

Teaching Case

Interacting with Bloomberg Terminal from an Information Technology Perspective (Student Assignment)

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Abstract

Bloomberg Terminal is one of the most prominent and valuable tools for business and technology professionals. Having familiarity with Bloomberg is a desirable qualification for business students upon graduation. This classroom activity introduces Bloomberg Terminal in an introductory information technology (IT) digital literacy course at a business university. This activity guides students to find and analyze data related to capital markets that they will need to understand regardless of their chosen major. Students learn to apply IT concepts and develop their technology skills to complete the activity.

Keywords: Bloomberg Terminal, Digital Literacy, Career Skills, Business Education

1. INTRODUCTION

Bloomberg is a financial data, news, and media company. Their Bloomberg Terminal application provides information on financial markets, industries, and companies around the world. You can access the Bloomberg Terminal application in person in the University's Trading Room or using your own computer remotely. The Bloomberg Terminal application uses a proprietary database which resides on Bloomberg's servers. Having familiarity with Bloomberg Terminal is a desirable qualification for business students upon graduation. Introducing you to Bloomberg Terminal in your introductory information technology course will allow you to apply your technology skills to use the application and give

you the opportunity to develop useful skills in the business world.

This activity will also introduce you to the University's Center for Financial Services (aka "the Trading Room") a comprehensive, online service for global financial information including stock performance, financial statements, emerging and global markets, as well as corporate information. You can access Bloomberg Terminal from the Trading Room or remotely, and make use of its tools for searching, visualizing, graphing, analyzing, exploring, and interpreting financial data. The Trading Room is a state-of-the-art facility where students can have first-hand exposure to financial concepts such as

trading, portfolio construction, corporate finance, and risk management.

You may complete the assignment in the University's Trading Room, or online depending on your situation.

Information Technology Skills

While business students usually get their first exposure to Bloomberg Terminal in a business or finance course, developing these skills now will give you additional skills that may lead to summer employment and internships at local firms by the end of your first year of college. Some students, after completing the training, may choose to pursue Bloomberg Market Concept (BMC) Certification.

By completing this Bloomberg Terminal activity as part of your information systems / technology literacy course, you will identify how the Bloomberg Terminal application implements several important information technology concepts and develop your own technology skills. In addition to learning basic features of Bloomberg Terminal, you also will:

- Interact with financial software and online databases,
- Describe the role of the client and server when connecting to Bloomberg Terminal as you use an application with a client-server architecture,
- Use a web or client application to access software over a network,
- Define Application Programming Interface (API) and describe how an API allows third-party applications such as Microsoft Excel to access Bloomberg data
- Use an application other than a search engine to do basic research on a company,
- Move files and data from multiple sources across multiple devices and platforms,
- import, analyze, and chart data using Excel,
- Use application software with a text-based command line interface,
- Distinguish between open-source and proprietary software.

Section 2 describes the Bloomberg Terminal activity. Section 3 summarizes this lesson's learning goals.

Appendix 1 contains suggested readings to help you become familiar with Bloomberg Terminal and lists some of its basic functions; Appendix 2 shows the tasks you will accomplish using

Bloomberg Terminal and provides a slide deck you can use to submit screenshots showing your work.

2. THE BLOOMBERG TERMINAL ACTIVITY

You will use Bloomberg Terminal to research a company of interest, by completing these tasks:

- Find ticker symbol for your company.
- Use Bloomberg Terminal to find information about your company.
- Download the balance sheet and income statement for your company for the most recent 3 years.
- Use the Bloomberg function GP to plot stock price using 3 years of daily data.
- Use the Bloomberg function CN to find recent news about the Company.
- Using the Excel add-in, download daily stock prices for 3 years for Apple and your assigned company
- Download 3 years of currency values for the Euro, Yen, and Canadian dollar

Learn about Bloomberg Terminal

To prepare for the Bloomberg Terminal activity, read several articles about Bloomberg Terminal. Do independent research or look at those provided in Appendix 1 Table 1.

