

TRAINING PROGRAM ON TABLEAU SOFTWARE IN NICT INSTITUTE

**Training Report submitted in partial fulfillment of the requirements for
the award of the Degree of**

MASTER OF BUSINESS ADMINISTRATION

of

BENGALURU CITY UNIVERSITY



By

MADALA DHARMA TEJA

Reg. No. P18IW21M0041

Under the guidance of

Dr.A.Abirami

Associate Professor



ST. FRANCIS COLLEGE

Shiva Kumar

NICT Computer Education Pvt. Ltd, Jayanagar

Bengaluru City University



NICT Computer Education

ISO 9001:2015 Certified Organization

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Jayanagar, Bangalore - 560 011. Karnataka, INDIA.

Certificate of Merit

This is to certify that

Mr. Madala Dharma Teja

has successfully completed the Course in

Tableau Desktop

and Secured Grade A+

Course Code: JC10



Date of Issue: 21 April 2023

Course Duration: 01 Month

Certificate No: 121306

Study Center: NICT Jayanagar

Validity of this Certificate can be verified at www.nictcomputereducation.com

Authorised Signatory
NICT Computer Education Pvt Ltd





Memorandum of Marks

Tableau Desktop

| Sl | Subject | Max. Marks | Marks Obtained | | | Result |
|----|-----------------|------------|-----------------|--------------------|------------------|--------|
| | | | Theory (Max.60) | Practical (Max.40) | Total (Max. 100) | |
| 1 | Tableau Desktop | 100 | 53 | 37 | 90 | Pass |



Score Grade Table

| Score Range | Grade |
|-------------|-------|
| >=80% | A+ |
| >=60 to <80 | A |
| >=50 to <60 | B+ |
| <50 | C |

Course Code: IC10



Authorised Signatory
NICT Computer Education Pvt Ltd



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NICT Computer Education

52, 4th Floor, 33rd Cross, 4th Block, Jayanagar, Bangalore - 560 011. INDIA

Registered under Government of Karnataka

Registration Number: ROB/63/2015-16



ಪ್ರಮಾಣಪತ್ರ - Certificate

is awarded to

Mr. Madala Dharma Teja

for successfully completing the course in

Tableau Desktop

and securing the grade A+

A handwritten signature in blue ink.

NICT Training Centre

A handwritten signature in green ink.

Head of IT Education

Date of Issue: 21 April 2023

Duration: 01 Month

Certificate No: 121306

Study Center: NICT Jayanagar



Grade A+: >79. **Grade A:** >59 and < 80. **Grade B+:** >49 and < 60. **Grade C:** < 50.

DECLARATION BY THE STUDENT

I hereby declare that "***Training Program On Tableau Software in NICT Institute***" is the result of the training undergone by me in partial fulfillment for the award of Master's Degree in Business Administration by Bengaluru City University.

I also declare that this report is the outcome of my own efforts and that it has not been submitted to any other University or Institute for the award of any other Degree or Diploma or Certificate.

Place: Bengaluru

Name: Madala Dharma Teja

Date: 06-05-2023

Register Number: P18IW21M0041

GUIDE CERTIFICATE (Internal)

This is to certify that the Training Report "*Training Program On Tableau Software* in NICT Institute" Submitted by **Mr. MADALA DHARMA TEJA - P18IW21M0041** to Bengaluru City University, Bengaluru for the award of Degree of Master of Business Administration is a record of work carried out by him under my guidance.

Place: Bengaluru

Date: 06-05-2023



Dr.A.Abirami

Associate Professor

GUIDE CERTIFICATE (External)

This is to certify that the MR. MADALA DHARMA TEJA - P18IW21M0041 has undergone training from me on Tableau Desktop from 05.01.2023 to 11.02.2023 as a part of training program from Bengaluru City University, Bengaluru for the award of Degree of Master of Business Administration.

Place: Bangalore

Date: 21-04-2023

Signature

NICT Computer Education Pvt. Ltd.
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Above Meghnas Biryani, Bangalore-11.

CERTIFICATE BY TRAINING INSTITUTE

This is to certify that the MR. MADALA DHARMA TEJA – P18IW21M0041 has undergone training on Tableau Desktop from 05.01.2023 to 11.02.2023 as a part of training program from Bengaluru City University, Bengaluru for the award of Degree of Master of Business Administration.

During the period of training his conduct was excellent.

Place: Bangalore

Date: 24-04-2023



Signature

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COLLEGE CODE : 1214

CERTIFICATE OF ORIGINALITY

This is to certify that the Training report entitled "*Training program on TABLEAU Software in NICT Institute*" is an original work of **Mr. MADALA DHARMA TEJA** bearing University Register Number: **P18IW21M0041** and is being submitted in partial fulfillment for the award of the Master's Degree in Business Administration of Bengaluru City University. The report has not been submitted earlier to any University /institution to fulfill the requirement of any course of study. **Mr. MADALA DHARMA TEJA** is guided by **Dr.A.ABIRAMI** who is the Faculty Guide as per the regulations of Bengaluru City University.


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ST.FRANCIS COLLEGE, BANGALORE

Format for Training Program to be undertaken

| | |
|---------------------------------------|--|
| Name of the Student | Madala Dharma Teja |
| Register Number | P18IW21M0041 |
| College Name | St. Francis College |
| Type of the Proposed Training | <input type="checkbox"/> Advanced Excel <input type="checkbox"/> SAP in any specialized field <input type="checkbox"/> Finance topics related training programs <input type="checkbox"/> Marketing topics related training programs <input type="checkbox"/> Business Analytics Programs <input type="checkbox"/> Building data analytics models or <input checked="" type="checkbox"/> Others: Tableau Software |
| Mode of Training | <input checked="" type="checkbox"/> Offline |
| Duration of the Training | 01 Month |
| Name of the Training | Training Program On Tableau Software in NICT Institute. |
| Name of the Training Institute | NICT Computer Education Pvt. Ltd. Jayanagar |
| Recognition of the Training Institute | Registered under Government of Karnataka |
| Website of the Training Institute | http://www.nictcomputereducation.com/#/home |

Name of the Guide:

Dr.A.Abirami

Name of the Student:

Madala Dharma Teja

Signature of the Guide**Signature of the Student**

Madala Dharma Teja

ACKNOWLEDGMENT

It is with great pleasure and immense gratitude that I acknowledge the help of these individuals.

I would like to express my sincere gratitude to **Dr. R N SUBBA RAO**, Principal of the St. Francis College, Bengaluru, for providing me with the opportunity to work on my project titled "**TRAINING PROGRAM ON TABLEAU SOFTWARE IN NICT INSTITUTE**"

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I would like to express my appreciation to **Dr. A. Abirami**, my College internal guide, for her support and advice throughout the process of completing my Training Project report.

I am extremely grateful to department staff members and friends who helped me in successfully completing this Training Project report.

I would like to express my sincere gratitude to the Training & Development Team at NICT Computer Education Pvt Ltd. for providing me with an excellent opportunity to learn about Tableau Desktop Software. The training program was a great learning experience that equipped me with practical skills and knowledge in data visualization and analysis.

I am grateful to the trainer **Mr. Shiva Kumar** for his dedication and commitment in imparting his knowledge and expertise. His patience and guidance helped me to develop a strong foundation in Tableau, and I feel confident in my ability to use the software effectively in my future endeavors.

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CHAPTER – 01

TABLEAU | BUSINESS INTELLIGENCE (BI)

1.1.INTRODUCTION

Tableau is a powerful business intelligence and data visualisation tool that enables users to connect, visualise, and exchange data in a natural and dynamic way. It was first made available from 2003 by Tableau Software, a division of Salesforce today. Tableau, is a well-known data visualisation tool, is used by many large and small businesses like, Nike, Coca-Cola, Skype, TCS, and Accenture. It is also widely used in the industrial world. Tableau is a classic data visualisation tool that is well-liked among the analytics industry because it offers support across platforms like Azure, Microsoft, Amazon, Redshift, etc. Tableau is simple to use and adaptable. Amazing visualisations may be created by anyone, even those without an analytics experience, with just a few lessons and pointers. Business intelligence-focused interactive data visualisation software provider Tableau Computer Software was established in 2003 in California and is currently headquartered in Seattle, Washington.

Tableau's drag-and-drop interface and interactive graphics were quickly adopted by businesses and organisations that wished to make data-driven decisions. Users can create visualisations that are easy to share and work on by connecting to a number of data sources, including database, spreadsheets, and cloud computing.

1.1.1.ORGANISATIONS THAT USE TABLEAU

Tableau is a well-known business intelligence and data visualisation programme that is utilised by a variety of enterprises in various sector. These are a few examples of companies using Tableau

Apple: Apple uses Tableau to analyze sales data from their retail stores, providing them with insights into which products are selling well and where they should focus their attention.

Facebook: Facebook uses Tableau to analyze user data, such as engagement metrics and user demographics. This information is used to optimize their advertising platform and to better understand their user base.

LinkedIn: LinkedIn uses Tableau to analyze data on their platform, such as user engagement and the effectiveness of their job postings. This helps them to make data-driven decisions and to improve the overall user experience.

Cisco: Cisco uses Tableau to analyze network performance data, enabling them to identify and resolve issues more quickly. This helps to improve the reliability and efficiency of their network infrastructure.

Coca-Cola: Coca-Cola uses Tableau to analyze sales data and to track the performance of their marketing campaigns. This helps them to optimize their marketing spend and to better understand which campaigns are resonating with their customers.

