU the another way to perform table calculations by writing the formulas manually.

Table calculation functions :-

(1) FIRST() function :- the first() function displays no. of rows required to goto the 1st place (or) 1st row from the current location.

(2) LAST() function :- the last() function displays no. of rows required to goto the last row (or) last place from the current location.

(3) INDEX() function :- Index will simply display the row number in the table in the TABLEAU.

(4) ~~Lookup functi~~ RANK() ~~functions~~ :-

(4) Ranking functions :- In TABLEAU the other way to find the ranks is by writing the ranking functions manually.

* The different ranking functions available

are (1) RANK
(2) RANK - DENSE
(3) RANK - MODIFIDE
(4) RANK - UNIQUE

(i) RANK function :- The Rank function is used to find the competetion ranks in the TABLEAU

syntax:- RANK (Expression, [SORTING]) (optional)

[ ] → optional
< > → mandatory

(ii) RANK - DENSE function :- It is mainly used to find the Dense ranks (or) Distinct rank in the TABLEAU.

syntax :- RANK ~~DENSE~~ (Expression, [sorting])

(iii) RANK - MODIFIDE function :- It is mainly used to find the modified ranks in TABLEAU

syntax : RANK (Expression [sorting])

sorting can either ascending (or) Descending order

(iv) RANK - unique function :- It is mainly used to find the ~~modif~~ unique ranks in TABLEAU

syntax:- RANK(Expression, [sorting])

sorting can either [ASC] (or) [DESC]

Task :- Design a view to compute the competetive ranks and sales Ranks manually and sort the data manually using the function.

Step①:- drag the continent and drop into the rows
drag sales and drop into columns

Step②:- create a calculated field with name Sales rank and in the formula
RANK(sum([Sales]), 'asc') click on ok.

Step③:- drag the sales rank and drop into colums click on abc. It will automatically displays Rank

in ascending order.

3) RANK-percentile function :- It is used to compute the percentiles manually in the TABLEAU

syntax:- ~~RANK(Express~~ RANK-PERCENTILE(Expression, [sorting])

Here sorting can be [ASC] (or) [DESC]

Task :- Design a view to display the continent wise sales and their percentiles and sort their percentiles manually.

Step(1):- Drag the continent to row shelve. ~~Drag the sales and drop into columns~~

Step(2):- create a calculated field with name Rank percentile in formula tab write

RANK-PERCETILE(sum([sales]), 'asc')

click on ok.

Step(3):- Drag the Rank percentile to ~~columns~~ ROWS and ~~goto~~ right click on that field goto default properties and select percent and click on ok

5) Running functions :- In TABLEAU the running ~~calculation~~ functions are used to perform ~~ran~~ running calculation manually

The different running calculation functions are

(1) running average
(2) running maximum
(3) running minimum
(4) running sum

4) Running average:- It perform the cumulative average of the input expression.

Syntax: RUNNING - AVG (INPUT - Expression)

(i) Running sum:- It perform the cumulative summing of the input expression

Syntax:- RUNNING - SUM (Input - Expression)

(iii) Running min and Running max:- It performs the cumulative competetion of minimum value and the maximum value in the input expression.

Syntax:-

RUNNING - MAX (Input - Expression)

RUNNING - MIN (Input - Expression)

Task:- Design a view to perform the running averages of the country wise sales manually and on the output perform a secondary rank calculation manually.

Step①:- Drag the country drop into row.

create a calculated field with name 'Rank of running averag' in formula tab

RANK (RUNNING - AVG (AVG([Psales]))) click on ok.

Step②:- Drag the RANK of average into columns and country into the colour.

Step③:- Drag the Rank of average and drop into size in order to display the rank based on the bars.

Step④:- click on drop down in size window and select edit size and select size vary as by range click on reversed click on apply and click on ok

Task:- Above task in map.

Step①:- click on the country geographic field drag the rank and drop into the lable and again drag the rank and drop into size. click on drop down in rank select edit size and select the size vary as By range and click on reversed click on apply click on ok

Step②:- Drag the country drop into color.

Tasks:-

① Design a view to display the country wise sales and display the sales ~~like~~ Rank manually for all the different options available

② Design a view to display the running total and on the running total find the percent total as secondary calculation.

Note:- on the running caliculation again we can take one more running caliculation as the secondary caliculation.

③ Design a view to display the ~~run~~ product category wise quanty ordered and perform a caliculation to obtain running total and again on the result apply the cumulative max.

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⑥ Lookup () function:-

OFFSET indicates → starting and ending position

product	sales	Lookup(sales, 1) Lookup	first()	Lookup(sales, -1) Lookup(2)
P1	100	120	0	
P2	120	80	1	100
P3	80	70	2	120
P4	70		3	80

* Lookup function it displays the expression based on the offset.
* offset indicates the no. of rows from the current row.
* Syntax: Lookup (expression, [offset])

  This offset is optional.
* If the offset is not mentioned then lookup doesn't take any values.

* Task: Design a view to display the current year sales and the next year sales in the same sheet.

step①:- Drag the year and drop into row shelve and drag sales and drop into columns.

step②:- create a calculated field with name 'lookup' and in formula tab write Lookup(sum([sales]),1) click on ok

step③:- Drag the look up and drop into the columns

step④:- Drag the order date and drop into color and click abc.

Task:- Design a view to perform year wise total sales and display the difference from 2012 sales.

step①:- Drag the order date and drop into the columns and drag the sales and drop into rows

step②:- create a calculated field with name 'comparing the sales with 2012' and in the formula tab

(sum([sales])) - Lookup (zn (sum([sales])), last()-1)

click on ok.

step③:- Drag the 'comparing sales with 2012' field into row shelve click on abc.

Note:- To percent

$$\text{difference} = \frac{(\text{current month sales} - \text{previous month sales})}{\text{previous month sales}} \times 100$$

Here we will take Last (-6) (or) first (5) for June sales.

* K-means analysis means based one value we will compare the other values.

Task:- Design a view to display the month wise sales and compare all month sales with June.

Step①:- Drag the orderdate and drop into columns and drag the sales and drop into rows.

Step②:- Right click on orderdate and select month.

Step③:- Create a calculated field with name 'comparing all month sales with June sales' and in formula tab write as

ZN(SUM([Sales]))- LOOKUP(ZN(SUM([Sales])), FIRST()+5))

ABS(LOOKUP(ZN(SUM([Sales])), FIRST()+5))

click on ok.

Step④:- Drag the 'comparing all month sales with June sales' field to row shelve.

Step⑤:- Drag the month and drop into color. click on ok.

⑦ SIZE() function:- SIZE function displays the total no. of values in that particular data ~~view~~ field.

Task:- Design a view to display the total no. of states we are having in superstore.

Step①:- Drag the customer name and drop into rows.

Step②:- Create a calculated field with name size and in formula tab write SIZE() click on ok

Step③:- Drag the size drop into columns.

⑧ TOTAL() function:- Total function returns total of the input expression.

syntax: TOTAL(Input expression)

Task:- Design a view to display the state wise total sales.

step①:- Drag the state and drop into rows.

step②:- create a calculated field with name 'total sales' and in formula tab write TOTAL(sum([sales])) click on ok

step③:- Drag the total sales drop into columns.

Task:- Design a view to compare the 2013 sales with all other year sales.

step①:- Drag the year and drop into columns.

step②:- create a calculated field with name "comparing 2013 sales" and in formula tab write

ZN(sum([sales])) / Lookup (ZN(sum([sales])), LAST())

click on ok.

step③:- Drag the 'comparing 2013 sales' field into rows. click on abc.

④ window functions:-

	product	sales
AVG(A,B,C)	A	100
AVG(B,C D)	B	120
AVG(C,D,E)	C	120
AVG(D,E)	D	115
AVG(E)	E	105

If you want to take only the 3 values average continuously then we are using this windows functions.

* In TABLEAU by making use of window functions we can display the values based on the starting position and ending position.

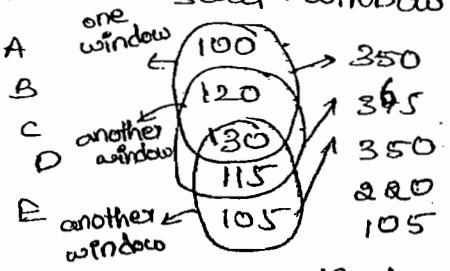
* The different types of window functions available are
  1) WINDOW AVG
  2) WINDOW - SUM
  3) WINDOW - Percentile
  4) WINDOW - standard deviation

5) window - variance
6) window - maximum
7) window - minimum -

Syntax:- WINDOW - FUNCTION (EXPRESSION, [START], [END])

eg WINDOW - SUM (sales, 0, 2) → sum of sales from current row to next 2 rows.

eg product sales · WINDOW-SUM (sales, 0, 2)



Task:- Design a view to display the year wise total sales and the total of current year with the next two years, average of current year with next two year, MIN of current year with next two years and MAX of current year with next two years based on sales in separate fields.

step①:- Drag the orderdate to rows and drag the sales to columns.

step②:- create a calculated field with name window sum and in formula tab write

WINDOW-SUM (sum([Sales]), 0, 2) click ok

step③:- create a calculated field with name window average and in formula tab write

WINDOW-AVG (sum([Sales]), 0, 2)

step④:- create a calculated field with name window minumum and in formula tab write

WINDOW-MIN (sum([Sales]), 0, 2)

step⑤:- create a calculated field with name window max and in formula tab write

WINDOW-MAX (sum([Sales]), 0, 2)

Step⑥:- Drag all the window functions and drop into

the existing axes.

