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## Understanding /etc/shadow file

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**Q.** Can you explain /etc/shadow file used under Linux or UNIX?

**A.** **/etc/shadow** file stores actual password in encrypted format for user's account with additional properties related to user password i.e. it stores secure user account information. All fields are separated by a colon (:) symbol. It contains one entry per line for each user listed in [/etc/passwd file](#) <sup>[2]</sup> Generally, shadow file entry looks as follows (click to enlarge image):



[1]

### /etc/shadow file fields

```
vivek:$1$nfcc$PgtEyHdicpGOffXX4ow#5:13064:0:99999:7:::
```

1                      2                      3      4      5      6      [3]

(Fig.01: /etc/shadow file fields)

1. User name : It is your login name
2. Password: It your encrypted password. The password should be minimum 6-8 characters long including special characters/digits
3. Last password change (lastchanged): Days since Jan 1, 1970 that password was last changed
4. Minimum: The minimum number of days required between password changes i.e. the number of days left before the user is allowed to change his/her password
5. Maximum: The maximum number of days the password is valid (after that user is forced to change his/her password)
6. Warn : The number of days before password is to expire that user is warned that his/her password must be changed
7. Inactive : The number of days after password expires that account is disabled
8. Expire : days since Jan 1, 1970 that account is disabled i.e. an absolute date specifying when the login may no longer be used

The last 6 fields provides password aging and account lockout features (you need to use chage command to setup password aging). According to man page of shadow - the password field must be filled. The encrypted password consists of 13 to 24 characters from the 64 character alphabet a through z, A through Z, 0 through 9, \. and /. Optionally it can start with a "\$" character. This means the encrypted password was generated using another (not DES) algorithm. For example if it starts with "\$1\$" it means the MD5-based algorithm was used.

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URLs in this post:

[1] Image: <http://www.cyberciti.biz/faq/faq/category/linux/>

[2] /etc/passwd file: <http://www.cyberciti.biz/faq/faqs/2006/02/understanding-etcpasswd-file-format.php>

[3] Image: [http://www.cyberciti.biz/faqs/uploaded\\_images/shadow-file-718705.png](http://www.cyberciti.biz/faqs/uploaded_images/shadow-file-718705.png)