Adobe: Adobe uses Tableau to analyze data from their marketing campaigns, helping them to understand how their marketing efforts are impacting revenue and to make data-driven decisions about their marketing strategies.

1.2.THEORITICAL OVERVIEW

1.2.1.WHAT IS DATA VISUALIZATION ?

Users can build interactive and eye-catching data visualisation and business intelligence products using Tableau. visualizations of their data. In Tableau, data visualization involves creating charts, graphs, line charts, scatter plots, heat maps, and other visual representations of data to help users gain insights and make informed decisions based on the data. Users can customize these visualizations by adding labels, colors, and annotations to highlight specific data points or patterns.

1.2.2.WHAT IS TABLEAU ?

Tableau is a powerful tool for organising and visualising data. It makes it possible to create amazing dynamic visualisations without the use of code. Tableau is renowned for its capacity to process data input rapidly and produce the required data visualisation output. In short, it might convert your data into conclusions that direct your future behaviour. It provides resources for data organisation, and visualisation. For this, Tableau is well-known. Dashboard is able to do this while also guaranteeing the greatest levels of security and promising to fix security flaws as immediately as they are found by users or emerge on their own.

1.2.3.HOW DOES TABLEAU WORKS ?

- **Connect:** This involves connecting Tableau to any data source that we want to analyze. Tableau supports a wide range of data sources including spreadsheets, databases, cloud-based data sources, and more.
- **Analyze:** Once we have connected to your data source, we can analyze the data using Tableau's drag-and-drop interface. This includes filtering, sorting, grouping, pivoting, and aggregating the data to gain insights and create visualizations.

- **Share:** Finally, Tableau allows us to share our results with others. We can share workbooks with other Tableau users, paste results into applications such as Microsoft Office, print to PDF, or use Tableau Server to publish or embed our views across your organization.

1.2.4.WHY TO USE TABLEAU ?

Tableau is the visualisation tool with the quickest and most significant growth. It is fairly easy to use. There are no complex formulas, just like in spreadsheets and other graphical programmes. The development of interactive visual analytics is made easier by dashboards. These dashboards make it simpler for end users and non-technical professionals to transform data into acceptable ones. There are other BI solutions on the market, but Tableau stands out as the finest thanks to a few unique characteristics. Its ability to take data from any source of data and produce flawless dashboard visualisations is one of its many beneficial capabilities. It was created using best practises for data visualisation, and it regularly consults with its user base to meet the needs of new releases.

1.2.5.FEATURES OF TABLEAU

- **Data connectivity** - is made possible by Tableau, which offers seamless access to a variety of data sources, such as databases, spreadsheets, and cloud services.
- **Data blend** - Tableau gives customers the ability to combine data from several sources to provide a single, cohesive picture of their data.
- **Data preparation** - is made possible by the tools that Tableau offers for cleaning the data, transformation, and shape.
- **Data Visualization** - Tableau offers a variety of effective visualisation tools, such as bar graphs, line graphs, plots, map, and more, that let users design interactive dashboards and reports with eye-catching visuals.
- **Analytics** - Tableau offers advanced analytical tools that help customers find patterns and insights in their data. These tools include prediction, statistics, and data modelling.

- **Collaboration** - Tableau users may share and work together with coworkers and stakeholders on data visualisations, dashboards, and reports.
- **Smartphone Access** - Tableau offers mobile access to reports and dashboards so users may see their data while on the go.
- **Security** - Tableau has strong security measures that guarantee the privacy and security of user data, including as identity verification, encryption keys, and access controls.
- **Scalability** - Tableau has the capacity to manage enormous and intricate data sets, allowing users to interact in real-time with million of rows of data.

1.2.6.PRODUCTS OFFERED BY TABLEAU



Fig.1.1. Products Offered By Tableau

- **Tableau desktop:**

The core product of Tableau is a desktop programme called Tableau Desktop. Tableau Desktop allows you to do a limitless amount of data exploration, produce graphs and dashboard from the data, and more. Moreover, it enables connections to data stored locally or in the cloud, including data from spreadsheets, databases, big data, Google Analytics, Salesforce, and other sources. Tableau Desktop is a component of a Tableau Creator package and is available for 70 USD a month with a 14-day free trial.

- **Tableau public:**

Tableau offers Tableau Public, a free piece of software. It is used to produce data visualisations including information charts that can be shared via social

media or embedded into blogs, websites, etc. Using Tableau Desktop Public Edition, you may make visualisations for Tableau Public. The drawback to Tableau Server is that it does not allow for the private saving of data visualisations, making them publicly available on the internet. Therefore, this product is best suited to Tableau beginners, hobbyists, journalists, bloggers, and other people who are comfortable producing publicly accessible data visualisations.

- **Tableau online:**

Data visualisations, storyboards, data charts, and other types of data visualisations can be made using Tableau Online and fully hosted in the cloud rather than on local servers. A browser or even the Tableau smartphone apps can be used to build your visualisations and publish them online. While using Tableau Online, there is no need to be concerned about software updates, hardware scaling, or server configuration because the service is entirely hosted online. As a result, you can install Tableau Online in a matter of minutes and start using it for yourself or your business. This service is included in the Tableau Creator subscription and costs \$70 per month with a 14-day free trial.

- **Tableau server:**

Tableau Server is basically software that needs to be placed on a Linux or Windows server for your business. With many IT firms installing Tableau Server, these are widely used in the sector to build interactive data visualisations, do limitless data exploration, generate graphs and dashboard from the data, and more—all while being confident that their data is secure. In order to protect data security while still delivering data insights, Tableau Server may interact with already-used security protocols in organisations like Mysql, Shared Folders, Authentication, etc. This service is included in the Tableau Creator subscription and costs \$70 per month with a 14-day free trial.

- **Tableau Prep:**

Tableau Prep is a unique tool that minimises the human effort required for data preparation prior to data analysis. Using Tableau Prep Builder, data cleansing,

shaping, and merging can be done more quickly and effectively. You can manage and distribute the processed data flow inside the company using Tableau Prep conductor, a feature of Tableau Prep.

- **Tableau reader:**

The tool designed to view shared workbooks and files is called Tableau Reader. Although the information can be modified, it can only be filtered. Any user is able to view the files and dashboards supplied over the Tableau Server.

1.2.7.FUTURE SCOPE OF TABLEAU

Tableau is an effective data analytics and visualisation tool with a promising future. In the upcoming years, Tableau is anticipated to make a substantial impact on the following important areas:

- **Advanced Analytics:** To assist businesses in gaining a deeper understanding of their data, Tableau is anticipated to add additional advanced analytics capabilities, including machine learning, language processing, and data modeling.
- **Mobile Analytics:** Tableau is anticipated to continue enhancing its mobile analytics features, enabling users to access and engage with data while on the go, as increasing numbers of people access information on their mobile devices.
- **Data Collaborations:** Tableau is probably going to keep emphasising data collaboration features, making it easier for teams to exchange and work together on data and enhancing data-driven decision-making throughout the organisation.
- Tableau is probably going to keep concentrating on cloud-based solutions that let customers save and obtain data remotely and analyse it in real-time.
- **Data Governance:** Tableau is anticipated to add more data governance tools to help businesses manage and safeguard their data as data compliance and security become increasingly crucial.

1.2.8.ADVANTAGES OF TABLEAU

- Calculations are performed quickly on the backend of the tableau, making it comparatively faster than competing tools.

- Tableau dashboards are incredibly dynamic and simple to create.
- There are no manual computations; just the Tableau is used. There is no manual computation; nonetheless, in some limited circumstances, we have used calculated fields.
- A lot of data: Tableau is capable of handling a lot of data. Large volumes of data can be seen in a variety of ways while maintaining overall performance of the dashboards.
- The diversity of visualisation options offered by Tableau improves the user experience, making implementation simple. Python is far more difficult to learn than Tableau. Even if they've never programmed before, they can pick up Tableau quickly.
- Huge Amounts of Data Can Be Handled by Tableau: Millions of row data sets may be handled with ease with Tableau. A large amount of data can be visualised in a variety of ways without affecting the dashboards' usability. Moreover, Tableau provides a tool that enables users to use several data sources, including SQL.

1.2.9.DISADVANTAGES OF TABLEAU

High Cost: Because tableau is a premium visualisation tool, it's a reason why fewer people use it.
Minimal Data Preprocessing: Tableau is generally used as a tool for data visualisation. Using Tableau Desktop, you may perform very basic preprocessing.

Report scheduling: Tableau does not offer automatic report scheduling. As a result, altering the data inside the back end takes some user-initiated labour. Tableau's parameters are static and always choose a single value, making them single-value parameters. These parameters must also be manually updated each time the data is altered. Users are without any other means to automate parameter updating.

Knowledge of SQL: You need to be proficient with SQL in order to construct complex datasets from a range of data sources. Once the dataset is prepared, a tableau is a fantastic tool for corporate customers to experiment with the data.

No Version control: You cannot return to previous data levels once the dashboards or reports have been published on the server by Tableau. Erased data cannot be recovered, and time travel is not possible.

CHAPTER - 02

NICT INSTITUTE PROFILE

2.1.OVERVIEW

NICT Computer Education Pvt Ltd is a well-known computer education and training institute based in Bangalore, India. The institute was established in 1996 and has since expanded to several locations across the country. NICT offers a range of IT courses and programs to students, professionals, and corporate clients, making it a popular choice for those looking to develop their skills in the field of technology.