Note:- In the window functions if you omit the start and ending then it will take from first value to the last value.

Standard deviation:- square root of varience is called as standard deviation.

standard deviation = $\sqrt{\text{varience}}$.

$\sqrt{\frac{(x-\bar{x})^2}{N}}$ = normal standard deviation. → direct data values

$\sqrt{\frac{(x-\bar{x})^2}{N-1}}$ = standard deviation population. → If we put data in limit

Eg for standard deviation population

	AGE	% of people
In b/w	0 -15	5
Some range	16 -30	10
we will put	31 - 45	20
values	46 -60	15

~~Standard deviation~~ varience:- Describes the values are spreading out based on mean

x → indicates each observation value

$\bar{x}$ → mean of all the values

N → total no. of observation.

STANDARD DEVIATION and VARIENCE:- In probability and statistics standard deviation it measures the amount of variation the values are having when compared with the average

* standard deviation is simply the square root of varience

Varience:- varience $= \frac{(x-\bar{x})^2}{N}$ → for normal distribution values

~~varience = $\frac{(x-\bar{x})^2}{N-1}$ → for ~~non~~ standard deviation Population.~~

Here x → indicates each observation values

$\bar{x}$ → mean of all the values

N → indicates total no. of observation

Standard deviation = $\sqrt{\text{varience}}$ = $\sqrt{var}$

standard deviation popopulation = $\sqrt{varp}$

Standard deviation, main observes how the values are spread out when compared with mean.

* standard deviation and variance are very useful while performing the statistical analysis.

TASK :- Implementing standard deviation in TAB and varience in TABLEAU. Display the year wise sales and standard deviation along with varience.

Step① :- Drag the sales and drop into the columns. Drag order date to rows.

Step② :- create a calculated field with name ~~varience~~ 'standard deviation sales' and in formula tab write WINDOW-STDEV (sum([sales])) click on ok

Step③ :- create another calculated field with name 'varience' and in formula tab write WINDOW-VAR (Sum([sales])) click on ok.

Step④ :- Drag the two calculated fields standard deviation sales and varience into column shelve. click on abc.

Steps to find varience and standard deviation.

Step① :- Find the mean of all the observations.

Step② :- Find the difference b/w each observation and mean value.

Step③ :- square the difference and performing summation of all the values

Step④ :- divide the summed value with no. of observation

Step⑤ :- Find square root of the values

TASK

Note:

TASK:- perform the standard deviation and varience in TABLEAU manually with out using any functions.

student	marks
S1	95
S2	80
S3	82
S4	76
S5	70
S6	88

Note: In TABLEAU we can't combine two aggrigation functions but we can combine one window aggrigation function with another normal aggrigation function.

* For example WINDOW-SUM(AVG([Sales])) → VALID

~~WINDOW~~ SUM(AVG([Sales])) → NOT valid.

Task Design a view to display the year wise department wise total profits and average profit of all the departments in each year and compare which department profit is more than the average profit of all the 3 departments every year.

Step①: Drag the department and drop into rows drag the profit and drop into the columns.

Step②: Drag the orderdate and drop into rows.

Step③:- create a calculated field with name 'window average' and in the formula tab

window - AVG (sum([profit]), 0, 2) click ok.

Step④:- Create one more calculated field with name 'profit-KPI' and compare sum([profit]) is more than window average. Formula as

sum([profit]) > window-AVG(sum([profit]), 0, 2)

click on apply click on ok.

Step⑤: Drag the 'profit KPI' and drop into color

v.v.imp Task :- Design a view to display the continent wise year wise total sales and indicate the continents whose sale more than 5,00,000 in Green tick and the continents whose sale less than 5lacks in Red cross. (~~called it as~~ +

Step①:- Drag the continent and drop into rows, drag the orderdate and drop into columns.

Step②: Drag the sales and drop into the table

Step③:- Create a calculated field with name Sales KPI and in the formula

sum([sales]) > 500000 click on ok.

Step(4):- In the marks card select shape drag the sales KPI and drop into the shape.

Step(5):- click on shape in the marks card in the shape palette select KPI and ~~sel~~ check gree tick for True and select red cross for false and click on apply and click on ok.

Step(6):- click on the lable and uncheck show mark lables.

Step(7):- In the tool bar select entire view.

Note:- these kind of reports are called as KPI reports (or) score cards.

YTD --> year to current date	✓YOY Growth
MTD --> month to current date	✓MOM Growth

Task:- (1) Design a view to display the country wise department wise sales and analyse performance of each department based on sales for those department whose sale is more than 1 million indicate with green tick, in b/w half million and 1 million indicate that with yellow Rombus and less than half million indicate with Red cross.

(2) Design a view to display the month wise quantity ordered on each category and indicate the each category based on the order quantity for those categories whose total order quantity is more than 6000 with green tick and for those quantites in b/w 4000 and 6000 as yellow triangle and categories in b/w 1,000 and 4000 indicate them with black circle and the categories whose order quantity less than 1000 with Red cross

(3) Design a view to display the customer segment wise, ship mode wise shipping cost and ~~ds~~

design a KPI to analyze the shipping cost based on customer segment for those customer segment whose shipcost > 20000 indicate with high, in b/w 10000 and 20000 indicate them as medium and less than 10000 indicate them as low.

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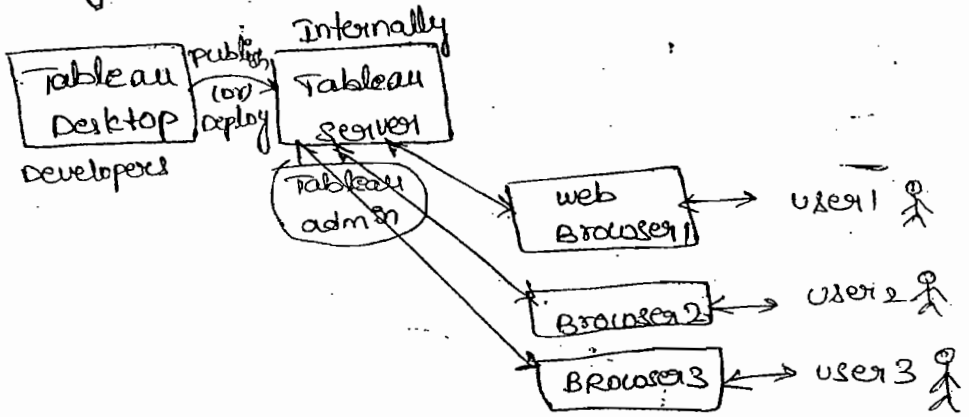
TABLEAU SERVER

TABLEAU server: It is a business intelligence solution that provides browser based visual analytics to anyone.

* TABLEAU server is a web based component. Any one from any part of the world access the TABLEAU server with the help of a web browser.
* TABLEAU server allows the user to publish all the developed reports, dashboards into the server according to the needs of every one across one organization.
* In other words TABLEAU server allows the users to share the developed objects with in one organization internally.



* TABLEAU admins will work on TABLEAU servers.
* TABLEAU admins creates the user authentications.
* TABLEAU server is the core platform for all the TABLEAU admins.
* TABLEAU admins always operate with the TABLEAU servers.
* If any user want to access the TABLEAU server the user must have the the authentication (username, password)
* TABLEAU admin will creates the authentication for all the users based on the requirement.

TABLEAU server installation :-

②

Prerequasites :-

① operating system (OS) :- TABLEAU supports only windows operating system.

* The different supp versions of OS supported by TABLEAU server are
  - windows server 2012
  - windows server 2008 R2
  - windows server 2008
  - windows server 2003
  - windows 8
  - windows 7
  - windows xp sp3

② Bit :- TABLEAU supports both 32 bit and 64 bit machine But 64 bit is recomended for the good performance.

③ Hardware pre-requisites :-

Deployment	No. of users	CPU	Ram
Testing	1 - 2	2 crors	4GB
small	< 25	4 crors	8GB
medium	< 100	8 crors	32 GB
Enterprize	> 100	16 crors	32 GB (or) 64 GB (or) 128 GB.

Note①:- If you want to install the TABLEAU server you must have the permission to install the software. normally we should require system admin previlages.

Note②:- TABLEAU server is not platform independent.

Note③:- The minimum requirement to install TABLEAU server is at least 4GB of Ram.

Installation steps :-

step① :- click on the set up file and in the conformation window click on yes.

step②:- In the welcom window click on next.

step③:- In the default location window keep the default location as it is and click on Next.

step④:- In the licence agreement window accept the agreement and click on next.

step⑤:- click on next finally click on install.

Accessing the FTP server:-

step①:- open any web Browser and in the address bar enter ftp://192.168.1.253:46 and hit enter.

step②:- It will ask you the user name and password.. Enter the user name as AIMODIFTP, Password word as Aimtech123.