Write responses to the discussion questions on the online discussion board, or in another format as specified by your instructor:

- How might companies make use of Bloomberg Terminal services?
- What factors contributed to Bloomberg's success?
- Which features of Bloomberg Terminal that you read about most interest you, and why?
- Consider the technology required to provide the Bloomberg Terminal application to users around the world. Describe the role of the client and server, the flow of information that takes place, and the different devices / platforms on which the application is available.

Accessing Bloomberg Terminal

To use Bloomberg Terminal, you will need to create an account for Bloomberg for Education at https://portal.bloomberforeducation.com/sign_up. Your school administrator will need to approve your account.

Bloomberg Anywhere is a web app that lets you access the Bloomberg Terminal application in a browser on any device. If accessing Bloomberg Terminal remotely, you need to set up the Citrix Workspace App client. Follow the instructions at <https://bba.bloomberg.net/Install/Client> to install the Citrix Receiver, client software to connect to the Bloomberg server. Start Bloomberg Anywhere by opening a browser and visiting <https://bba.bloomberg.net>.

If working in the Trading Room in person, you can use the computers there, which are already equipped to run Bloomberg Terminal.

Overview

You will work in teams of two/ to complete the activity. Working in person, two students sit at the same workstation to complete the activity in person. Working online, the student who signs in to Bloomberg Terminal shares their screen with their partner.

The student viewing the Bloomberg Terminal screen reads the task aloud to their partner; discuss your solution, and your partner enters the commands in Bloomberg Terminal to carry them out. Then trade roles after a few steps, so each of you can be both a reader and a follower of instructions.

You will download a shared Google presentation containing each step of the tutorial and outlining the questions to answer.

Take screenshots of your solutions to each step, and add callouts or descriptions pointing out meaningful information that you are able to discern from each screen.

Appendix 2 contains a Google Slides deck which your team can copy to present your results. Add screenshots to each slide, and include callouts to show how you interpret the Bloomberg Terminal screens. You can download this presentation from <https://bit.ly/EDSIGCon2021-Bloomberg>.

You can work together on the project, but each student should reflect their own learning and then answer the open-ended questions on the last slide individually. Also consider the technology skills you used when completing is activity.

Interacting with Bloomberg Terminal

After launching Bloomberg Terminal either in-person or remotely, you can type phrases such as "US 100 Year Yield" or type the names of pre-defined functions (given by three or four-letter abbreviations) as commands to accomplish

specific tasks. Appendix 1 Table 2 lists several commonly used functions.

You will use these functions in the sample activity: CN (company news), DES (company description), FA (company fundamentals), CF (company filings, and GP (general plot). In addition to these functions, please feel free to explore other commands on your own to see what they do. To complete the activity, issue the appropriate commands to solve each task.

Computers equipped to run Bloomberg Terminal have keyboards whose function keys have been pre-programmed to type many of these common abbreviations. Becoming familiar with the function keys allows advanced users to improve their efficiency when using Bloomberg Terminal.

In this activity, you will use Bloomberg Terminal to accomplish these tasks:

- Find the ticker symbol for your team's company (Figure 1).
- Investigate the different types of data available for that company (Figure 2).
- Download the balance sheet and income statement for that company for the most recent 3 years (Figure 3).
- Use the general plot function GP to plot stock price using 3 years of daily data (Figure 4).
- Use the company news function CN to find recent news about the company. (Figure 5).

The figures below show screens from Bloomberg Terminal as you complete each task. Search for videos online for additional information or guidance.



Figure 1. Find the ticker symbol for your team's company.



Figure 2. Investigate the different types of data that Bloomberg has on that company.



Figure 3. Download the balance sheet and income statement for that company for the most recent 3 years.



Figure 4. Use the general plot function GP to plot stock price using 3 years of daily data.



Figure 5. Use the company news function CN to find recent news about the company.

Using the Bloomberg Office Tools Add-in for Excel

In the next part of the activity, you will install the Bloomberg Spreadsheet Builder and Function Builder add-ins for Microsoft Excel. These tools extract information from Bloomberg Terminal and create search queries for Bloomberg Terminal to import data into Excel.

To download the add-in installer, navigate to <https://tinyurl.com/Download-Excel-Add-in> and locate the download link for Bloomberg Office Tools in the Office Tools section, as shown in Figure 6. Click the Download arrow link to download the file.



Figure 6. Locating the Bloomberg Office Tools Add-in for Excel.