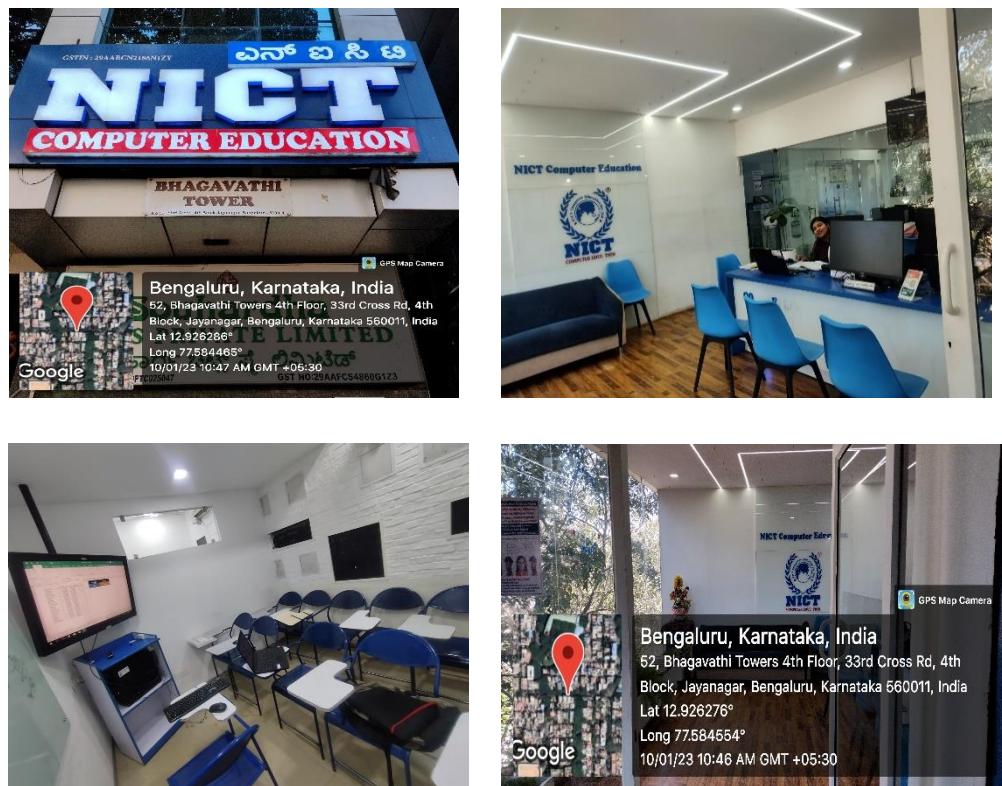


Fig.2.1 NICT Computer Education Pvt Ltd

- In order to provide inexpensive, high-quality IT education, NICT was founded in Bangalore in 1996.
- NICT offers 40 training sites in India, including 14 in Bangalore.
- Almost 80 colleges in Bengaluru are connected to NICT.
- NICT has received ISO 9001:2015 certification.
- Tally, Microsoft Office, IIT Bombay, and SAP all have NICT on their official list of training and assessment partners.
- For the purpose of offering internships to students majoring in business, management, and engineering, NICT is an official partner of TCS and Kotak.
- The Department of Collegiate Education of the Government of Karnataka has registered NICT.
- More than 10 million students have received training and certification from NICT, and those graduates have been hired by numerous notable firms including Infosys, Wipro, Amazon, Cap Gemini, Reliance, the Birla Company Group, TCS, PayTM, several Banks, and others.
- NICT's competence extends beyond IT education to include soft skills, multimedia & animations, hardware & networking, personality development, and live projects for engineering, MCA, and BCI students.
- NICT offers very affordable high-quality computer instruction that meets very high standards. The goal of NICT is to develop a pool of top-notch software specialists who can satisfy the demanding requirements of global enterprises for today's challenges.
- By the use of a well-equipped lab and a one-to-one student ratio, training techniques have been improved for "learning" instead of "teaching" Theoretical the practical lessons are designed and supported with colour Pentium PCs in each classroom for in-person demonstrations.

2.2.OUR PHILOSOPHY

We think that lifelong learning and training in the most recent computer technologies are crucial components of a great career in the IT sector. Students receive training in a multicultural setting that promotes interactive learning that is focused on the computerised business environment of today.

With the use of simulated projects created to meet industrial needs, NICT places the most emphasis possible on the projects. "Practice makes perfect," they say. a viewpoint that is universally held at NICT. This is quite clear from the fact that the Successful education, a common idea in contemporary education, give greater computer time than theory.

2.3.FACILITIES

Our labs are equipped with contemporary technologies that demonstrate a multi-environment, multi-user connected throughout all terminals. The system has the ability to run multiple operating systems at once, including MSDOS, Windows, Unix, and Linux. It also has a generator and a UPS power backup to ensure an uninterrupted power supply for rapid Internet connectivity.

2.4.WORKING HOURS

Mon, Wed, & Friday are the days that classes are scheduled, or Tues, Thur, and Saturday.

& Sundays, the centres will open from 9:00 AM - 1:00 PM

2.5.BENEFITS

- Complete Placement Support
- Cellular Centralized Placement
- Pre-Employability Test: Assess the skills and improve them
- Using a video and visual CV will increase your chances of landing a job.
- Real-time learning courses for software training Created in accordance with the advice/recommendations of the Academic Panel and the Industry, including practise on workbooks and real-world case studies
- Free Videos & Visual Resume to connect with employers more quickly
- NICT was founded in 1996 and now has 40 training facilities spread across the states of Karnataka, Tamil Nadu, and Andhra Pradesh. Bangalore houses NICT's corporate headquarters.

2.6.COURSES OFFERED BY NICT

NICT's courses cover various topics, from basic computer skills to advanced programming languages, software development, and networking. Some of the popular courses offered by NICT include:

- Diploma in Software Engineering
- Diploma in Computer Applications
- Diploma in Web Development
- Diploma in Digital Marketing
- Certificate Course in Java Programming
- Certificate Course in Python Programming
- Certificate Course in Cyber Security
- Apart from these courses, NICT Computer Education Pvt Ltd in Bangalore also offers certification courses in different areas of IT, Tableau, Power BI, MySQL, including software development, web development, Database management, and networking. The institute provides training in popular certification programs like Microsoft, Cisco, Oracle, and Adobe.

2.7.BRANCHES

NICT Computer Education Pvt Ltd has multiple branches located in different parts of the city. Here are the details of NICT Computer Education Pvt Ltd branches in Bangalore:

- Jayanagar
- Koramangala
- Malleswaram
- Rajajinagar
- Marathahalli
- BTM Layout

CHAPTER-3

TRAINING WORK UNDERTAKEN

3.1. TRAINING OVERVIEW

As I attended Tableau Desktop sessions at NICT institution, my experience was both informative and engaging. The class was led by an experienced instructor who provided a comprehensive overview of the Tableau Desktop tool and its various features.

During the class, I was provided with hands-on exercises that allowed me to apply the concepts I had learned in real-world scenarios. The instructor also provided us with real-time data, which helped us to better understand how to connect to data sources and create visualizations and reports.

The hands-on exercises included tasks such as connecting to data sources, creating data models, and building custom visualizations and reports. These projects were designed to simulate real-world business problems and required us to apply our knowledge of Tableau Desktop to solve them, providing us with valuable experience that we could apply in our future work.

One of the things that stood out to me was the level of customization available in Tableau Desktop. The instructor showed us how to tailor visualizations and reports to meet the specific needs of our organization, which was very helpful.

In addition to the projects, we were also given case studies that demonstrated how Tableau Desktop had been used to solve real-world business problems. This provided valuable insight into the practical applications of the tool and helped us to better understand how to leverage it to gain a competitive advantage.

Throughout the course, the instructor provided us with real-time data that helped us to better understand how to connect to data sources and create visualizations and reports. We also had access to a range of resources, including online forums and support materials, that helped us to troubleshoot any issues we encountered while working on our projects and assignments.

Overall, my experience attending the Tableau Desktop sessions was very positive. The instructor was knowledgeable and engaging, and the hands-on exercises and case studies provided a practical and relevant learning experience. I feel much more confident in my ability to use Tableau Desktop effectively after attending the class and am excited to apply my new skills in my future work.

3.2.SEQUENTIAL LEARNING STEPS

Table:3.1

| WEEK - 1 | | | | |
|-----------------|-------------|--|---|----------------------------------|
| SL NO | DATE | TOPIC | WORK DONE | METHODOLOGY |
| 1 | 05.01.2023 | Introduction | Introduction to Tableau Desktop | Theoretical & Practical learning |
| | | | Features of Tableau | |
| | | | Understanding Data sources | |
| | | | Installing and setting up Tableau Desktop | |
| 2 | 06.01.2023 | Understanding Tableau Interface & Navigation | Registration of Tableau Desktop | Practical learning |
| | | | Working with multiple data sources like Excel Files & Text Files Etc. | |
| | | | Working with worksheets and sheets | |
| | | | Understanding Dimensions and Measures | |
| 3 | 07.01.2023 | Creating Interactive Dashboards | Creating First Report | Concept Based Learning |
| | | | Importing SampleSuperStore Data Set | |
| | | | Creating basic charts and graphs in Tableau | |
| | | | Working with filters and sorting data | |
| | | | Creating hierarchies and groups in Tableau | |

