```
lenovo@lizx MINGW64 ~ (master)
$ git config --global user.name "lizhenxing"

lenovo@lizx MINGW64 ~ (master)
$ git config --global user.email "hzlizhenxing@163.com"

lenovo@lizx MINGW64 ~ (master)
$ pwd
/c/Users/lenovo

lenovo@lizx MINGW64 ~ (master)
$ cd d:

lenovo@lizx MINGW64 /d
$ pwd
/d

lenovo@lizx MINGW64 /d
$ mkdir learngit

lenovo@lizx MINGW64 /d
$ cd learngit

lenovo@lizx MINGW64 /d/learngit
$ pwd
/d/learngit

lenovo@lizx MINGW64 /d/learngit
$ git init
Initialized empty Git repository in D:/learngit/.git/

lenovo@lizx MINGW64 /d/learngit (master)
$ ls -ah
./  ../  .git/
```

```
lenovo@lizx MINGW64 /d/learngit (master)
$ git  add readme.txt

lenovo@lizx MINGW64 /d/learngit (master)

$ git commit -m "wrote a readme file"
[master (root-commit) 08a1e7d] wrote a readme file
 1 file changed, 2 insertions(+)
 create mode 100644 readme.txt

lenovo@lizx MINGW64 /d/learngit (master)
$ git add readme.txt

lenovo@lizx MINGW64 /d/learngit (master)
$ git commit -m "append GPL"
[master b8567c1] append GPL
 1 file changed, 2 insertions(+), 2 deletions(-)

lenovo@lizx MINGW64 /d/learngit (master)
$ git add readme.txt

lenovo@lizx MINGW64 /d/learngit (master)
$ git commit -m "add:git is good"
[master 692bf59] add:git is good
 1 file changed, 2 insertions(+), 1 deletion(-)

lenovo@lizx MINGW64 /d/learngit (master)
$ git log
commit 692bf593c415fe107ebd56beabaf86a2d06787e0 (HEAD -> master)
Author: lizhenxing <hzlizhenxing@163.com>
Date:   Sun Apr 22 21:44:01 2018 +0800

    add:git is good
```

```
commit b8567c1c6ed3ad33c2a9ca627f4b56cc6c4b8be7
Author: lizhenxing <hzlizhenxing@163.com>
Date:   Sun Apr 22 21:42:22 2018 +0800

    append GPL

commit 08a1e7d59caad5831a3686d3be8a6c27e0912400
Author: lizhenxing <hzlizhenxing@163.com>
Date:   Sun Apr 22 21:32:51 2018 +0800

    wrote a readme file

lenovo@lizx MINGW64 /d/learngit (master)
$ git log --pretty=oneline
692bf593c415fe107ebd56beabaf86a2d06787e0 (HEAD -> master) add:git is good
b8567c1c6ed3ad33c2a9ca627f4b56cc6c4b8be7 append GPL
08a1e7d59caad5831a3686d3be8a6c27e0912400 wrote a readme file

lenovo@lizx MINGW64 /d/learngit (master)
$ git reset --hard HEAD^
HEAD is now at b8567c1 append GPL

lenovo@lizx MINGW64 /d/learngit (master)
$ git log
commit b8567c1c6ed3ad33c2a9ca627f4b56cc6c4b8be7 (HEAD -> master)
Author: lizhenxing <hzlizhenxing@163.com>
Date:   Sun Apr 22 21:42:22 2018 +0800

    append GPL

commit 08a1e7d59caad5831a3686d3be8a6c27e0912400
Author: lizhenxing <hzlizhenxing@163.com>
Date:   Sun Apr 22 21:32:51 2018 +0800

    wrote a readme file
```

```
lenovo@lizx MINGW64 /d/learngit (master)
$ git reset --hard 692bf593c415fe107ebd56beabaf86a2d06787e0
HEAD is now at 692bf59 add:git is good

lenovo@lizx MINGW64 /d/learngit (master)
$ git reflog
692bf59 (HEAD -> master) HEAD@{0}: reset: moving to
692bf593c415fe107ebd56beabaf86a2d06787e0
b8567c1 HEAD@{1}: reset: moving to HEAD^
692bf59 (HEAD -> master) HEAD@{2}: commit: add:git is good
b8567c1 HEAD@{3}: commit: append GPL
08a1e7d HEAD@{4}: commit (initial): wrote a readme file

lenovo@lizx MINGW64 /d/learngit (master)

$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   readme.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)

        LICENSE.txt

no changes added to commit (use "git add" and/or "git commit -a")

lenovo@lizx MINGW64 /d/learngit (master)
$ git add readme.txt
g
lenovo@lizx MINGW64 /d/learngit (master)
```

```
$ git add LICENSE.txt

lenovo@lizx MINGW64 /d/learngit (master)
$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        new file:   LICENSE.txt
        modified:   readme.txt



lenovo@lizx MINGW64 /d/learngit (master)
$ git commit -m "understand how stage works"
[master bbff5fa] understand how stage works
 2 files changed, 3 insertions(+), 1 deletion(-)
 create mode 100644 LICENSE.txt

lenovo@lizx MINGW64 /d/learngit (master)
$ git status
On branch master
nothing to commit, working tree clean

lenovo@lizx MINGW64 /d/learngit (master)

$ cat readme.txt
Git is a distributed version control system.
Git is free software distributed under the GPL.