Different versions in TABLEAU server:-

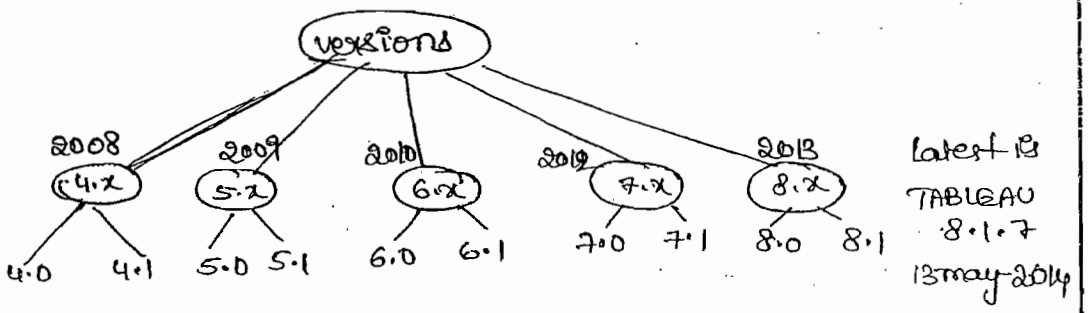


TABLEAU server configaration steps:-

In setting of the TABLEAU server we are having two phases (1) Installations.
(2) configaration.

step①:- In the configaration and Initialization window click on next.

Note:- while configaring the TABLEAU server we can set the user authentication mode as either local authentication (or) active directory if you select any of one authentication mode and if we save the settings again we cannot modify the user authentication settings.

Note②:- All the user authentication settings are perminent. If you want to change the user authentication again we need to un Install the sever and re-install the server. ④

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TABLEAU server configaration :-

* TABLEAU server is configured with 6 different options
  (1) General Tab
  (2) Data connections.
  (3) servers
  (4) Alerts and subscription.
  (5) SSL
  (6) SAML

General tab :- In the general tab we need to specify the (1) server run as user
(2) user authentication.
(3) Gateway.

(i) server run as user :- TABLEAU server requires to one window ALC to operate, by default it will take NT authority network service, even we can modify this also.

(ii) User authentication :- Here we have two types of user authentications.
(1) Local authentication.
(2) active directory

(a) Local authentication :
In the local authentication tableau server it makes user of the local system user name and password.

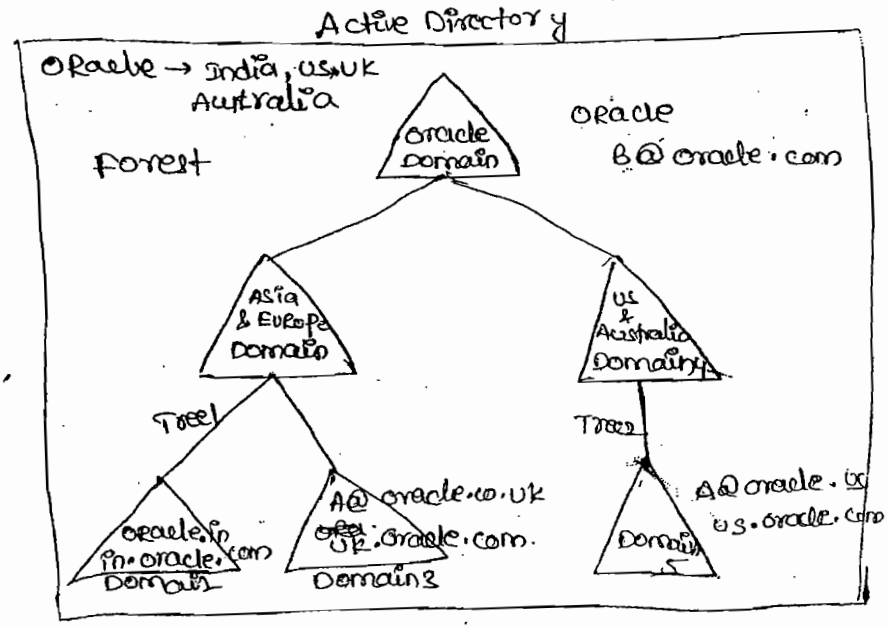
* In the local authentication all the usernames and passwords will get stored it TABLEAU built in user management system.

* once if you specify the authentication type later [illegible] one authentication type to

authentication is possible in a not particular installation.

Active directory: Active directory is a directory services implemented by the microsoft for windows domain networks.

- It is included most of the windows operating system.
- It is special purpose database to store the user authentication information.
- Active directory contains a component called as active directory controller which authenticates and authorizes all the users and machines accessing the TABLEAU server.
- In the active directory the information is stored in the form of domains, trees and forests.
- The correction of domains is called as a tree and the collection of trees is called as forest.



Note:- All the settings in the TABLEAU server are system wide. It means if we change any settings in the server it will get automatically affected in all the locations using the server.

(3) **Gateway** :- Gateway allows the users from the remote locations to access the server. If the

if the data is added in the specific time it will fetch that data from cache otherwise it queries the data from the data source.

Initial SQL: Normally for the data views that connect to the teradata data source commonly it specify a SQL command that runs when the workbook loaded into the server. This is called as initial SQL statement.

* For ~~seq~~ security reasons we disable this functionality.

(7) Alerts and subscriptions: In TABLEAU server if you want to know the status of the server automatically weather the server is running (or) not we simply add the alerts and subscriptions.

* In order to configure the alerts and subscriptions we need smtp servers.

* smtp stands for switch mail transfer protocol.

(8) SSL :- SSL stands for secure socket layer.

* SSL allows the users to perform the encrypted communications over the network, If you configure the ~~SP~~ TABLEAU server with SSL.

* setting of SSL ensures that the sensitive information that is passing between the Tableau server and the desktop (or) user is protected finally it ensures access to the server is secured.

* In order to configure the SSL we need to take SSL certificates from the hosting organizations like semantic, GeoTrush, Godaddy..etc

Note:- Alerts and subscriptions is not possible if the smtp is configured with the encryption.

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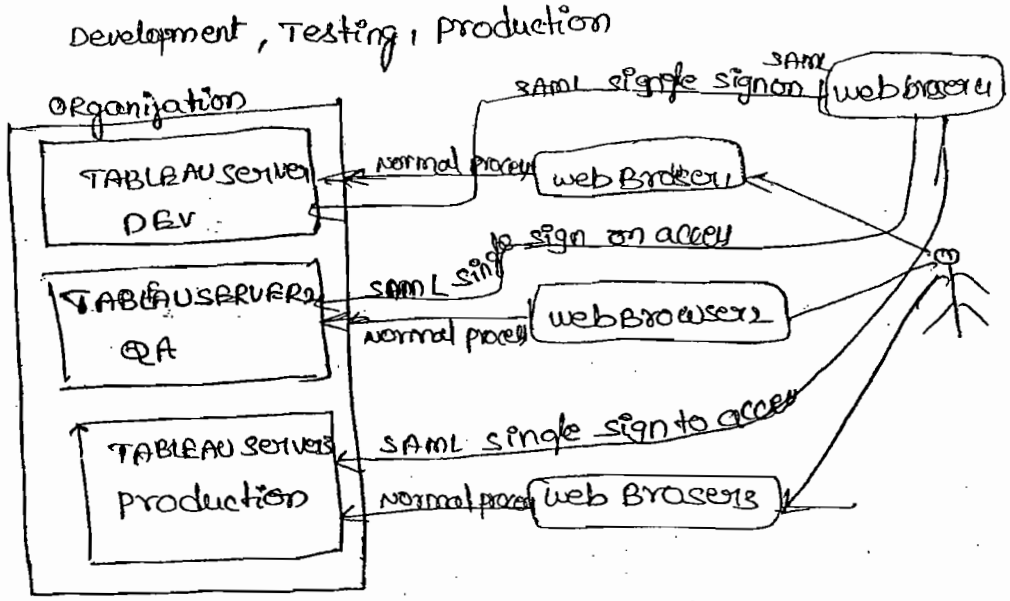
Security Assertion markup Language (SAML) :- SAML is mainly used to configure the single sign on access. It means that if you configure SAML with single sign on we can able to access the multiple servers.



* SAML is having the similar syntax of XML.
* Using SAML we can perform all the user authentications outside of the TABLEAU regardless of weather we are using the active directory (or) global server. In TABLEAU server to manage the user accounts by taking help of external identity provider.
* SAML allows the users to provide single sign on experience across the applications in one organization.

Note :- In the TABLEAU server configuration we can modify any thing at any time except the user authentication. And also all the settings are system wide.

Note :- All the settings in the TABLEAU server as system wide. If you modify any settings it will effect all the systems into the server.

Note :- Before making any changes to the server just stop

the server perform the changes, save the changes and again start the server (or) restart the server. (10)

Senario (1): Deploying (or) publishing work books into the server

Step(1) :- open the TABLEAU desktop and open the work book which contain all the required worksheets and dash boards.

Step(2) : click on server tab and click on sign In. In the server server sign in tab enter the server name as 192.168.1.252:84 and user name as AimTech and password aim@123 and click on signIn.