Table:3.2

| WEEK - 2 | | | | |
|-----------------|-------------|---|--|-------------------------|
| SL NO | DATE | TOPIC | WORK DONE | METHODOLOGY |
| 4 | 09.01.2023 | Tableau Basic Reports | Using parameters, Edit Groups, Set, Combined Sets, Data Labels, Create Folders, Sorting Data, Add Totals to Reports in Tableau Bins joining tables, Data blending | Working on Software |
| 5 | 11.01.2023 | Advanced Chart Types and Visualizations (A) | Creating Side by Side Bars Chart in Tableau | Instructor led Training |
| | | | Creating Heatmaps in Tableau | |
| | | | Creating Horizontal Bar in Tableau | |
| | | | Creating Tree Map in Tableau | |
| 6 | 13.01.2023 | Advanced Chart Types and Visualizations (B) | Bar Chart, Donut Chart | Instructor led Training |
| | | | Bubble Chart | |
| | | | Highlight Table | |
| | | | Cumulative Histogram | |
| | | | Pie Chart | |
| | | | Stacked Bar chart, Text Lable. | |

Table:3.3

| WEEK - 3 | | | | |
|----------|------------|---------------------------------------|---|-------------------------|
| SL NO | DATE | TOPIC/Tittle | WORK DONE | METHODOLOGY |
| 7 | 17.01.2023 | Tableau Advanced Reports | Symbol Map | Working on Software |
| | | | Basic Map | |
| | | | Dual Axis Reports | |
| | | | Blended Axis | |
| 8 | 19.01.2023 | Practical Exercises and Hands-On Labs | Creating interactive dashboards in Tableau | Project Based Training |
| | | | practices for designing effective visualizations in Tableau | |
| | | | Using advanced functions in Tableau | |
| 9 | 21.01.2023 | Tableau Calculations (A) | Basic arithmetic calculations | Instructor led Training |
| | | | Aggregation calculations | |
| | | | Logical calculations | |

Table:3.4

| WEEK - 4 | | | | |
|----------|------------|-----------------------------|-----------------------------------|-------------------------|
| SL NO | DATE | TOPIC | WORK DONE | METHODOLOGY |
| 10 | 24.01.2023 | Tableau Calculations (B) | Date and time calculations | Instructor led Training |
| | | | Table calculations | |
| | | | Level of Detail (LOD) expressions | |
| | | | Advanced calculations in Tableau | |
| 11 | 27.01.2023 | Introduction to Filters (A) | Quick Filters | Working on Software |
| | | | Filters on Dimensions | |
| | | | Conditional Filters | |
| | | | Top and Bottom Filters | |
| | | | Filters on Measures | |

Table:3.5

| WEEK - 5 | | | | |
|-----------------|-------------|-----------------------------|---------------------------------------|------------------------|
| SL NO | DATE | TOPIC | WORK DONE | METHODOLOGY |
| 12 | 31.01.2023 | Introduction to Filters (B) | Context Filters | Working on Software |
| | | | Relative date filters | |
| | | | Data Source Filters & Extract Filters | |
| 13 | 02.02.2023 | Tableau Dashboards | Creat a Dashboard | Project Based Training |
| | | | Format Dashboard Layout | |
| | | | Create Filters on Dashboard | |
| | | | Dashboard Objects | |
| 14 | 04.02.2023 | Creating Dashboards | Pic charts, Side by Side Bar Charts | Project Based Training |
| | | | Bar chart, Bubble Chart | |
| | | | Geographical Map | |
| | | | Donut chart | |
| | | | Tree Map etc. | |

Table:3.6

| WEEK - 6 | | | | |
|-----------------|-------------|---|---|---------------------|
| SL NO | DATE | TOPIC | WORK DONE | METHODOLOGY |
| 15 | 07.02.2023 | Real-World Tableau Projects and Case Studies | Best practices for designing effective dashboards in Tableau | Self Paced Training |
| | | | Choosing the right chart type and visualization for your data | |
| | | | Designing user-friendly and interactive dashboards in Tableau | |
| | | | Using layout containers, floating objects, and tiled objects in Tableau | |
| | | | Creating motion charts and animations in Tableau | |
| 16 | 11.02.2023 | Collaborating and Sharing with Tableau Online | Creating custom dashboards and templates in Tableau | Working on Software |
| | | | Publishing Workbooks to Tableau Public | |
| | | | Conclusion and wrap-up. | |

Table:3.7

| SL NO | LAB PRACTESS |
|--------------|---|
| 1 | I'm working on the Sample Super Store dataset as part of my Tableau learning curriculum. |
| 2 | I'm manually creating data in Excel and completing projects and assignments, including case studies. |
| 3 | The instructor has provided real-time data for visualizations and reports, & I'm practicing Tableau calculations. |
| 4 | Working on our projects, case studies & Assignments. |
| 5 | Practice on Tableau Calculations & Working with filters and sorting data |
| 6 | Experiment with different chart types and visualizations to find the most effective way to present your data. |
| 7 | Creating multiple dashboards and publishing them to Tableau Public. |

CHAPTER - 04

RESULTS & OUTCOME OF THE TRAINING

4.1.INSTALLING TABLEAU DESKTOP

Step 1: Go to the Tableau Desktop download page on the Tableau website that is <https://www.tableau.com/products/desktop/download> Here we have to create a Tableau Desktop Account to do that we need to Fill all the basic Details & Click on Download Free Trail

Tableau Desktop: Start your free 14-day trial

Almost there!

It only takes 15 seconds to fill out. If you're already registered, [sign in](#).

First Name

Last Name

Business E-mail

Organization

- Company Size -

- Department -

- Job Role -

- Country/Region -

Phone (e.g. (201) 555-0123)

By registering, you confirm that you agree to the processing of your personal data by Salesforce as described in the [Privacy Statement](#).

[DOWNLOAD FREE TRIAL](#)

Fig.4.1. Installing Tableau Desktop

Step 2: This will start downloading the .exe file for Windows by default, and you can see the downloading process in the bottom left corner of the website.

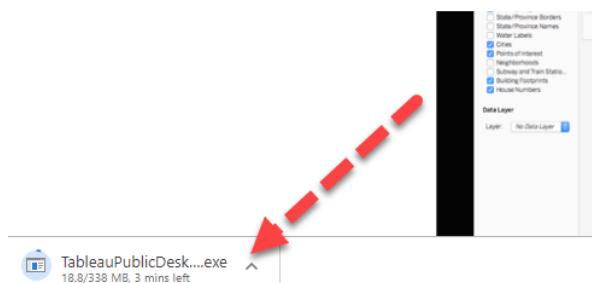


Fig.4.2. Installing Tableau Desktop

4.2.START THE INSTALLATION WIZARD

Step 3: Double-click the Tableau 2023.1 (20231.23.0310.1044) Accept the terms and conditions and click on “Install” buttonIt will present a screen to allow the installation program to run. Click “Run”.

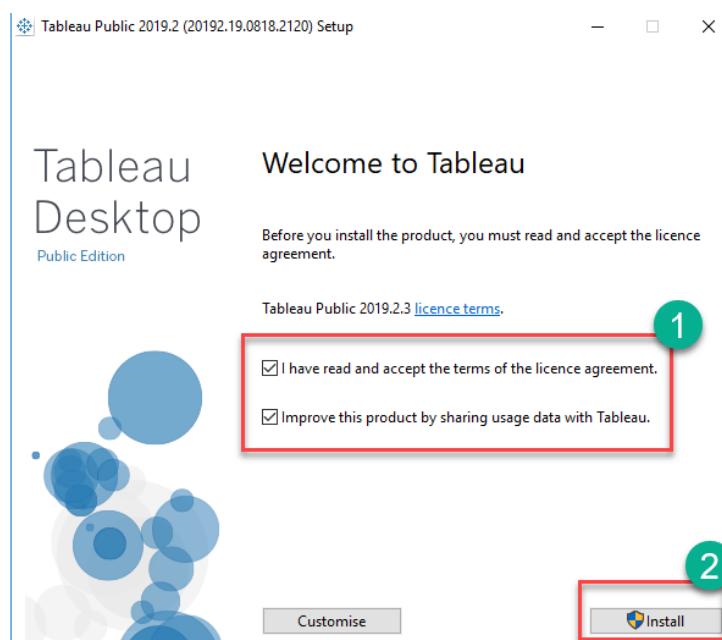


Fig.4.3. Start the installation wizard

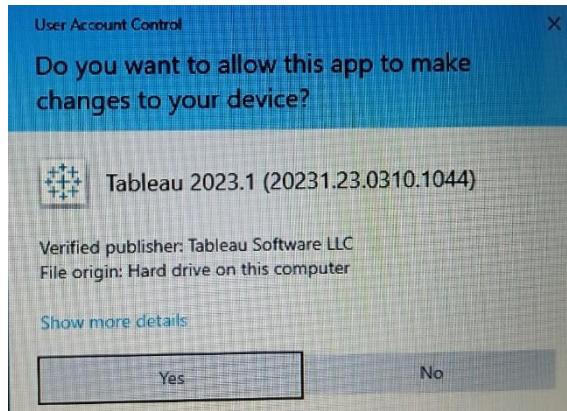


Fig.4.4. Start the installation wizard

4.3.START TRIAL

On completion of the installation, the screen prompts you with the option to Start the trial now or later. You may choose to start it now. Also, if you have purchased Tableau then you may enter the License key.