It will be named something like bxlax11_11_56.exe (depending on the version available when downloaded) and appear with a Bloomberg icon in your Downloads folder. Double-click the icon to install the add-in, then start excel to see it. When installed in Excel, these appear as three buttons in the Create group of the Bloomberg tab in Microsoft Excel. See Figure 7.



Figure 7. Bloomberg add-ins for Excel.

The Spreadsheet Builder is a spreadsheet wizard that allows you to extract information from the terminal and display it in Excel. The Function Builder allows you to create a search query for the terminal and display the data on Excel.

Using this Excel add-in, you can download daily or historical stock or currency prices for a given date interval into Excel. Excel will request the data from a Bloomberg server and import it automatically into Excel. By clicking the Spreadsheet Builder button in Excel, you can specify the data to import. The Spreadsheet Builder will ask you to specify a task (such as Analyze Historical Data), then enter the ticker symbol or currency of interest. Choose the fields of interest (such as Last Price) and specify a date range. The Spreadsheet Builder will show the row and column headings for your worksheet (see Figure 8). This example shows what the spreadsheet will look like after selecting the last price one stock and two international currencies.

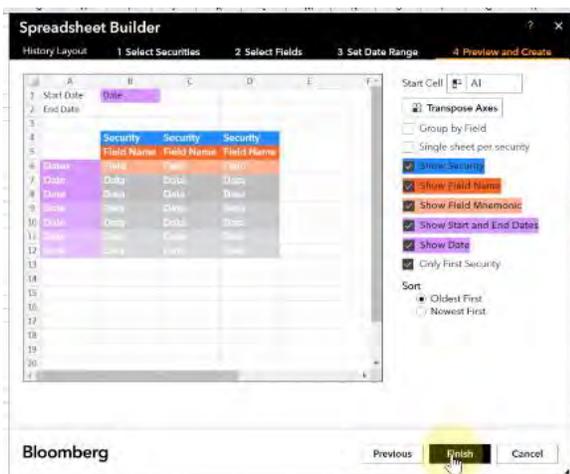


Figure 8. Importing Bloomberg stock data into Microsoft Excel using the Bloomberg Spreadsheet Builder.

After clicking the Finish button, Figure 9 shows the data been imported into Excel.

Start Date	9/22/2015		
End Date			
	AAFL US Equity	JPY Currency	IGQG US Equity
	Last Price	Last Price	Last Price
Dates	PK_LAST	PK_LAST	PK_LAST
9/22/2015	28.35	120.15	104.1
9/23/2015	28.56	120.28	104.18
9/24/2015	28.25	120.07	103.8
9/25/2015	28.678	120.59	102.92
9/28/2015	28.11	119.92	99.99
9/29/2015	27.205	119.74	99.47
9/30/2015	27.375	118.88	101.76
10/1/2015	27.395	118.83	102.22
10/2/2015	27.595	119.91	104.01
10/5/2015	27.695	120.46	105.5
10/6/2015	27.829	120.73	105
10/7/2015	27.895	120.01	105.68
10/8/2015	27.375	119.99	106.05
10/9/2015	28.09	120.27	106.58
10/12/2015	27.8	120.04	106.78
10/13/2015	27.948	119.75	106.1
10/14/2015	27.551	118.83	106.95

Figure 9. Financial data from Bloomberg imported into Excel after using the Bloomberg Terminal.

Using these add-ins, you can download stock data and currency data into Microsoft Excel and then apply your knowledge of Excel to create line charts plotting this data.

3. SUMMARY

Bloomberg Terminal offers tools to explore the technology companies and their developments in business through wide-ranging technology research and news coverage as well as data analysis tools. To understand the basic architecture and make use of this tool, you need to understand several basic technology concepts. Completing this project allows you to experience them in a hands-on setting. Your study of the Bloomberg Company also taught you about the technology that makes the Bloomberg Terminal application possible, enabling businesses to use information technology to provide consistent information to all of their employees.

Appendix 1.