Step(3) :- Again click on server and click on publish workbook

Step(4) :- In the publish workbook window simply click on publish. It will automatically publishes to the TABLEAU server.

Step(5) :- open any webbrowser and enter 192.168.1.252:84 and click on enter. Enter the signin name as AimTech and the password as aim@123. and click on signin.

Step(6) :- click on the content tab, click on workbook and check weather the work book got publish (or) not.

Note :- TABLEAU server is mainly devided into two tabs (or) two panels. (1) Admin Panel (2) content panel.

* Admin panel is the area where we perform all the admin operations. only the users having the admin permission they only able to access the admin panel.

Note②:- The 2nd tab (or) 2nd panel in the TABLEAU server is content tab. If any user deploys any thing into server that complete information will get placed into this content tab.

* Any user which includes the normal users and admin users, they can able to access the content tab.

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Senario②: creating the users and assigning the roles and user rights.

* In TABLEAU if any user want to access the server that user should be the part of server and the authentication should exist for that user in the server.

* In TABLEAU we can create the users in two ways.

1. From GUI
2. From CSV file.

Task①:- creating the users from GUI.

Note:- In TABLEAU server if you want to create the users we need admin right. with out the admin right it is not possible to create the users. The admin can be either system admin (or) site admin.

Step①:- ~~click on~~ Login as the admin user and click on users

Step②:- click on add and enter the user name as test and click on next.

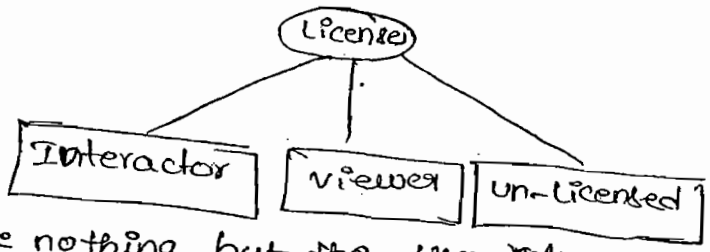
Step③:- Enter the fullname, password and confirm password

Step④:- ~~In~~ After creating the user we need grand the roll (or) License for that user. Assign the license level as interactor. and click on add.

Step⑤:- It will automatically creates the users in TABLEAU

Licenses :- In TABLEAU we are having 3 different types of licenses.

1. Interactor
2. Viewer
3. Un-Licensed



* Licenses are nothing but the user roles.

Interactor :- If we assign interactor licens to the any user, that user can able to interact with the views in the server.

View Talk ② :- creating an user with interactor licens and check-ing the licens in the server weather it is effecting (or) not.

Step① :- Log in as the admin user and click admin pane and click on users.

Step② :- click on add enter the specify the user name as test1 and click on next.

Step③ :- enter the full name, password and confirm password.

Step④ :- Assign the licens level as interactor and click on add.

Step⑤ :- Logout from the admin user and again sign in as test1 user and enter the password and click on sign in.

Step⑥ :- select any workbooks open the work book and check weather the data views are interactive (or) not.

(12) **viewer**:- If assign the role as viewer the user can able to view the data views in the server but he can't interact with the TABLEAU server. The data views won't respond to the request of the user.

Task③:- creating the user with viewer licens and checking the permissions in the server.

Step①:- Log in as the admin user click on admin panel and click on users.

Step②:- click on add enter the username as test2 and click on next

Step③:- Enter the fullname, password, confirm password, select the licens level as viewer and click on add.

Step④:- log out from the admin user sign in as test2 user open any data views in the server and check weather the data views are interacting or not

un-Licensed:- The 3rd type of role available in the TABLEAU server is unlicensed. If we assign the role as un-licensed the user can't signing into the server atleast.

Task⑪:- creating the user with un-Licensed role and checking the permissions.

Step①:- Log in as the admin user click on admin panel and click on users.

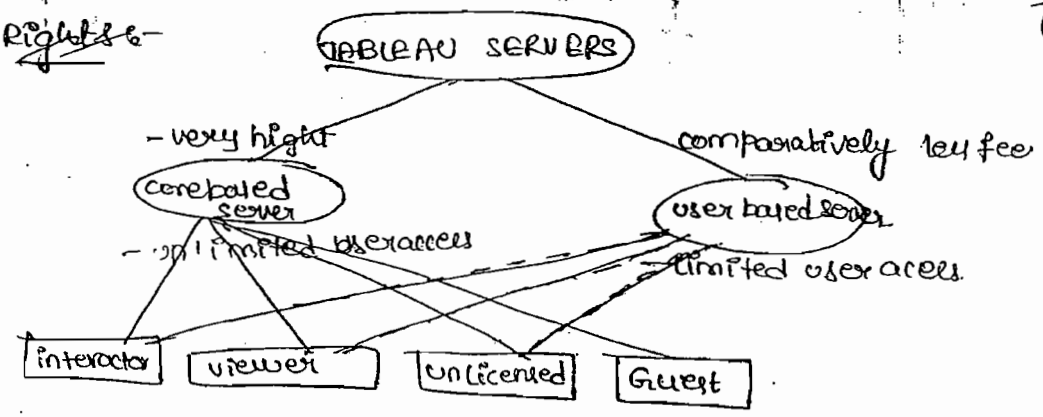
Step②:- click on add enter the username as test3 and click on next.

Step③:- Enter the fullname, password, confirmpaswd select the licens level as un-licensed and click on add.

Step④:- Logout from admin user sign in as test3 user and check weather that user can able to sign

Sh into the server (or) not.

User Rights:-



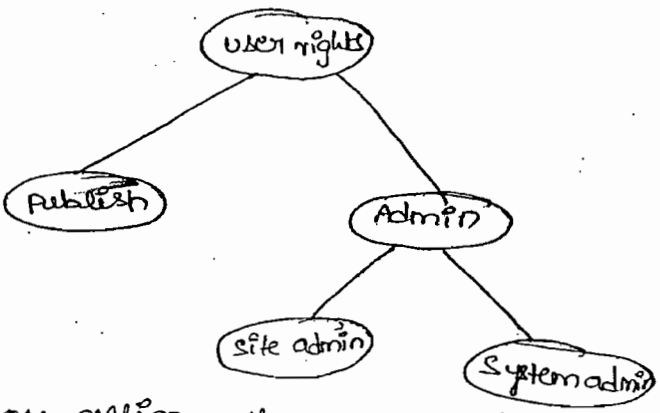
Corebased servers: In corebased servers we have one new license which is not available in user based servers. and The new license is Guest.

- By using guest we can directly access the server even when we are not a member of server (or) user of server.

User Rights:- In TABLEAU we are having two different types of user-Rights.

(1) publish
(2) Admin.

* Again in the Admin we are having two different types of admins
(1) site admin
(2) system admin.



Publish:- If you assign the user with the publish right the user can able to publish the workbooks from the TABLEAU desktop into the TABLEAU server. without the publish user right it is not possible

Task⑤:- creating an user with out publish right and try to publish the workbook into server from desktop.

step①:- Login as the admin user click on admin panel and click on user.

step②:- click on add enter the user name as testy and click on next.

step③:- specify the full name, password and conform password click on add.

step④:- open TABLEAU desktop create a new work book create one (or) two work sheets on the superstore

step⑤:- click on the server tab and click on sign In

step⑥:- Enter the server address the 192.168.1.252:84 and username as Testy and password as Testy and click on signIn.

step⑦:- Again goto server tab and click on publish workbook. As this testy user is not having the publish right, he can't publish into the server.

step⑧:- login to the TABLEAU server as the admin click on admin panel and click on users, select testy users and click on publishing and select allow

step⑨:- Goto the TABLEAU desktop signout from the user sign In again as the testy user click on publishing workbook, ~~on~~ this time it will publish the workbook into the server as the user is having publish Right.

Admin :- The 2nd user right in the TABLEAU is admin. In TABLEAU we can able to create two types of admins

1) site admin
2) System admin.

Site Admin :- In TABLEAU server we can able to configure multisite ~~ent~~ environment (16)

* In the multisite environment we can define one user as admin user for one site. These kind of admins are called as site Admins.
* These site admins are responsible for one site.

System Admin :- In TABLEAU system admins are responsible for complete server.

* The complete TABLEAU server is under the control of system Admins.
* system admin can control the site admins. But site admin can't control the system admin.

Task ⑥ :- creating the users in TABLEAU from CSV file.

step① :- In TABLEAU server the 2nd way of add the users is from a csv file. If you want to add the users from a csv file the encoding of the csv file should be UTF8

step① :- create a text file with the following data.

CSV1, CSV1
CSV2, CSV2
CSV3, CSV3
CSV4, CSV4

step② :- click on file tab and click on save as in the encoding type select the type as UTF8 and click on save.

step③ :- Login into the TABLEAU server as admin user click on admin panel and click on users.

step④ :- click on import and click on brows and select the file which contains the user information and click on open.

step⑤ :- click on import users.

step⑥:- Again click on users and check weather the user got added (or) not, If we add any user into the TABLEAU with out specifying the license level by default it will take the license as un-licensed.