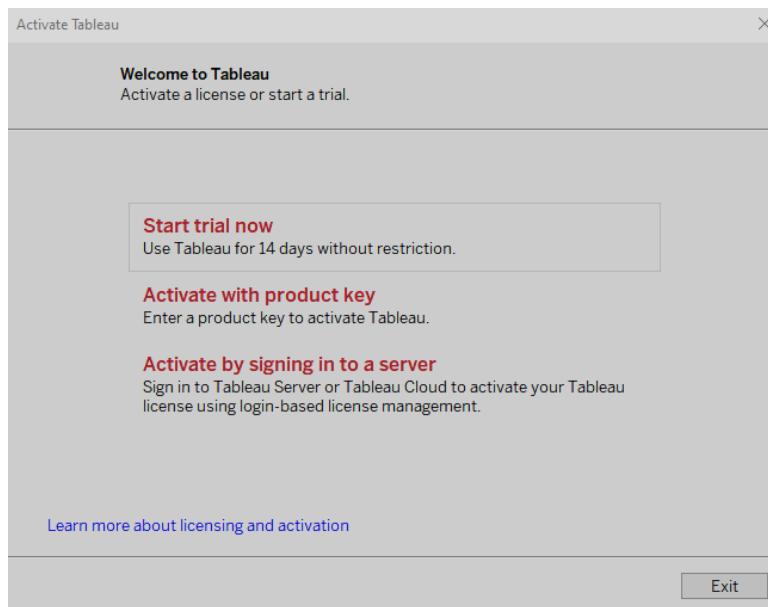


Fig.4.5. Start Trail

4.4.PROVIDE YOUR DETAILS

Provide your Email. Then, click "Register".

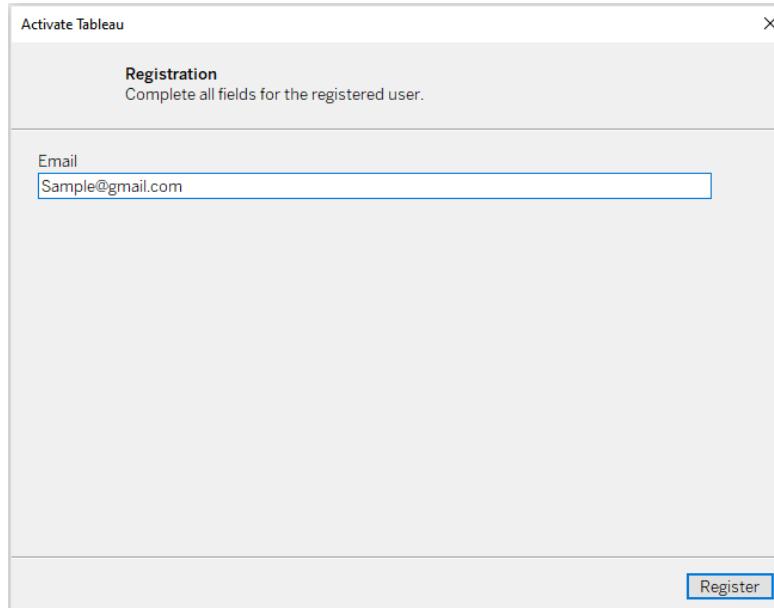


Fig.4.6. Provide Your Details

4.5.REGISTRATION COMPLETE

The registration completion screen appears. Click "Continue".

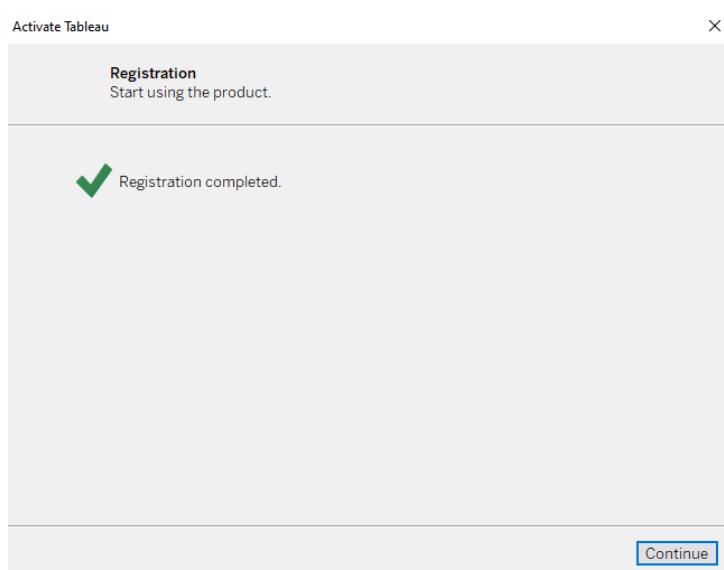


Fig.4.7. Registration Complete

4.6.VERIFY THE INSTALLATION

You can verify the installation by going to the Windows start menu. Click the Tableau icon. The following screen appears.

4.7.FILE TYPES USED IN TABLEAU

We can save our work in Tableau using a variety of Tableau-specific file types. The various file types that Tableau supports are as follows:

Table:4.1

| File Type | File Extension | Description |
|------------------------------|----------------|---|
| Tableau Workbook | .twb | Contains information about worksheets, dashboards, and stories. |
| Tableau Packaged Workbook | .twbx | A packaged zip file that allows users to share their work with those who don't have access to the original data. |
| Tableau Data Source | .tds | A shortcut file that quickly connects to the original data used often. |
| Tableau Packaged Data Source | .tdsx | A zip file that contains the data source file and any local file data such as extract files, text files, Excel files, Access files, and local cube files. |
| Tableau Data Extract | .tde or .hyper | A local copy of a subset or entire dataset that can be used to share data with others when working offline and to improve performance. |
| Tableau Bookmark | .tbm | Enables users to save worksheets and share them with others so that they don't have to create a new worksheet from scratch and can use it in their workbooks. |

4.8.DATA TYPES IN TABLEAU

| Data Type | Icon | | |
|----------------------|------|-------------------|-----|
| | | Boolean values | T F |
| Text (string) values | Abc | | |
| | | Geographic values | ⊕ |
| Date values | 🕒 | | |
| | | Cluster Group | ⌚ |
| Date & Time values | 📅 | | |
| | | | |
| Numerical values | # | | |

Fig.4.8. Data Types in Tableau

You are now ready to learn Tableau.

4.9.CONNECTING TO DATA SOURCES IN TABLEAU

Tableau has the ability to connect to a variety of data sources. It can link to files already on your machine, including text documents, JSON, PDF, Microsoft Excel, and more. Additionally, it may access information stored on database servers like SQL Server from Microsoft, Oracle, MySQL, Teradata, etc. Additional saved data sources are available for Tableau to connect to. Furthermore, it has the ability to connect to and retrieve data from cloud storage systems including Amazon Web Services, SQL Server Data Warehouse, & Google's Cloud SQL.

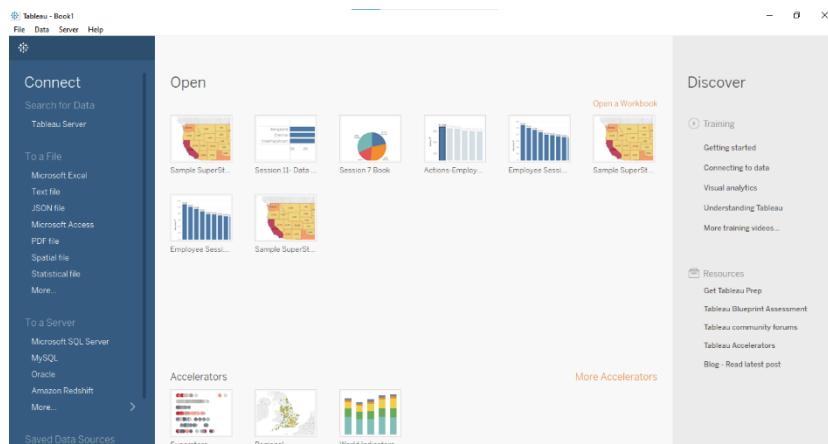


Fig.4.9. Connecting to Data Sources

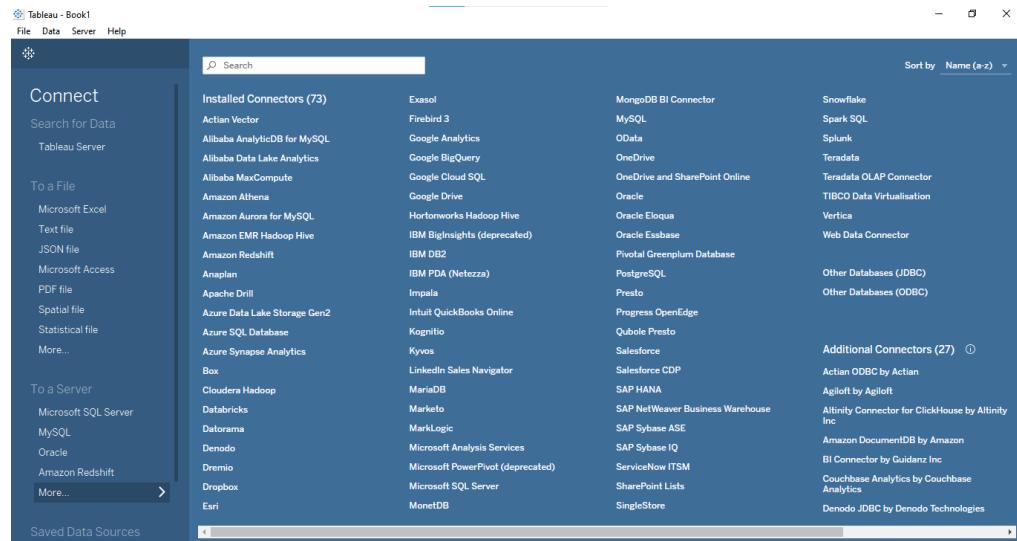


Fig.4.10. Connecting to Data Sources

The example that demonstrates how to import an excel file into Tableau Desktop.

