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The Heartbleed Vulnerability

Many of you may have heard about the term “Heartbleed”. Heartbleed is the name of a major security vulnerability that may affect nearly two-thirds of websites online. It’s a severe situation potentially exposing your login information—your username and password—and other sensitive information about you.

What is Heartbleed?

It is important to understand that Heartbleed is not a virus, but rather a mistake written into OpenSSL—a security standard encrypting communications between you, the user, and the servers provided by a majority of online services. The mistake makes it viable for hackers to extract data from massive databases containing user names, passwords and other sensitive information.

What should we do?

The first thing you need to do is check to make sure your online services, like Yahoo and PayPal, have updated their servers in order to compensate for the Heartbleed vulnerability. Do not change your passwords until you’ve done this. A lot of outlets are reporting that you need to do this as soon as possible, but the problem is that Heartbleed primarily affects the server end of communications, meaning if the server hasn’t been updated with Heartbleed in mind, then changing your password will not have the desired outcome.

How do we check for Heartbleed?

If you’re concerned that a website you frequent has been compromised, you can check by using McAfee’s Heartbleed Test Tool. If a website pops up as compromised, that means it hasn’t been updated and that you should wait to change your password.

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For SSL to work, your computer needs to communicate to a server. To do this, it sends out what's called a "heartbeat." What a heartbeat does (other than fathering the name of this vulnerability) is send a specific signal to a server in order to see if that server is online. If the server is online, it sends that signal right back to your computer, allowing you to enjoy secure communications. Both your computer and the server send out heartbeats on regular intervals to make sure both you (the user) and the server (the service) aren't offline.

Heartbleed takes advantage of this "heartbeat" by sending a malicious heartbeat signal to servers. That malicious heartbeat essentially tricks the server into sending a random chunk of its memory back to the user who sent the malicious heartbeat. Contained in that memory can be a random collection of email addresses, usernames and passwords. Some of those credentials, worryingly, could belong to the company managing that server. This provides hackers with a way of accessing and exploiting information throughout the Internet. The severity of this vulnerability cannot be overstated. Major enterprises regularly employ OpenSSL, which was traditionally considered to be one of the most secure means of transmitting data. Again, the best thing you can do to protect yourself is to determine which sites you use are affected (through one of the tools listed above), and change those account passwords.

Some tips for changing your password:

- **Create unique passwords for every site you use.** Every password you use should have a minimum of eight characters containing letters, numbers and symbols. Each site should have its own unique password. Try not to duplicate passwords on multiple sites. This is the bare minimum.
- **Use a password manager.** Using a password manager is becoming less a matter of convenience and more a matter of security. It's difficult enough to remember if you locked your door this morning. Remembering unique passwords for every site is nearly impossible. Password managers can do this for you. Additionally, they can protect you from malicious software that records your keystrokes and, by extension, your password.
- **Enable two-factor authentication.** Two-factor authentication is a security technique that requires you to have something you know, like your password, and something you possess, like your phone. Not all websites have this security technique in place, but if they do, you should enable it. It's an effective way of protecting yourself from being hacked.

Again, this vulnerability's severity cannot be overstated. For the protection of your data, you need to assume that your credentials have been leaked through Heartbleed and change your passwords accordingly.

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The age of cloud and business demands

With all the talk of cloud computing these days, one can be forgiven for thinking that enterprise IT shops may be seeing lighter development workloads. Actually, the opposite seems to be occurring -- development workloads are growing to the point IT shops are being crushed by the demand. IT is being overwhelmed by the digital business boom.

That's the takeaway of a new survey conducted by Mendix among 470 North American and European IT professionals, which finds that demand for custom business applications are growing, fueled by the need for mobile and customer-facing apps. "However, because IT teams lack sufficient capabilities for rapid app delivery, output isn't keeping pace, performance is suffering and backlogs are growing," the report concludes.

The survey revealed growing demand for custom business applications, particularly customer-facing and mobile apps, cited by 69 percent and 75 percent of respondents respectively. Of those with a mobile agenda, 68 percent report needing multi-device, multi-channel apps versus standalone smartphone or tablet apps.

At the same time, nearly three quarters of IT professionals, 71 percent, admit that their departments aren't equipped to handle this increasing business demand for custom applications. Overall, 82 percent of respondents report having a project backlog while 89 percent were unable to reduce their backlog year over year.

What's the problem here? The factors contributing to lackluster IT performance in the face of business demand include fairly rigid development environments and corporate cultures, the Mendix survey suggests. Thirty-six percent report using agile methodologies, while another 36 percent report still using "waterfall." Many development environments lack "key elements to enable rapid, iterative and collaborative cycles." For example, 75 percent of developers surveyed said they can't easily create and share working prototypes for end user feedback, and 78 percent of companies lack sufficient tools for enabling business-level developers to build apps.

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As a result, it takes too long to get apps out the door. Close to half of the respondents, 46 percent, say it takes one or more quarters to turn around a new app. Only six percent are capable of delivering apps in a matter of weeks. To implement change requests takes months or longer in most respondents' shops.

Mendix offers three pieces of advice to help turn things around, to keep up with business demands:

Implement an "application strategy": "Respondents that have implemented methods, such as Gartner's Pace-Layered Application Strategy (a methodology for categorizing applications and developing a differentiated management and governance process that reflects how they are used and their rate of change), reported higher percentages of applications delivered on time, under budget, meeting requirements and generating value."