Note:- while adding the users in CSV file optionally we can specify the license, user rights, email for each user.

* Adding the users from CSV file is more helpful than if you want to add large no. of users into the server.

Note②:- If you want to assign any user as admin the user should have interactor license.

5/6/14

Senario③: working with groups projects and sites

Groups:- In TABLEAU if you want to organise the users into groups we can create multiple groups for the different set of users very easily.

* In TABLEAU server we can organize the multiple users into groups to make it easier to manage multiple users
* In TABLEA we can create two types of groups.

1. Local group
2. Active Directory group.

1) Local group:- A local group is the group that is created on the TABLEAU server using local authentication

* In the local authentication all the user information is maintained in internal ~~visual man~~ user management system

2) Active directory group:- Groups can also be imported from active directory when we import active directory groups a matching group is created on server for all the users in the active directory.

Task①:- Creating a local group in the TABLEAU server (18)

~~Step①~~:- Note:- Only the adminstrators can create the groups, normal users they can't create groups.

Step①:- Login as a admin user, click on admin panel and click on groups.

Step②:- ~~g~~ In groups click on new and enter the group name and click on add group.

Step③:- click on users and select the list of users and goto group + and click on that group + and add the user to the required group.

Step④:- click on groups in the admin panel and click on the required groups, check weather the users ~~ad~~ are added to the group (or) not.

Task②:- Removing the users from a group.

Step①:- Login as a admin user, click on users check the required user click on group - and select the required group it will automatically removes the users from the group.

Step②:- click ~~g~~ on groups goto the required group and check weather the users are removed from the group (or) not.

Task③:- moving the users from one group to the another group ~~in~~ directly from the groups.

Step①:- Login as admin user click on groups and select any group. ~~and~~

Step②:- In that group select the required users and

~~Step③~~:- click on group + and select the required group. It will automatically moves the users from one group to the another group

Note:- one user can exist in multiple groups i.e one project ~~server~~ in the TABLEAU server.

Task (ii):- Deleting a group from the TABLEAU server to have

Note:- only the admins can remove the groups.

Step (1):- login as admin user click on admin panel and click on groups.

Step (2):- select the required group and click on delete. In the conformation window click on yes. It will automatically delete the groups from the TABLEAU server.

Note:- when we delete any group, TABLEAU just deletes the group from the server. It won't delete the users.

Projects:- project is a collection of similar workbooks in the TABLEAU server. In the TABLEAU only admin servers only administrators can create the new projects.

* If you login as administrator, there are two places where we will see the projects.
  1) Admin panel.
  2) content panel.

* If sign in as normal user we can able to see the projects only into the content pannel.

* In TABLEAU server if you publish any workbook from the desktop, all the workbooks by default will get stored into default project.

* If we want to deploy the workbooks into separate project we need to create a separate project in the admin panel if we are having admin right. If you are not having the admin right we need to send the request for admin to create.

Note :- Task① :- only the Admin users can create the project

~~Step②~~ Task① : Create a project in TABLEAU server.

step① :- Sign In as admin user click on admin panel and click on projects.

Step② :- click on add and enter the project name as Aim right write some decription and click on add.

step③ :- It will automatically create a project in TABLEAU click on content tab, click on project and check weather then new project got added (or) not.

step④ :- Go to the desktop and signing into the server and after signing into server click publish work-book.

step⑤ :- In the publish workbook window select the project as Aim and click on publish.

step⑥ :- goto the TABLEAU server click on content panel and click on projects.

step⑦ :- click on Aim project and check weather the work book is published into the TABLEAU server (or) not.

Note :- Task② :- moving a workbook from one project to the another project.

step① :- click on the content tab and click on Projects

step② :- click on the default Project

step③ :- In the default Project select any work book and click on move.

step④ :- In the move select Aim project, it will automatically moves the work book from default project to the aim project.

~~Step②~~ Note: One workbook can exist ~~on~~ in only one project in the TABLEAU server.

Note②:- If you want remove the project we need to have the admin user right.

Task③:- Removing a project from TABLEAU server.

Step①:- Sign in into the server as the admin, click on admin tab and click on projects select the required project and click on delete. It will automatically deletes the project from the admin panel as well as a content panel.

Note: If you remove the project from the server it will automatically delete all the workbooks and views in the project.

Note:- We can't delete(or) remove the default project except the default project we can delete all other projects.

Sites:- In TABLEAU server if you want to store the users separately on a single server system. then we can create sites from the site page of the admin panel.

* Using this sites we can seperately maintain all the workbooks data and user list. As the system administrators can only see each and every site and perform action such as creating sites & making system wide changes

* site admin can't see all the sites that are existing on the server.

* By default with the TABLEAU server installation the default site will get created.

Note:- only the system administrators can create the sites.

Task ①:- creating a site in the TABLEAU

~~Note:~~ step①:- login as system admin, click admin panel and click on site

step②:- click on add enter the site name, site id and specify the stories ~~data~~ and ability to add the user. In the ability to add users if you select only the system administrators the site admins can't add (or) remove the users. If you select both site and system admin then the site admins will add the users. If you want to add the performance recorder click allow performance recorder to all and click on ok.

step③:- Immidiatly after adding site user tab in the admin panel will change to all users and site user. All users indicates All the users that are available in server, where as site users indicates the users which are available in one site.

step④:- Log off into the server and again login into newly created site and check weather we can able to access site (or) not.

Task②: Adding the users to the site

Notes: If you want to add the users and if you want to create the site admin we need to login to as system admin.

step①:- click on admin tab, click on site users and set the site as batch4 click on add enter the user name as batch4 and click on next Enter the full name as batch4 and conform password as batch4 and pass word as batch4,

in the License level select License as interactor and user rights as align public and site admin and click on add.

Step②:- Logout from system admin, sign In as the site admin and check weather we can able to access the admin tab (or) not

Note:- site users can't create another site.

Note:- site users can't access another site

Note:- One user can exist in multiple sites, if one user is existing in multiple sites site admin can't control (or) can't modify the user existing in multiple sites only the system admin can control the user existing in multiple sites.

Task③:- Deleting a site from the TABLEAU server.

Note:- only the system admin can delete the sites.

Step①:- sign In as the system admin, click on the admin panel and click on sites.

Step②:- check any existing sites and click on delete, in the conformation window click on yes. It will automatically delets the site in the server.

Note:- Once if we delete the sites we can't roll back the operation.

Note:- If we delete the sites it will automatically deletes all the workbooks existing in that site.

Note:- If we delete any site it won't removes the users from the server.

Task④:- making the site in-active for certain period of time.

Step①:- Login as the system administrator click on admin tab and click on sites.

step②:- check the batch 4 site and click on availability and change the availability to suspended. It will automatically changes the site state to suspended.

step③:- sign out as system admin, sign In as batch 4 user and check weather we can able to access the site (or) not.

Note:- Even through if the site is in the in active mode we can login into the site with the system admin user might.

Note:- It is not possible to delete the default site.

Task①:- changing the site settings.

Note:- only the system admin can modify the site settings.

step①:- Login as System admin, click on admin tab and click on sites.

step②:- select the required site and click on edit

step③:- In the edit site window modify the site proper existing site settings and click on ok.

Note:- Even after creating the site also we can able to modify the site using the edit options.

Note:- In the Licenses tab of the server we can able to see the total intractor users, unlicened user and viewer users.

6/6/14 Senario 4: working with permissions on the server-

* In TABLEAU even we can control the access on the content of the server, even we can control the access on the server by setting the permissions on the content in the server.

* In TABLEAU server we can set the permissions for

work books, projects, views and the data sources.

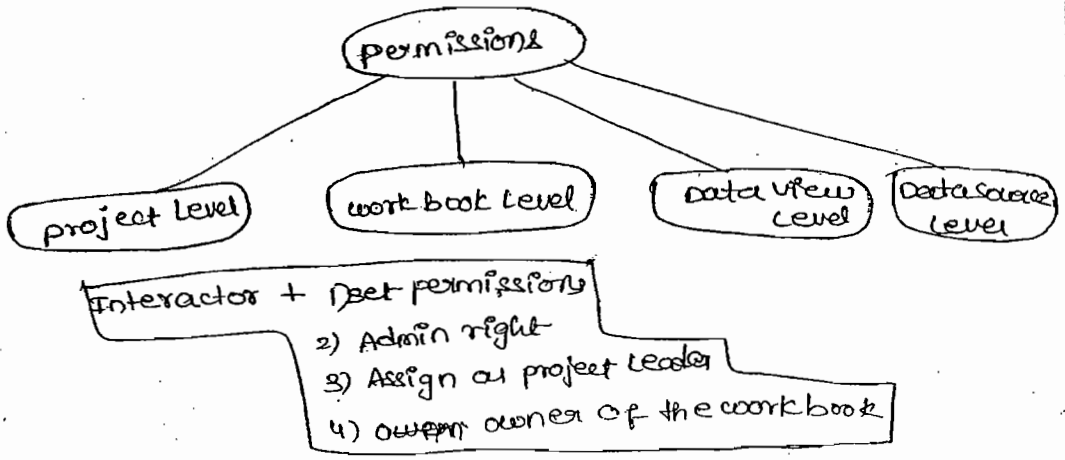
* These permissions can be assign to the content while publishing to the content (or) after publishing the content to server we can change the permissions on the content.