Tap on Microsoft Excel under Connect. Find the Excel file that will be exported the dataset to Tableau on your computer. I have uploaded the sample data - Superstore dataset, as you can see below. Drag the necessary sheets over to the "Drag sheets here" area.

You can now view all of the dataset's fields in Dimensions and Measures by clicking on Sheet 1

| Row ID | Order ID | Order Date | Ship Date | Ship Mode | Customer ID |
|--------|----------------|------------|------------|----------------|-------------|
| 1 | CA-2016-152156 | 08-11-2016 | 11-11-2016 | Second Class | CG-12520 |
| 2 | CA-2016-152156 | 08-11-2016 | 11-11-2016 | Second Class | CG-12520 |
| 3 | CA-2016-138688 | 12-06-2016 | 16-06-2016 | Second Class | DV-13045 |
| 4 | US-2015-108966 | 11-10-2015 | 18-10-2015 | Standard Class | SO-20335 |
| 5 | US-2015-108966 | 11-10-2015 | 18-10-2015 | Standard Class | SO-20335 |

Fig.4.11. Exporting Excel File Dataset

4.10.TABLEAU DESKTOP INTERFACE

Let's learn all about its UI. The workspace, or user interface, of Tableau Desktop is made up of menus, and toolbar, cards, shelves, a data and analytics pane, and other sheets for making reports, dashboards, & stories. The Tableau Desktop user interface appears as follows:

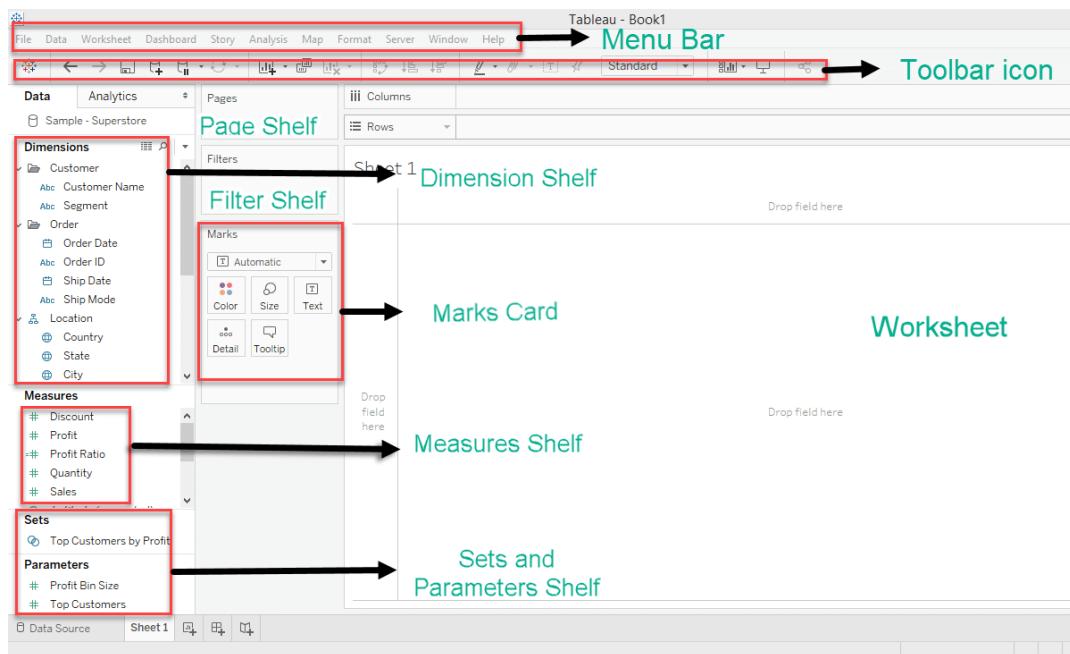


Fig.4.12. Tableau Desktop Interface

4.11.MEASURES AND DIMENSIONS IN TABLEAU

Tableau automatically separates the data onto dimensions and measures after you load a dataset. This is visible on the workspace area located below the data window.

Dimensions are usually categorical fields that cannot be aggregated, while measures are numerical fields that can be measured, aggregated, or manipulated.

Measures are denoted in green, while dimensions are denoted in blue.

| Dimensions | Measures |
|------------------|-----------------------|
| Abc Product N... | # Discount |
| Abc Region | # Profit |
| # Row ID | # Quantity |
| Abc Segment | # Sales |
| Ship Date | Latitude (generat...) |
| Ship Mode | Longitude (gener... |
| Abc Sub-Category | * Number of Recor... |
| | * Measure Values |

Fig.4.13. Measures & Dimensions

"Below are the visualization dashboards that I have made using the Sampsuperstore dataset in my Tableau learning curriculum."

1. The following is a simple table that will analyze sales and profit for different subcategories of products across various regions.

The screenshot shows the Tableau interface with the 'Orders (Sample - Superstore)' sheet selected. The sidebar on the left lists 'Connections' (Sample - Superstore) and 'Sheets' (Orders, People, Returns). The main area displays a table titled 'Orders' with 21 fields and 9994 rows. The table includes columns such as Order ID, Order Date, Ship Date, Ship Mode, Customer ID, Customer Name, Segment, and Country. A message at the top right says 'Need more data? Drag tables here to relate them. Learn more'.

Fig.4.14. Sample Super Store Data Set

2. The following is a samplesuperstore data set table that will analyze sales and profit for different subcategories of products across various regions.
The side-by-side bar chart is used to visualize sales and profits for different subcategories of products under each category.

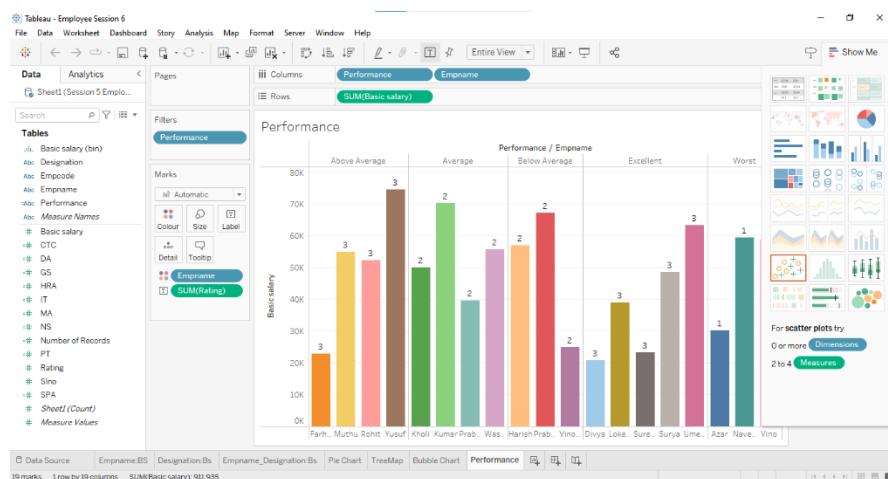


Fig.4.15. Side by Side Bar Chart

3. Maps in Tableau help users visualize geographic data and analyze certain measure values. The following is an example of analyzing sales and profits across different states in the US. Drag the country field on to the view and expand it to see all states.

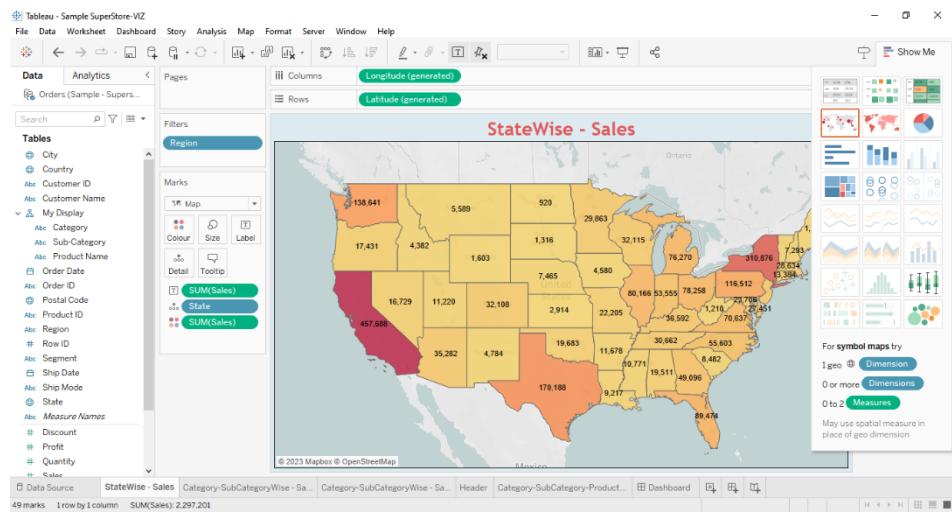


Fig.4.16. State Wise Sales Map

The most profitable states were those highlighted in red, while the least profitable states were those highlighted in orange. This demonstrates that California, followed by New York, has the biggest sales and profits. It also demonstrates that Texas had respectable sales but the lowest overall profit.

Sales should be moved to the size card, and profit should be moved to the colour card. Change the colour and enlarge the bubbles for sales.

4. The horizontal bar chart below shows sales of different subcategories of products with the color of the bars indicating the Sales. Sort the sales axis in descending order and change the color of the bars using a different palette.