Encourage "citizen developers": "Respondents that listed high levels of IT-business collaboration and enabled citizen developers to build apps scored significantly higher on each of the above project success criteria."

Modernize the development environment: The survey noted that most sites use Java and .NET frameworks, which in the authors' opinion, smacks of "legacy." This may or may not be the case, but the authors do urge IT managers to look at lighter-weight platforms that facilitate more rapid iterations. "Organizations with more advanced development environments that facilitate easy sharing of prototypes for user feedback and include an integrated deployment environment are more successful than their peers."

Faculty Participation in external events

On 22.11.2014, four faculty members of I.T.S Mohan Nagar Ghaziabad including Prof. Chandra Mani Sharma, Prof. Rakesh Roshan, Prof. Saurabh Saxena & Prof. Smita Kansal attended a FDP on Big Data Computing organized by I.M.S Ghaziabad in association with IBM Research. Dr. Sunil Kumar Pandey, HOD-IT, was also present as an invited guest in the inaugural session of FDP

Happening @ Dept. of I.T. in the month of November, 2014

10TH National Conference on Emerging Paradigm of Information & Communication Technologies & its Impact on Society (EPICTIS-2014) on 07-08 November, 2014



Sh. Aditya Sharma, Global Head - Birlasoft Solutions addressing in EPICTIS-2014



Dr. Sunil Pandey, HOD-IT presenting memento to Dr. Brajesh Kumar, Professor & Dean at Lingaya's University, Faridabad



Sh. Svisankaran, NVIDIA addressing in EPICTIS-2014



Dr. Maya Ingle, Professor & Director (Research), Debi Ahilyabai University in EPICTIS-2014



Ms. Swati Mehra, BI Consultant at NIIT Technologies addressing in EPICTIS-2014



Sh. Arpit Chadha, Vice Chairman, ITS-The Education Group presenting memento to Mr. Aditya Sharma



Session in progress in EPICTIS-2014



Shri. Manohar Kumar - DGM, SifyCorp @ EPICTIS-2014

Among the Papers Presented, the best Papers were awarded with Cash Prizes, Trophies and Certificates. The winners include Ms. Geetanjali Singh from Vansasthali University, Vansathali, Ms. Nivedita (student of BCA at I.T.S Ghaziabad) and Mr. Amit Agarwal - Sr. Test Engineer at Sakshya Web Technologies at I, II and III Positions respectively.

Happenings @ Department of I.T in the month of November, 2014

4th I.T.S Young Talent Hunt on 29th November, 2014



Dr. M.M.Pant, former Pro-Vice Chancellor, IGNOU , Sh B.K.Arora, Secretary, ITS-The Education Group, Dr. Sapna Rakesh, Director Management , Dr. Sunil Kr. Pandey, HOD-IT, Dr. Rajeev Kr. & Dr. Ragvendra , coordinators of the event inaugurated the 4th I.T.S Young Talent Hunt event on 29th November, 2014





The Grand Finale of our 4th I.T.S Young Talent Hunt - *An Inter-institutional Event* was organized on Saturday, 29th November, 2014 in fully packed Chanakya Auditorium at the institute. The event went a Grand Success in real sense witnessing participation of **about 600 Participants** who were **selected from Round-1 of the event from about 5000 students of 78 Institutes/ Universities across 20+ cities of the state** including Kanpur, Etawah, Allahabad, Sultanpur, Fatehpur, Etah, Agra, Varanasi, Muzzaffarnagar, Saharanpur, Bijnor, Bulanshahr, Hapur, Shamli, Baghpat, Ghaziabad, Gautam Budh Nagar, Delhi etc. **The Cash Prize of Rs. 1,10,000 with Trophies and Certificates were awarded to winners.**



Congratulations to Ms. Hunny Garg
for Securing Position in
the U.P.T.U Top-20 List
with 84.47% Marks in MCA.







Ms. Komal Gupta (MCA 2011-14) 84.10% Ms. Gunjan Chauhan (MCA 2011-14) 83.42% Ms. Sakshi Gupta (MCA 2011-14) 83.25%



Ms. Hunny Garg awarded with Trophy, Certificate and cash prize of Rs. 10,000/- for securing position in U.P.T.U Top-20 Merit List with 84.47% in MCA (2011-14) batch. Dr. M.M.Pant along with Sh B.K.Arora, Secretary, ITS-The Education Group, HOD-IT, Dr. Sunil Kr. Pandey and Director Management ,Dr. Sapna Rakesh felicitating Hunny Garg in 4th I.T.S-Young Talent Hunt on 29th November 2014 @ ITS, Mohan Nagar. Proud parents of Ms. Hunny were also present in the event.



Placement Quiz Series

1. The _____ command is used to read the contents of the SQL buffer.
2. The / command is used to execute the current command in the line _____
3. Views are created by defining the SELECT statement(T/F)
4. In Oracle, you cannot create an index on more than one column of a database table. (T/F)
5. In Oracle, you can store date values into the column having the _____ data type.
6. You can use the _____ statement with _____ statement to perform multiple insertions in tables.
7. _____ returns the current value of a sequence.

Solutions will be published in December, 2014

Announcement and Contact Details

VIBRANCE is an E-magazine of Department of I.T, I.T.S, Ghaziabad. We look forward to the contribution from our students, alumni, faculty members and industry experts.

Contributors are advised to send their contribution to our editorial team at:

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