→ The people who can assign the permissions (or) who can change the permissions are

(1) Admins
(2) Owner of the content (content can be either work book (or) data source)
(3) User Having the set permission
(4) If the user is having project leader permission

Note:- In order to set the permissions (or) in order to change the permissions the License level must be interactor in the server.

* If the user is not having the interactor License he can't assign (or) change the permission for an item on the server.



* In TABLEAU server the permissions can be set at 4 different levels:

1. At the project level.
2. At the workbook level.
3. At the data view level.
4. At the data source level.

1) Setting the permission at the project level:

Task (1):- Assigning permissions at the project level to particular user.

step①:- Login into TABLEAU server as the admin user click on admin TAB and click on projects. select the required project and select permission. In the permission window select add (or) edit permissions.

step②:- In the list of users select the required users and assign any of the role. Assign the role as viewer click on open.

step③:- Log off out from the current user and login as test user and check the required permissions.

Note:- In the TABLEAU server we can assign the permissions at the user level and at the group level.

Note②:- without the interactor License also even we can able to publish a view into the TABLEAU server.

Note③:- If you set any role in the TABLEAU server by default that role will assign some default permissions to the content of the server. If we add any new permission automatically the role will get changed to custom.

Task②:- Assigning the viewer permission to the user having interactor License.

step①:- Login as admin user, click on admin tab goto users and assign any user with the interactor License.

step②:- click on projects in the admin tab check the TABLEAU samples and click on permissions.

step③:- click on add (or) edit permissions and select users and select the user with the interactor License as now just assigned.

step④:- select role as viewer and click on submit.

step⑤:- In the check user permissions ~~check~~ select the user just now we assigned viewer role

step⑥:- In the list of permissions it clearly shows like the user is not effected with the viewer Role. (27)

step⑦:- Log out from the admin user and Login as the current user as just now we send the permission and check weather the ~~view~~ user having interactor License (or) viewer Role.

Note:- If the user is having interactor License and if you assign the viewer role for a particular project that role will not be activated, because the user is having more License level compared to the assign role.

Note②:- If we assign any permissions to a user we can check directly the permission from check user permission.

Note:- If we assign any permission to the project by default ~~that~~ all the permissions are applied at the project level only. If you want assign the permissions to all the contents select assign permissions to ~~all the~~ contents.

Note: If assign the permissions to contents automatically work books and view will get effected.

Task③:- Adding the user to a project with the project leader permission having viewer License

step①:- Login into server as admin user, create one user with name test and assign the license as viewer.

step②:- click on admin tab, click on project select the Tableau sample project click on permissions. In the permission window select add (or) edit permissions and select the test user assign the role as custom (or) assign the role as project leader and click on submit

step③:- In the check user permissions select the user and check weather the project leader permission is assigned (or) not-

Note:- with the viewer license it is not ~~possible~~ possible to make an user as project leader.

(28)

Note:- with the viewer license it is not possible ~~make an user as Datasource, Dat and Datasour~~ to connect to data source and it is not possible modify (or) edit the data source.

* The different roles available at the project level are
  (1) Viewer
  (2) Intractor
  (3) editor
  (4) Data source connector
  (5) Data source editor
  (6) project leader.
  (7) publisher
  (8) custom.

2) Assigning permissions at the work book level:- In TABLEAU we can set the permisions at the workbooks in two levels.
  1. while publishing the work book into server
  2. ~~while~~ After publishing the work book into server.

* At the workbook level the different roles available are
  1) viewer
  2) Interactor
  3) Editor
  4) custom.

1) Viewer:- If we assign the role as viewer, then the user can able to view only the workbooks and the worksheets.

2) Interactor:- If we assign the role as interactor then the user can able to interacting the data view and also the user can able to perform the editing at the server level

3) Editor:- If we assign the role as editor then the user can able to interactor and edit and modify and user can perform all the kind of operations on the server.

4) Custom:- Using the custom role even we can assign the ~~our~~ ~~o~~ our own permissions to the user.

* To the viewer role (or) interactor (or) to the editor if we add any new permission it will automatically changes the role to custom.

Task①:- Assign the interactor role to user at the workbook level and check weather the user can able to perform all the operations (or) not.

step①:- Login as admin user, click on content tab and click on workbooks. select any existing work book and click on permissions.

step②:- select add (or) edit permission select any one of the user and select role as interactor and click on submit.

step③:- Log out from the current user again log In to the server if the user which we assign the permission

step④:- Open the workbook and check the permissions.

Note:- If we assign the permissions at the work book level by default all the permissions will get applied at the work book level only. If you want to assign the same permissions to the work sheets also select assign permissions to the contents.

Task②:- Assigning the permission to workbook while publishing into server.

step①:- click on server tab, and click sign In. Enter the server name, user name and password and click on sign In.

step②:- Again click on server tab and click on publish work book

step③:- Before publishing the workbook into server click on add and specify the permission for the users.

*step④:- After adding all the required users and assigning the permissions and click on publish.

step⑤:- Befor publishing if you select show sheets or tabs, TABLEAU displays all the worksheets in the form of TABS in the server. And also what ever the permissions we are assigning to the workbook all those permissions will be assign to the work books also.

3) Assign the permissions at the view level :- At the data view (or) in the worksheet level the different roles available are (1) viewer
(2) Interactor
(3) editor
(4) Data source connector
(5) Data source editor

Data source connector:- with data source connecter role we can connect to the data source we can view the data source connection information.

Data source editor :- If the data source editor permision the user can able connect to the data source can able to view the data source and also the user can able to modify the data source connection in the server and even the user can able to edit delete the data source connection also

Task①:- Assigning the interactor permission for the particular view in the TABLEAU server.

step①:- Login as the admin user click on content tab and click on views select any one of the view and click on permissions.

step②:- click on add (or) edit permissions select the user and assign the role as interactor click on submit. Logout from the admin user and login as user when we assign the permissions and check weather the permission is effecting (or) not.

4) Assign the permissions at data source level:- Even in the TABLEAU server we can publish the data sources and even we can perform the development in the TABLEAU server after publishing the data source into the server.

Task①:- publishing the data source into the server.

step①:- Goto the Tableau desktop right click on the data source and select publish to server.

step②:- specify the project name, data source name and also the scheduling and click on publish

step③:- login into the server and check weather the data source is publish (or) not.

* For the data sources the permissions can be set at two levels
  (1) while publishing the ~~work-book~~ Data source into the server
  (2) After publishing the Data source into server

* At the data source level two rolls are available
  (1) data source editor
  (2) data source connector.

note:- If you want view the data from the work sheet in the server open worksheet click on export button and

click on data. It will display both the summary data and underlying data.

Note:- If you want to see the complete data from the data source in the server click on underlying data and select show all columns.

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(1) Different permissions at project level :-

* The different types of permissions available at the project level are general permission, workbook permission data source permissions, project

(i) **General permissions:-** The permissions available are.

1. View
2. write/web save
3. delete
4. Download /web save as
5. move
6. set permission

(ii) **work book permission:** the different permissions of work book at project level are.

1. filter.
2. Add coments.
3. view coment
4. view summary data.
5. view underlying data.
6. export to image
7. shared customized.
8. web edit. ~~available workbo~~

Note:- The web edit permission is available at the work book level as well as at the data view level.

(iii) **Data source permission:-** The different data source permissions available at project level are

1. connect

(32) (1) **Project level permissions**: Different permissions available at project level. (33)

1. project Leader.

(2) **work book level permissions**:- The different permissions available at workbook level are.

1. view.
~~2. Edit view~~
2. web edit
3. write / web save
4. Download / web save as
5. Delete.
6. Filter.
7. Add comment
8. view comments.
9. View summary data.
10. view underlying data.
11. Export image.
12. share customized
13. move.
14. set permissions.

(3) **Data view level permissions**: The data view level contain same permissions as work book level permissions.

→ The set permission is available in both at the workbook level as well as at the Data view level also.

Note:- But by default if you set any permissions at the workbook level it won't reflect to the data view levels, unless and untill if you select align permissions to the content.

(4) **Data source level permissions**: The different types of permissions available at data source level are.

(1) view
(2) comment
(3) write / web save
(4) Download / web save as
(5) Delete
(6) set permissions

Senario (5): Performing development at the server level

* In TABLEAU server even we can perform the development by creating new work book based on the published data source.

* we can create the workbook from content tab of the data server

* once after publishing the workbook into server the user can create 'n' no. of work books, if the user is having the required permission.

Note:- The user with the viewer license can't create a new work books in the server.

Note:- The user with the interactor license, they can able to create the workbooks in the server.

Note:- If any user want to connect to the data source and if they want to create a new workbook the primary permission the user required is connect permission on the data source.

* while creating the new workbooks at server level except few things we can perform every thing in the server.

* At the server level we can't create a dash board, and also at the server level in the work book we can't create the calculated fields, and also also we can't create offline maps in the server.

