**DAILY ASSESSMENT FORMAT**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date:** | **06/August/2020** | **Name:** | **Prashantha naik** |
| **Course:** | **Coursera** | **USN:** | **4al17ec074** |
| **Topic:** | **Network Security &**  **Database Vulnerabilities** | **Semester & Section:** | **6th b** |
| **GitHub Repository:** | **prashanth\_course** |  |  |

|  |
| --- |
| **SESSION DETAILS** |
| **Image of session** |
| **Report – Report can be typed or hand written for up to two pages.**  **Data source types such as distributed databases, data warehouses, big data, and file shares. Well, this is Chris Winn. I'm a cybersecurity specialist with IBM, also known as a security technical specialist. In this video, we will be covering key concepts of databases and database security. We'll also be giving an overview of data models such as structured, semi-structured, and unstructured data. While we will be covering unstructured data, such as file shares of network attached storage, the deeper dive into unstructured data, such as file shares, this is going to be covered in a separate video. This video we'll only cover enough to explain what they are, so you can have an understanding of the different types of data models. Every organization whether it's a public or a private entity has many different types of data sources, such as distributed databases, Microsoft SQL Server, Oracle, MySQL, SQL light, Postgres, the list goes on and on and on. It's probably the most common database type in the world. Also data warehouses such as Amazon's redshift or Hadoop's Hive or TISA or exit data. Very purpose built environments, and we'll talk a bit about those later founded for Databases Big Data NoSQL. We will cover those in a bit, but those you might be familiar with such as Google's BigTable or Hadoop and MongoDB. File shares. So file shares are everything from Amazon S3, Google Drive, Dropbox, Box.com, even your download folder on your laptop. That would be a file share, that would be a directory, but we'll cover those in a bit. So one thing every organization has in common is they're all using a lot of data in a variety of combinations of these things. They might be using all or only a couple of these. Also, organizations have many different locations oftentimes regardless of it's a public or private entity, it could be around the city, around the state, around the world. That's true regardless if it's a retail store, bank, a hospital, even a public building, even picking all the different locations, Amazon, and IBM and Google have around the world. One thing in common with all of these different entities, public and private, is they have a lot of Infrastructure and the backend that help them do what they do day in and day out, regardless if it's as simple as providing e-mail for the organization, providing check clients for the organization, even simply all the different projects going on in an organization, the project holders, what they're working on, the way teams integrate together. All the different backend systems being worked on our commonality in all organizations that all of that background infrastructure is stored in data centers. Now, it used to be in the early 2000's people still thought mainly of security as a perimeter defense, and by perimeter defense, I really mean firewalls and VPNs and stopping people from ever getting into your organization. It's been proven time and time again that that's just not adequate anymore if not in the current day and age because regardless of people trying to come into your organization, there's just so many different ways into an organization. You're not just trying to come through your firewall, they're not just trying to come through VPN. They're trying to come with your employee’s credentials. They're trying to come through your business partners, through other entities that you've worked with that have access into your data center. All of those different means of entering your data center are all potential threat vectors or ways into your organization that you have to think of and lock. It’s essentially a safe with many, many different windows and doors that each I will need some security controls around. That's why so much focus has been given in the last 10 years to data security and all of the different bridges that you hear again and again and again, where all somebody compromising an organizations data security controls, or simply accessing it because of lack of controls access to the data.**  **many data sources present in a typical organization, identify the type of data commonly contained in each data source. Here's just an example of a couple of different things you would see in typical organizations listers in no way shape or form exhaustive of the different types of; Applications, Databases, Data Warehouses, Big Data Environments, Files, Content Managers, Database Tools and Environments. But this is an example of all the different things that have to do with data in your organization. All the different avenues for people to access the data. Typically, an organization, you won't just have database. The DBAs connect to you. You'll really have applications that connect to a back end database such as your HR system when people are on board and off board. Say even as a key PeopleSoft shipping logistics for your clients and make orders logistics of shipping it around the world to your clients. Just need time for their deadlines etc. All of that would be in Databases, Applications and you're really and your entire workforce is logging into, do their job day in day out. Data Warehouses are typically used for crunching numbers. They're oftentimes incredibly vast amounts of data such as Hadoop Hive or Amazon redshift or even the teaser and Exif Data purpose spill incredibly fast processors to do nothing but crunch data incredibly efficiently and fast. So exif date is really for crunching numbers if you want to think of it that way. Big Data environments oftentimes you'll see an organization. It is a massive amount of data. A lot of times people don't quite know what's in the data or what they're going to do with it. So lot of times you'll have legacy databases that events sunset and shut down. Somebody archive the information and put it somewhere. They don't quite know what to do with, so someone decides to throw it in Hadoop. Maybe, we'll start gaining more information about our customers, our clients, our products, how we do business, how we can do business better, how we can interact with all of them better. So all that information just kinda gets thrown into Big Data and the ideas oftentimes to simply start gaining value out of it. Later as you start slice looking into it. Cloud Environments simply different places to host your data versus on-prem being data center that you have set up control and have complete ownership of Database Tools simply for ways to interact with databases, oftentimes used by DBAs but it can be a variety of different things used for Content Manager, SharePoint, classical, and there's a lot of different types though and that could really be just about anything. If you're thinking of Enterprise Content Manager could be a project management tool or something like that. Basically sending file's certainly files you're probably more familiar with this than you might think of or realize. So even your download folder would be File shares. So Linux Unix Windows all the different files stored inside them would be in all share unstructured data when you connect to HTTP sites all of those would be unstructured data or it can be unstructured data. So Data Source Types; Distribute Databases, Data Warehouses, Big Data, File Shares. Distributed Database examples are; Oracle, DB2, Microsoft SQL Server, MySQL, Postgres list goes on and on. Big Data examples; Hadoop, MongoDB, BigTable. Data Warehouse examples; Netezza, Exadata, Amazon Redshift, and Apache Hive. Fileshare examples; "NAs" (Network Attached Storage), Network Fileshare such as; EMC or NetApp, and Cloud Shares such as; Google drive, dropbox.com, box.com, and Amazon's S3 storage. Thinking of the different database types, house look at distributed databases and data warehouses. Both of those are often consider structured data and we'll get into what that means in a minute. Big Data database examples are oftentimes semi-structured data. Mostly because oftentimes it's a lot of different structured data sources that don't have means to look at all of the different types of data that was thrown into it holistically, and I'll explain more about that in a minute. Let me go over structured and semi-structured data, and posture example simply unstructured data.** |