Table 1. Readings

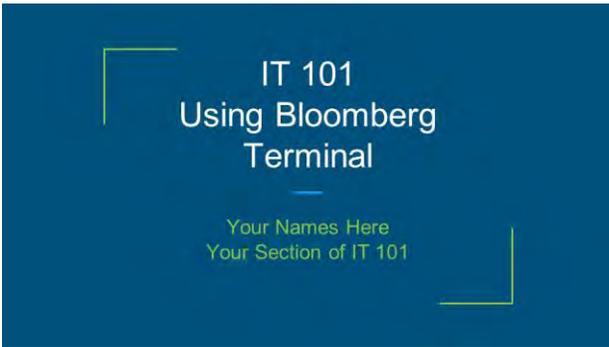
<p>About Tech at Bloomberg. (2021). Tech at Bloomberg. https://www.techatbloomberg.com/about/</p> <p>Bloomberg for Education, Getting Started Guide for Students. (2014). https://guides.library.uwa.edu.au/ld.php?content_id=14674823</p> <p>Bloomberg Professional Services, The Terminal. (2021). https://www.bloomberg.com/professional/solution/bloomberg-terminal</p> <p>Technology. (2021). Bloomberg Professional Services. https://www.bloomberg.com/professional/expertise/technology/</p> <p>The Terminal on Campus. (2021). Bloomberg Professional Services. https://www.bloomberg.com/professional/expertise/the-terminal-on-campus/</p> <p>Investopedia, Beginner's Guide to the Bloomberg Terminal. (Feb. 10, 2021). https://www.investopedia.com/articles/professionaleducation/11/bloomberg-terminal.asp</p> <p>McCracken, H. (2015, October 6). How the Bloomberg Terminal Made History–And Stays Ever Relevant. https://www.fastcompany.com/3051883/the-bloomberg-terminal</p> <p>Woodie, A. (2017, September 18). The Data Science Inside the Bloomberg Terminal. Datanami. https://www.datanami.com/2017/09/18/data-science-inside-bloomberg-terminal/</p>

Table 2. Common Bloomberg Terminal Commands
(Italicized commands are used in this lab activity.)

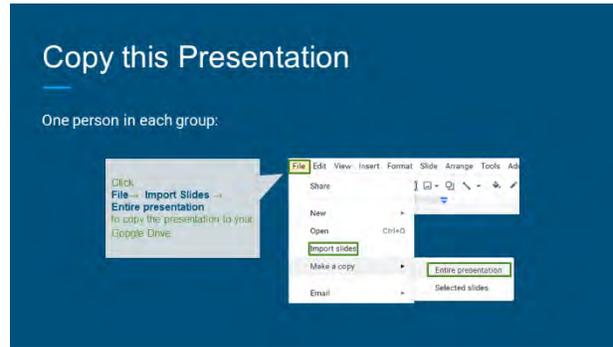
<p>News <i>CN – Company News</i> <i>BI – Bloomberg Intelligence</i> IPO – Equity Offerings</p> <p>FX – Foreign Exchange FXFC – FX Forecasts</p> <p>Economics ECFC – Economic Forecasts FOMC – FOMC Activities WECO – Economic Calendars</p> <p>Screens WEI – World Equity Index WB – World Bond Markets EMEQ – Emerging Market Equity Indices EQS – Equity Screening WM – World Equity Markets MEMB – Member Weightings</p> <p>People PEOP – People Search Rich – Bloomberg Billionaires</p>	<p>Equity Analysis <i>DES – Company Description</i> <i>FA – Company Fundamentals</i> EE – Earnings Estimates ANR – Analyst Recommendations CRPR – Credit Ratings DRSK – Default Risk CF – Company Filings CACS – Corporate Action Calendar <i>GP – Historical Graphs/Table</i> CAST – Capital Structure EV – Enterprise Value TECH – Technical Study Browser WACC – Weighted Average Cost of Capital SPLC – Supply Chain Analysis</p> <p>Comparative & Historical Analysis RV – Competitor Relative Value BETA – Historical Beta</p> <p>Excel XLTP – Excel Template Library</p>
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Appendix 2.