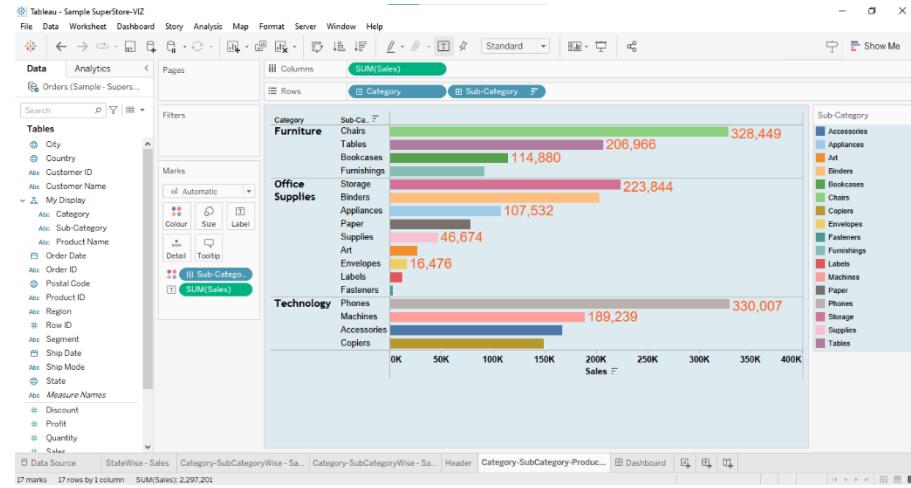


Fig.4.17. The Horizontal bar chart

Phones made the highest amount of sales, while copiers had the highest profit.

5. As you can see, we have four sheets placed on the dashboard. There is a side-by-side bar chart, a map, and a horizontal bar chart that provides a clear picture of sales and profit across different regions, states, order dates, categories and subcategories of products.

You can use them as a filter to view the visualizations for a certain category of product, region or a state. In our demo, we'll use the state wise sales for our filter.

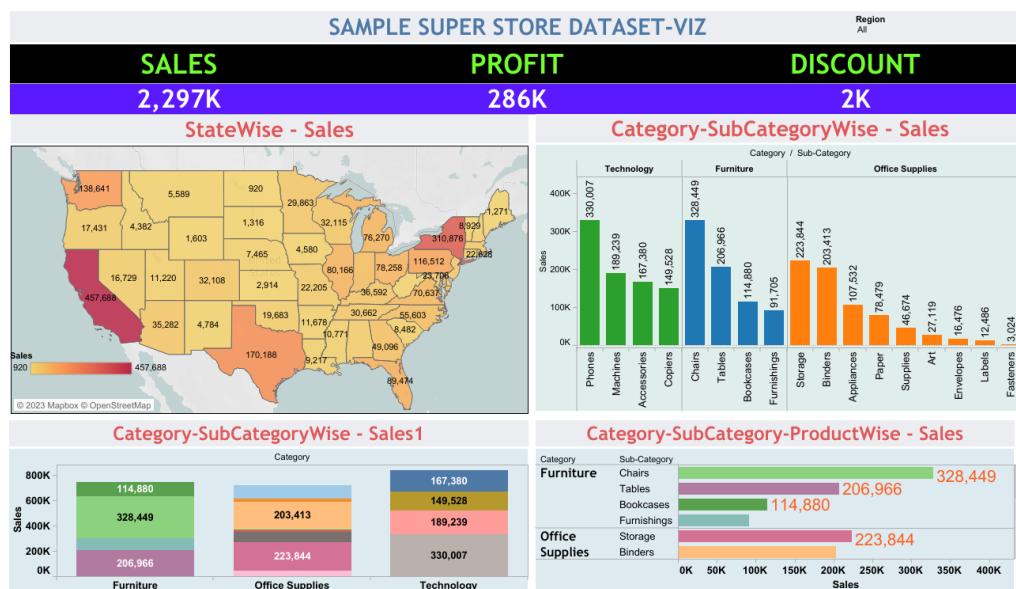


Fig.4.17. SampleSuperStore Dataset-Viz

4.12.EMPLOYEE REPORT DATASET RESULTS

Here, I have created an employee Report dataset using Excel and imported it into Tableau. I created visualizations using a pie chart, tree map, and bubble chart."

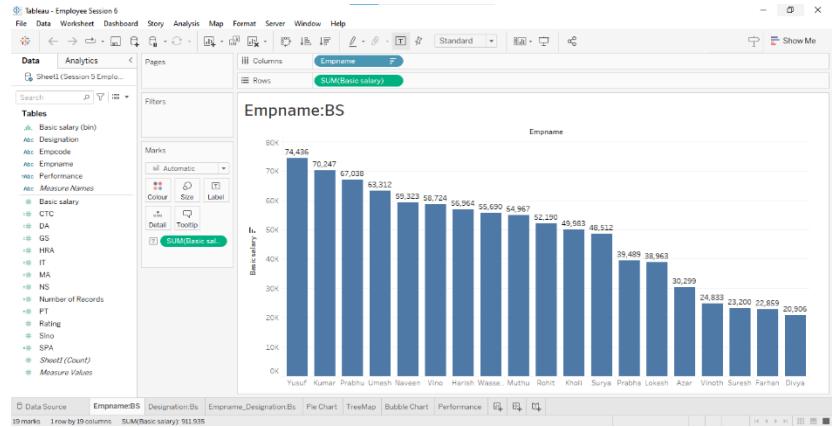


Fig.4.19. Employee Report Dataset

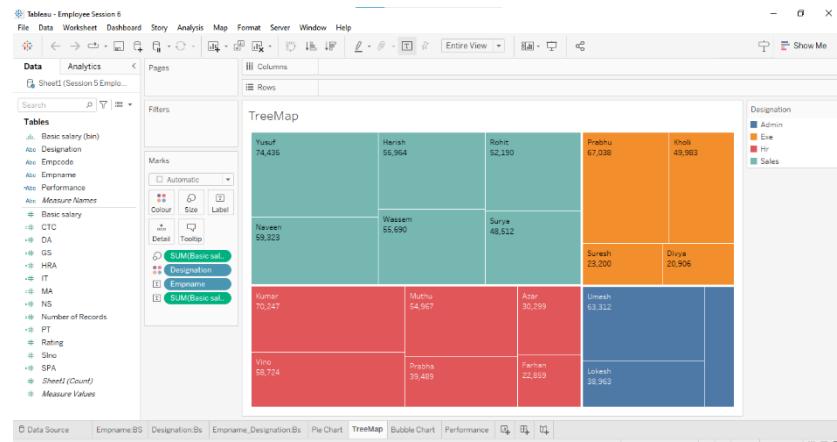


Fig.4.20. Treemap

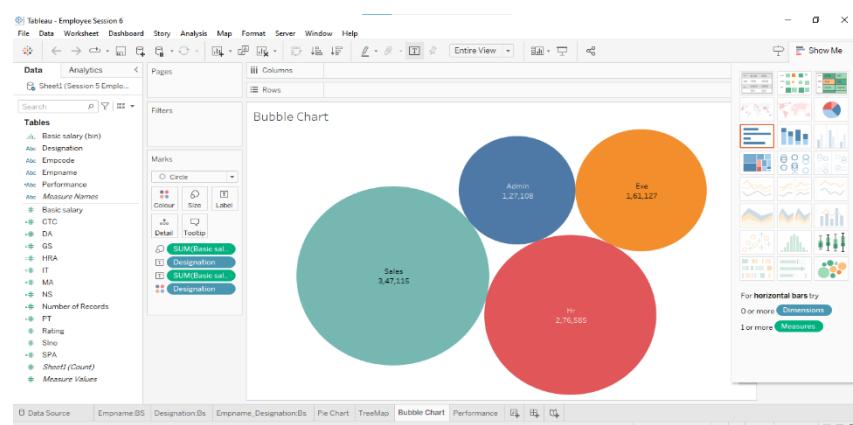


Fig.4.21. Bubble chart

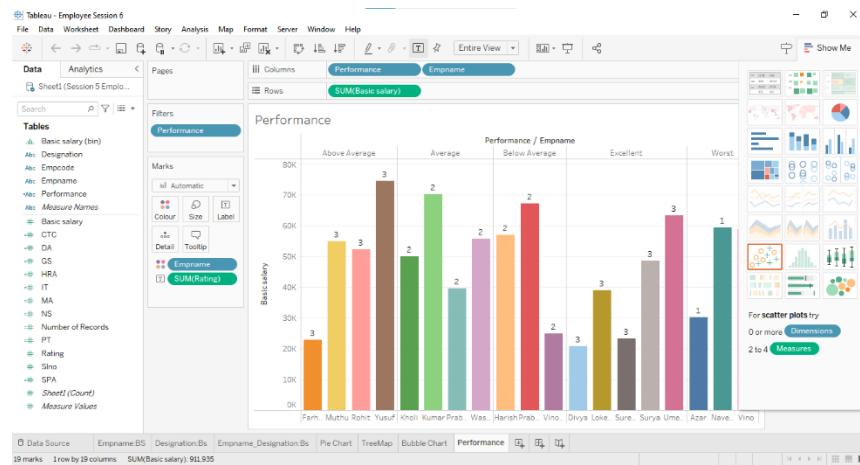


Fig.4.22. Employee Performance

4.13.ADD FILTERS IN TABLEAU

Here we'll add all the filters like Measure filters, Context filters, Top N filters, Relative date filters, Wildcard filters, Conditional filters as per the requirements shared.