Task:- creating a new work book and perform development into the server.

step(1):- Login into the server as interactor click on the content tab select the data source, and click on new workbook. It will automatically opens a new workbook.

Step ②:- perform the development, click on save and click on done.

* If you save any workbook in server all the complete information of workbook will get saved in the ~~portany~~ POSTGER which is also called as in memory data base. memory data base.

* Even the users can modify the existing permi workbooks and views in the server if the user is having web edit permission.

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Senario ⑥: TABLEAU server command Line utilities.

* The another way to interact with the TABLEAU server by taking help command Line utilities.

* with out the web browser the user can directly interact with the TABLAU server by making use of this TABLEAU server command line utilities.

* There are two different types of TABLEAU command line utilities are available.

(1) TAB CMD
(2) TAB Admin

TABcmD :- It is one of the command line utility provide by the TABLEAU.

* using this TABcmD commandline utility we commands perform task like creating users, project, groups, sites ... etc.

* This TABcmD can be installed on any machine and using that commandline utility we can connect to the server from the remote place.

* If you want to work with the TAB cmD we need to install TAB CMD commandline utility.

Task①:- Installing TABCMD commandline utility (36)

Step①:- Login into the FTP server by opening any web browser and entering FTP://192.168.1.253:46 and enter the user name as AIMODIFTP and the password as Aimtech123 click on TABCMD installer based on the system bit.

Step②:- copy the TABCMD downloaded file and in 'C' drive create a new folder with name TABCMD and place that TABCMD installer in that folder.

Step③:- click on the TABCMD installer file it will automatically opens TABCMD setup wizard.

Step④:- In the welcom window click on next.

Step⑤:- Accept the license agreement and click on next.

Step⑥:- Keep the default location as it is and click on next. finally click on install.

Task②:- login and logout in TABLEAU server from the command utility.

Note:- If you want to work ~~with~~ server with command line utility we have to open the command promt as administrator.

Step①:- Goto command promt right click on command promt and select run as administrator

Step②:- change the directory to command line utility with following command.

~~step~~ cd c:\program files\~~Tableau~~ Tableau server\8.1 \~~extras~~ extras\command line utility

Step③:- Next enter TABCMD login https://192.168.1.252:84 -u BATCH4 -P BATCH4

Step④:- ~~next~~ If you want to logout from the command enter ~~tabcmd<space>~~ logout

tabcmd logout -s http://192.168.1.252:84 -u BATCH4 -p BATCH4

Task③:- Login into the particular site from tabcmd command line utility.

step①:- In the command promt enter tabcmp -- Login -s http://192.168.1.252:84 -t sites -u BATCH4 -p BATCH4

Note:- -s indicates site name
-t indicates siteID
-u indicate user name
-p indicate password

Note②:- for each and every command that we execute using the Tabcmd in the background the complete log is maintained into following

c:\users\<Admin_USER>\App data (Hidden folder)\Roaming\TABLEAU

* If the command is successful in the log it will returns the status code as zero.
* If the command is failed it returns full status code error message in the log.

Task④:- creating a group from the TABCMD.

step①:- tabcmd creategroup Groupname

Eg tabcmd creategroup "Army"

Task⑤:- creating the users for site and adding the users for particular group.

step①:- In command promt enter TABCMD CREATESITE USERS <CSV-FILE>

Eg TABCMD create site users c:/Desktop/users-TAB.CSV

step②:- If we want to add the users to group the syntax is tabcmd adduser <Group-Name> -- users <CSV-File>

Eg TABCMD adduser "Army" -- users c:/Desktop/users-TAB.CSV

Note:- The site admins can't use create users command only the system admins can use the create users command site admins if they want to create the user they should use create site users command.

Note:- In the 'tabcmd' forbidden message means the user is not having the required permission to perform that action.

Task⑥:- creating the project from command line utility.

Syntax:- Tabcmp createproject -n <project-Name> -d <project - Description>

Eg TABCMD CREATEPROJECT -n "AIM4" -d "sample project"

Note:- -n --> indicates project name.
-d --> indicates project Description.

Task⑦:- creating a site from command line ~~ut~~ prompt.

Note:- only the system admins can create the site once site admin he can't create ~~any~~ another site

Syntax:- ~~Tabcmp create site <site name <site name>~~
~~-t <site DB~~ -t ~~<site ID>~~ ~~--storag - quota~~

Syntax:- Tabcmd createsite <site name> -t <site -ID>
-- storage-quota <storage- quota> -- user-quota <no of users>

Eg: Tabcmd createsite "AIM4" -t AIM4 -- storge- quota 100mb -- user-quota 10

Task⑧:- Listing the sites in the server.

If you want to list the sites in the server Enter tabcmd list sites

Note:- If you ~~we~~ login as the system admin it will display all the sites under ~~the~~ the system admin.

Note:- If you login as site admin it will display only that particular site.

(59)

Task(9):- Removing the users from the group.

syntax:- tabcmd RemoveUsers <Group-Name> --users <CSVFILE>

Eg tabcmd RemoveUsers "Aim4" --users c:\Users\Desk-top\users-TAB.csv

Task(10):- ~~Editing the site from~~ Removing the group from tabcmd.

Step(1):- syntax: tabcmd RemoveGroup <Group-Name>

Eg:- tabcmd RemoveGroup "Aim4"

Task(11):- Remove project from tabcmd.

syntax:- tabcmd Remove project <project-Name>

Eg :- tabcmd Remove project "Aim4"

Task(12):- Remove site from tabcmd.

syntax:- tabcmd Removesite <site-Name>

Eg :- tabcmd Remove site "Aim4"

Task(13):- Editing the existing site from tabcmd.

syntax:- tabcmd Editsite <site-ID> --site-ID <new-ID> --site-Name <new-Name> --status <Active/Suspended>

Eg tabcmd editsite "Aim4" --site-ID "Aims" --site-Name "aim123" -- status ACTIVE

Task(14):- How to check version in tabcmd.

syntax: tabcmd version

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Export:- In the tabcmp Export export all the content from the server into our local machine.

* we can export either workbook (or) views.
* If you want export work books the syntax is TABCMD EXPORT "WORKBOOK/view" --fullpdf

Views export:- The views can be exported in 3 different formats. (1) PDF (2) PNG (3) CSV

Rules to perform export:-

(1) Invalid export formats:-

Ex:- (1) TEST/category wise sales.

(2) TEST/category # wise # sales.

(2) Valid format:-

TEST/categorywisesales

Task:- Exporting a work book from the TABLEAU server.

step①:- TABCMD "EXPORT "workbook/view" --full PDF.

Eg TABCMD EXPORT "Realestate/Realestatemarket --full pdf.

Note:- while performing the exporting it is very important to specify the workbook and view name in the same case.

Task:- Exporting a view from the TABLEAU server.

step①:- TABCMD EXPORT "Real Estate/Real Estate market Report" --pdf

Task:- Exporting the workbook (or) view with the latest data.

step①:- TABCMD EXPORT "RealEstate/RealEstate market Report ?: refresh = yes" --full pdf

Task③:- Exporting a workbook (or) view into a seperate file directory.

step①:- TABCMD EXPORT "RealEstate/RealEstate market Report" --full pdf -f c:\xml\xml

publishing:- Even we can publish the work book into the server using TABCMD command line utility.

* Using the TABLEAU command line utility we can publish two workbook either packged work book

(or) normal work book, we can publish tableau extract file and even we can publish TABLEAU data source file.

Task:- publishing a date export from the command promt.

Step①:- copy any TABLEAU data extract file into the TABLEAU command line utility folder.

Step②:- In the command promt enter tabcmd publish "ssp.tde" -n "sample workbook publishing from tabcmd"

Task:- Publishing a file from the outside location into TABLEAU server from TABCMD.

copy the TABLEAU data extract file into any one of the outside folder.

In the command promt enter TABCMD publish "c:\XML\ssp1.tde" -n "outside publishing from TABCMD"

Data connections:- In TABLEAU server if you publish any work book (or) data source the information of the data sources is maintained in the data connection tab.

* Every workbook that is publish to the TABLEAU server contains one (or) more connections.
* All these connections are listed in the data connection tab under the admin panel.
* If 3 work books are published with the same data source still in the data connections tab, it list 3 connections.

*~~Table~~

7/6/14 Tableau - server - processors and Tab Admin (12)

In Tableau server total we are having 6 different servers.

- VIZQL server
- Application server.
- Data server.
- Data Engin
- Back ground
- Repository

VIZQL - server :- VIZQL server takes care of to loading data views in the browser and performing the query execution on the background. The query execution depends on the user-request.

* Based on the user request the VIZQL server it generates the VIZQL query logs in the back-ground, which gets stored in VIZQL-server folder of the Tab-svc directory.

* The file name for VIZQL server is vizql.server.exe
* If the user request any view from the browser. It will generate a VIZQL.log, which get stored in the logs folder of VIZQL-server the location of the log file is.

C: programdata / Tableau / Tableau.server / data / tab.svc / VIZQL-server / Logs

A. VIZQL server is multi threaded. it supports multiple processes.

II Application - server :-

* Application server takes care of handling the web application in the server using a web browser.
* In the tableau server if you want to get any data view from the web browser, if you want to search any thing on the server from the web browser then we need to depend on the Application server.
* The filename for the application server is wgserver.exe
* It is also multi threaded - It will supports 2 processes by default.