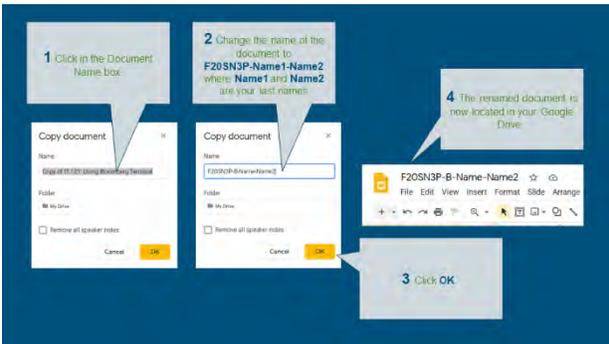
Copy this template from Google Slides and share it with your group members. (Slides 2-6 describe how to copy and share a Google Slides presentation.) Discuss each step with your partner. Take screenshots as you complete each step, and add call-outs to describe what you interpreted from the Bloomberg screens. You can access this sample template from <https://bit.ly/EDSIGCon2021-Bloomberg>. Provide the link to your group's Google Slides presentation to submit it.



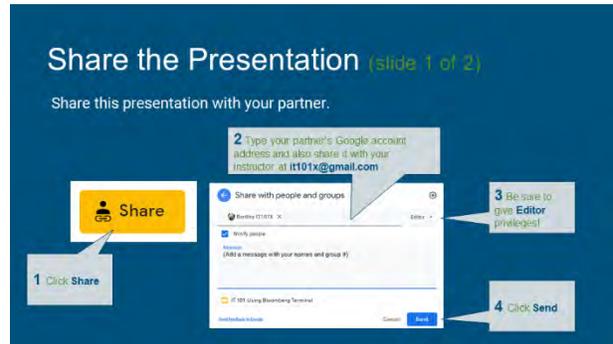
Slide 1.



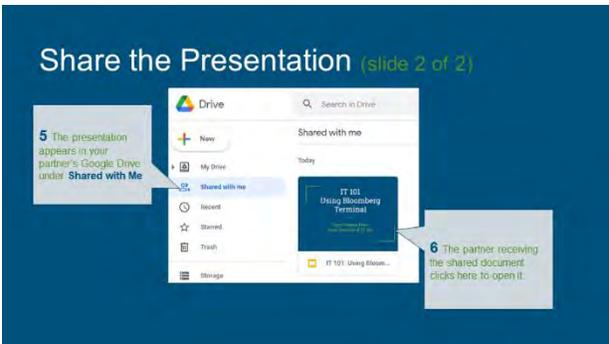
Slide 2.



Slide 3.



Slide 4.



Slide 5.



Slide 6.

**Which company are you researching?
What is its ticker symbol?**

Take a screenshot from Bloomberg Terminal (BT), and then add callouts to highlight relevant information from the BT screen.



Slide 7.

What info can you find about your company?

Look around BT. Take a screenshot and add callouts pointing out important information on the screen. Write a sentence or two about what you learned.

Slide 8.

Download the balance Sheet and Income Statement for 3 years.

Take a screenshot. Review the balance and income statements.

From the income statement, what can you learn about the company's net profit, sales trends, or other items?

From the balance sheet, what did you learn about the company's debt, cash on hand, assets, or other items?

Slide 9.

Use the GP function to plot stock prices for the past 3 years.

Take a screenshot and add callouts showing significant values or comment on them.

Slide 10.

Use the CN function to find recent news about your company.

Take a screenshot. Summarize the news you found.

Slide 11.

Using the Excel add-in, download daily stock prices for 3 years for your company.

Take a screenshot of the spreadsheet and a chart showing the stock's performance, comparing opening and closing prices. Add any comments in a callout.

Slide 12.

Find currency info for a 3-year period.

Select three different currencies (such as USD, CAD, Euro, Yen). Download the data to Excel. Create a screenshot of the worksheet, and make a chart showing the currency values. Add the screenshot of your chart to this slide.

Slide 13.

Information Technology Concepts and Skills

Describe these IT concepts and skills as they relate to your experience using Bloomberg Terminal.

Concepts:

- financial software
- online databases
- client /server software
- text-based command line interface
- open-source vs. proprietary software
- application programming interface (API)

Skills:

- Use a web or client application to access software over a network.
- Move files and data from multiple sources across multiple devices and platforms
- Import, analyze, and chart data with Excel

Slide 14.



Slide 15.