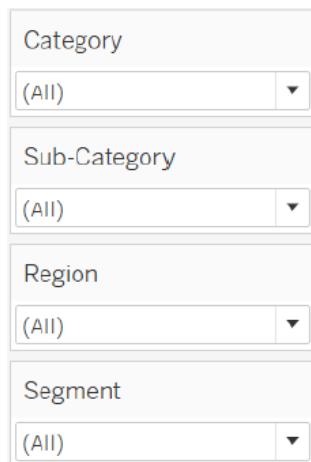


Fig.4.23. Adding Filters in Tableau

Show four filters- Category, Sub-Category, Region, and Segment. These filters should have only relevant values.

- KPIs" that should show the following-
- Total Discount
- Overall Profit
- Total Quantity
- Total Sales

4.14.SHARING AND PUBLISHING A TABLEAU WORKBOOK

Once we have created a Tableau workbook, we can share and publish it with others in a number of ways. Here are some of the most common methods:

Tableau Public: Tableau Public is a free platform that allows you to publish your workbooks to the web and share them with anyone. Your workbook will be visible to anyone who visits the Tableau Public website, and you can also embed it on your website or blog. Note that any data you publish to Tableau Public becomes publicly accessible and cannot be made private.

In this section I'll walk you through how to publish your viz from Tableau Desktop to Tableau Public. Once you've completed your dashboard, follow these steps:

- Server, Tableau Public, Save to Tableau Public As *You may be prompted to log into your Tableau Public profile first if this is your first time publishing.

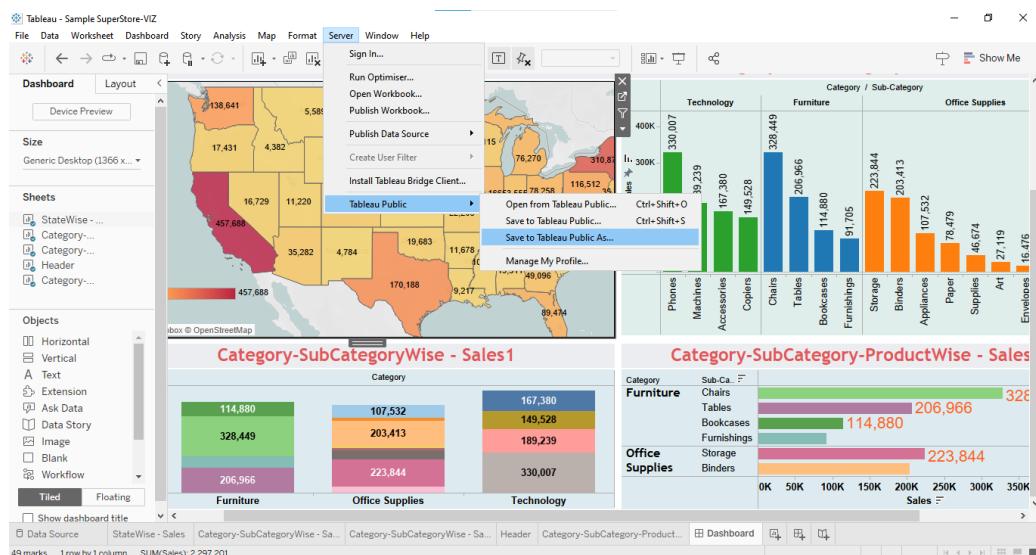


Fig.4.24. Publishing Tableau Workbook

Tableau Public Sign In

 + a b l e a u

You can now access Tableau Public using your Tableau account. If this is your first time signing to Tableau Public this way, you can set your Tableau account password with [reset password](#).

Sign In

Email
Password
 Remember me

Fig.4.25. Tableau Public credentials

Please provide your Tableau Public credentials and click on 'Sign In'

⚠ Save Workbook to Tableau Public

Publishing this workbook will make it available on the Tableau Public website. Make sure it doesn't contain private or confidential information.

Workbook Title
Sample SuperStore-VIZ

Cancel **Save**

Fig.4.26. Save Workbook to Tableau Public

Please provide a file name for your workbook and click on the 'Save' button to publish your dashboard to Tableau Public.

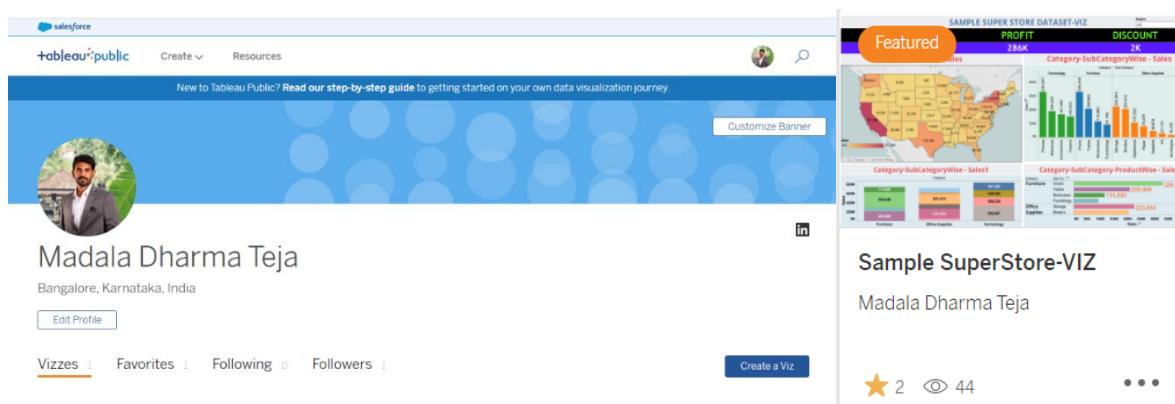


Fig.4.27. Dashboard Published

Here you see that my dashboard has been Published.

ST. FRANCIS COLLEGE

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CHAPTER – 5

5.1.CONCLUSION

I can confidently say that it was an incredible learning experience. The training provided a comprehensive overview of Tableau Desktop and equipped me with the knowledge and skills necessary to create insightful visualizations and reports.

The instructor was knowledgeable and patient, and their teaching style was engaging and effective. The hands-on exercises and real-world examples helped my understanding of the material and provided an opportunity to apply what I learned.

One of the greatest benefits of the Tableau Desktop offline training class was the ability to learn at my own pace and ask questions when needed. The small class size allowed for individual attention and personalized support.

The Tableau Desktop offline training class not only covered the technical aspects of the software but also emphasized the importance of data visualization best practices. I learned how effectively communicate data insights through visualizations, and how to design reports that are both aesthetically pleasing and easy to understand.

In addition to the technical skills and best practices covered in the Tableau Desktop offline training class, the course also provided an opportunity to network with other professionals in the field. I was able to connect with other students who shared similar interests and challenges in data analysis and reporting, and we were able to share insights and ideas.

The training materials were well-organized and easy to follow, and the instructor was able to explain complex concepts in a way that was easy to understand. The hands-on exercises were challenging but achievable, and I felt a sense of accomplishment when I was able to complete them successfully.

The Tableau Desktop offline training class provided me with a competitive edge in the job market. With the increasing importance of data analysis and reporting in many industries, having a strong understanding of Tableau Desktop and the ability to create compelling visualizations and reports is highly valued by employers.

Overall, the Tableau Desktop offline training class was a valuable investment in my professional development. I gained new skills and knowledge that I can apply in my current role and future career opportunities. I highly recommend this training to anyone looking to improve their data analysis and reporting skills or seeking to gain a competitive edge in the job market.

5.2.REFERENCES

Tableau's official website: <https://www.tableau.com/learn/training>.

Tutorialspoint Website: <https://www.tutorialspoint.com/tableau/index.htm>

Intellipaat Website: <https://intellipaat.com/blog/tableau-projects/>

Simplilearn Website: <https://www.simplilearn.com/>

Guru99 Website: <https://www.guru99.com/what-is-tableau.html>

MindMajix Website: <https://mindmajix.com/tableau-reporting>

Coursehero Website: <https://www.coursehero.com/>

BOOKS

"Data Visualization with Tableau" by Praveen Kumar

"Tableau For Beginners" by Tech Demystified Publishers

"Tableau For Beginners & Advanced Users" by Wisdom Scholars

"Tableau For Experts" by Paul Takac

"Live class notes on Tableau by NICT faculty lectures."

TRAINING PROGRAM ON TABLEAU SOFTWARE IN NICT INSTITUTE - MADALA DHARMATEJA - P18IW21M0041

ORIGINALITY REPORT



PRIMARY SOURCES

| | | |
|--|---|----|
| 1 | www.simplilearn.com Internet Source | 5% |
| 2 | www.coursehero.com Internet Source | 2% |
| 3 | Submitted to Saint Andrew's Junior College Student Paper | 2% |
| 4 | Submitted to Visvesvaraya Technological University, Belagavi Student Paper | 1% |
| 5 | docplayer.net Internet Source | 1% |
| 6 | www.thetableaustudentguide.com Internet Source | 1% |
| 7 | oxfordjsr.com Internet Source | 1% |
| 8 | www.hdfstutorial.com Internet Source | 1% |
| www.kitsonlinetrainings.com | | |

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| 9 | Internet Source | <1 % |
| 10 | www.besanttechnologies.com Internet Source | <1 % |
| 11 | www.ijmra.us Internet Source | <1 % |
| 12 | core.ac.uk Internet Source | <1 % |
| 13 | www.guru99.com Internet Source | <1 % |
| 14 | www.northernspeech.com Internet Source | <1 % |
| 15 | Submitted to Middlesex University Student Paper | <1 % |
| 16 | dspace.dtu.ac.in:8080 Internet Source | <1 % |
| 17 | mro.massey.ac.nz Internet Source | <1 % |
| 18 | orca.cardiff.ac.uk Internet Source | <1 % |
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Exclude matches Off

Exclude bibliography On