The Log Location is

⇒ C:\\ program data \ Tableau \ Tableau-server \ data \ tabsvc \ wgserver \ 1 \ logs

⇒ C:\\ programdata \ Tableau \ Tableau . server \ data \ tabsvc \ wgserver \ 0 \ logs.

III Data server :- Data server takes care of handling the data-sources in the Tableau server.

* The data server is also multi-threaded.
* The file name for the data server is data server.exe
  the logs location is

C:\\ programdata \ Tableau \ Tableau . server \ data \ tabsvc \ dataserver \ 0 \ logs

C:\\programdata \ Tableau \ Tableau . server \ data \ tabsvc \ data server \ 1 \ logs.

IV Background :- The background process takes care of running the background tasks like scheduling, takes performance performance from Tab-cmd.

It is single threaded. ~~The file name of the background server is~~ backgrounder.exe

* It is single threaded. The file name of the background server is backgrounder.exe

* The logs location is

c:\\programdata\Tableau\Tableau-server\data\tabsvc\backgrounder\0 logs

5) Data Engine :- Data engine takes care of handling the data extracts at the server level.

* It is not single process. It is multi-threaded. This data engine takes care of storing the data extracts in the tableau server.

* The file name for the data engine is ~~tde~~ tdeserver.exe and tdedataengine.exe

Repository :- Repository is the area where the complete information of the Tableau-server will get stored.

* It stores workbooks, data sources, user meta-data. The file name for the repository is postgres.sql

* In the Tableau server the repository is postgre sql database. post gre sql sql database is an open source database.

* By default along with ~~T-server in~~ tableau server installation, it will configure 8 different processors.

Note :- By default along with the TABLEAU server installation, it will get installed with 8 different

processors. for VIZQL server, Application server - 2

Background server	- 1
Data server	- 1
Data Engine	- 1
VIZQL server	- 2
	8

* If the server hardware configuration is less, just go with the default no. of processors. If the server is configured with big amount of RAM & Hardware then increase the no. of ~~proces~~ processors.

* If we want to know other servers existing in our network click on discover. It will automatically discover the new server, if the servers are existing. If the servers are not existing, it will simply displays no new server are discover.

* In TABLEAU server if you want to perform any clustering, click on Add and specify the computer name (IP-address) and the no. of server processes. and just click ok.

* The concept of dealing with more than 1 server is called as clustering.

* If you want edit the existing server process, in the server tab of Tableau server configuration just click on edit and modify the no. of processes.

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~~Ports numbers for the different VIZQL server process:-~~

~~(or) TCP/IP ports for the different VIZQL server process~~

(ii) Application server:

19/6/14 Tcp/IP port numbers for the different VISQL servers process :-

SEVER	PORT - RANGE	server process port name
1) Application server	80002 - 8059	Application server. port (or) wg server. port.
		Note :- The default ports numbers for TABLEAU server process are 8000 and 8001
2) VIZQL server	9100 - 9199	VIZQL server. port.

Notes:- By default TABLEAU instals with two VIZQL servers process with ports 9100, 9101

3) Background talk	8250	Backgrounder. port
4) Data server	9700 - 9899	Data server. port
5) Data Engine	27042 - 27043	Data engine. port
6) Repository	8060	postgres. SQL. port (or) pg SQL. port
7) SSL	443	
8) Gate way	80 (default)	

* For gateway the default time is 30 ~~minutes~~ min

tab admin :- Tab admin is the second command line available.

* Using tab admin we can perform all the administrative tasks and we can modify the tableau server and Table server configuration settings using tab admin.
* The common functionalities normally we perform using the Tab admin are

(1) Taking Backup's

(2) cleaning the log files.

(3) TABLEAU server configuration

(4) Restarting the server.
(5) zipping the Log files
(6) upgrading the server.
(7) stating server and stopping server.
(8) checking the status of the server.
(9) modifying the default values of the server.

Note:- In the commandline if you want to see the status of the server

Step①:- open the command promt as an administrator change your directory to the TABLEAU server Bin folder ~~C:\windows\serv~~ C:\program Files\tableau\Tableau sever\8.1\bin

Step②:- In the command promt enter tabadmin <space> status, in order to check the status of the server.

Note②: If you want to stop the server enter tabadmin <space> stop

Note③:- If you want to start the server enter tabadmin < space> start

Note④: If you want to restart the server enter tab admin <space> restart.

Task:- Taking the Backup from tableAU server.

Step①:- open the command directory with tabadmin.

Step②:- change the directory to the Bin folder.

Step③:- enter the tabadmin <space> backup <space> backup file path\filename.

* If you want to store the backup file in bin you need to specify the file name.
* If you want to store the backup file in other ~~directory~~ folder (or) directory you need to specify backup file path.

* For the backup file name if you want to add the time (y)
tabadmin <space> backup <space> backup filename -d

Note:- If you run the backup file it will automatically ~~run~~ delete the log files which are older than 7 days.

Note:- when ever if you take the backup TABLEAU will create the backup file with extention .tsb .back

Note:- while taking the backup if you don't specify the path name by default it will create backup file in the bin folder.

Note:- If you want to ~~create~~ th cleanup all the log file just specify tabadmin <space> cleanup in the comm-and promt. It will automatically remove the log files which are older than 7 days.

Task:- modifying the existing port numbers in TABLEAU server.

Step①:- stop the tableau server by entering tabadmin <space> stop.

Step②:- In the command promt enter tabadmin <space> set <space> SQLserver.port <space> 9111.

Step③:- Enter tabadmin <space> configure to configure the server
tab admin <space> restart to restart the server.

Note:- when ever we take the backup the backup file includes TABLEAU server, postgres SQL ~~db~~ Data base which stores work book and user metadata, data extract files and TABLEAU server configuration data.

Note:- After taking the backup again if we want to restore the backup just in the command promt enter tabadmin <space> restore <space> Backup file name.

Senario ④: Performance Guidlines and security (ST)

performance Guidlines: Each and every server should be

① configured with the good hardware parameters like

(1) disk speed

(2) no. of ports

(3) memory in order to get the good performance?

② ~~The 64~~ use 64 bit machine which means use 64 bit operating system and 64 bit TABLEAU server.

* Although TABLEAU server run on 32 bit it gives good performance on 64 bit.

③ * In the TABLEAU server perform the scheduling at the off-peak hours.

④ * cache management

⑤ * Decrease the timeout of the VIZQL server. the default VIZQL ~~tim~~ session time is 30 min., Even though if VIZQL server is idle, it consume all the Ram and cpu cycles. If we reduce the time to the lesser value using tabadmin, it will improve the performance.

⑥ * Assess the tableau server process communication.

⑦ * If the server is user intensive configure the ~~worker~~ workers in order to share the load and improve the performance. Typically for the environment more than

⑧ * 100 users, if we configure 50 users to the primary server and ~~secondary~~ if you configure 25 each to the workers then definetly it will improve the performance rather than deploying all the 100 users into single server.

⑨ *

Security :- In TABLEAU server security was maintained by making use of 4 main components.

* The 4 four main components are
  (1) Authentication.
  (2) Authorization.
  (3) Data security
  (4) Network security

(1) Authentication :- It establishes the user identity.

* Authentication is mainly used to control an unauthorized access in TABLEAU server.

* In the TABLEAU server authentication is maintained in 3 different ways.
  (1) Local authentication.
  (2) Active directory
  (3) SAML

(2) Authorization :- Authorization means controlling the user access on the server once the user is authenticated to the server.

* The authorization is maintained by taking help of
  (1) Licences
  (2) User rights
  (3) Roles & permissions.

(3) Data security :- TABLEAU provides several ways to control which users can see which data.

* In TABLEAU server the data security is mainly maintained with (1) User filters.
  (2) Authentication mode.

(4) Network security :- The last component in the TABLEAU server security is network security.

* In this network security should be considered mainly

for three network interfaces in the tableau server (53)

* The 3 network interfaces are
  (1) TABLEAU server to client interact-ion,
  (2) TABLEAU server to data base interactio-n ~~table server~~
  (3) Tableau server to desktop interaction

* In this 3 network interfaces if you configure SSL then the communication should be in the encrypted format so that all the communications are protected with the encryption.

NOV - 2010 - 1 year
NOV - 2011
NOV - 2011 - 2 year
NOV - 2012
Dec, 2010 - June

2010
2011
2012
2013 -
2014 - Aug

2014 - Aug to 2013 - Aug - 1 year
2013 - ~~September~~ June to 2012 - Jan - 6

March - 2013
March - 2014 - 1 year
Mar - 4 - 4 month.

NOV 3 month break
feb
2011 - 2012
2012 - 2013 - feb

Total

March - 2013 to Aug - 2014 1 year 4 month
November - 2010 to ~~20~~ Feb - 2013

November - 210
Feb - 2013
2 year 3 months.

April - 2013 1 year
Aug - 2014 - 4 month

Symbolic info systems Bhar Job desc - March 2014
Aim - April 2014
unique person.