Git is good!
Git has a mutable index called stage
Git tracks changes.
lenovo@lizx MINGW64 /d/learngit (master)
$ git add readme.txt

lenovo@lizx MINGW64 /d/learngit (master)
```

```
$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        modified:   readme.txt


lenovo@lizx MINGW64 /d/learngit (master)
$ cat readme.txt
Git is a distributed version control system.
Git is free software distributed under the GPL.
Git is good!
Git has a mutable index called stage
Git tracks changes.
Git tracks changes of files.
lenovo@lizx MINGW64 /d/learngit (master)
$ git commit -m "git tracks changes"
[master 03799dd] git tracks changes
 1 file changed, 2 insertions(+), 1 deletion(-)

lenovo@lizx MINGW64 /d/learngit (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   readme.txt

no changes added to commit (use "git add" and/or "git commit -a")

lenovo@lizx MINGW64 /d/learngit (master)
$ git diff HEAD -- readme.txt
diff --git a/readme.txt b/readme.txt
```

```
index 9fb200e..f8f66dd 100644
--- a/readme.txt
+++ b/readme.txt
@@ -2,4 +2,5 @@ Git is a distributed version control system.
 Git is free software distributed under the GPL.
 Git is good!
 Git has a mutable index called stage
-Git tracks changes.
\ No newline at end of file
+Git tracks changes.
+Git tracks changes of files.
\ No newline at end of file

lenovo@lizx MINGW64 /d/learngit (master)
$ git add readme.txt

lenovo@lizx MINGW64 /d/learngit (master)
$ git commit -m "git tracks changes of file"
[master c222fbc] git tracks changes of file
 1 file changed, 2 insertions(+), 1 deletion(-)

lenovo@lizx MINGW64 /d/learngit (master)
$ git diff HEAD -- readme.txt

lenovo@lizx MINGW64 /d/learngit (master)



$ cat readme.txt
Git is a distributed version control system.
Git is free software distributed under the GPL.
Git is good!
Git has a mutable index called stage
Git tracks changes.
Git tracks changes of files.
My stupid boss still prefers SVN.
```

```
lenovo@lizx MINGW64 /d/learngit (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   readme.txt

no changes added to commit (use "git add" and/or "git commit -a")

lenovo@lizx MINGW64 /d/learngit (master)
$ git checkout -- readme.txt

lenovo@lizx MINGW64 /d/learngit (master)
$ cat readme.txt
Git is a distributed version control system.
Git is free software distributed under the GPL.
Git is good!
Git has a mutable index called stage
Git tracks changes.
Git tracks changes of files.
My stupid boss still prefers SVN.
lenovo@lizx MINGW64 /d/learngit (master)
$ git add readme.txt

lenovo@lizx MINGW64 /d/learngit (master)
$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        modified:   readme.txt
```

```
lenovo@lizx MINGW64 /d/learngit (master)
$ git reset HEAD readme.txt
Unstaged changes after reset:
M       readme.txt

lenovo@lizx MINGW64 /d/learngit (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   readme.txt

no changes added to commit (use "git add" and/or "git commit -a")

lenovo@lizx MINGW64 /d/learngit (master)
$ git checkout -- readme.txt

lenovo@lizx MINGW64 /d/learngit (master)

$ git remote add origin git@github.com:hzlizhenxing/learngit.git

lenovo@lizx MINGW64 /d/learngit (master)
$ git push -u origin master
The authenticity of host 'github.com (13.250.177.223)' can't be established.
RSA key fingerprint is SHA256:nThbg6kXUpJWGl7E1IGOCspRomTxdCARLviKw6E5SY8.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'github.com,13.250.177.223' (RSA) to the list of know
n hosts.
git@github.com: Permission denied (publickey).
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.
```

```
lenovo@lizx MINGW64 /d/learngit (master)
$ ssh -T  -v  git@github.com
OpenSSH_7.6p1, OpenSSL 1.0.2n  7 Dec 2017
debug1: Reading configuration data /etc/ssh/ssh_config
debug1: Connecting to github.com [13.229.188.59] port 22.
debug1: Connection established.
debug1: identity file /c/Users/lenovo/.ssh/id_rsa type 0
debug1: key_load_public: No such file or directory
debug1: identity file /c/Users/lenovo/.ssh/id_rsa-cert type -1
debug1: key_load_public: No such file or directory
debug1: identity file /c/Users/lenovo/.ssh/id_dsa type -1
debug1: key_load_public: No such file or directory
debug1: identity file /c/Users/lenovo/.ssh/id_dsa-cert type -1
debug1: key_load_public: No such file or directory
debug1: identity file /c/Users/lenovo/.ssh/id_ecdsa type -1
debug1: key_load_public: No such file or directory
debug1: identity file /c/Users/lenovo/.ssh/id_ecdsa-cert type -1
debug1: key_load_public: No such file or directory
debug1: identity file /c/Users/lenovo/.ssh/id_ed25519 type -1
debug1: key_load_public: No such file or directory
debug1: identity file /c/Users/lenovo/.ssh/id_ed25519-cert type -1
debug1: Local version string SSH-2.0-OpenSSH_7.6
debug1: Remote protocol version 2.0, remote software version libssh_0.7.0
debug1: no match: libssh_0.7.0
debug1: Authenticating to github.com:22 as 'git'
debug1: SSH2_MSG_KEXINIT sent
debug1: SSH2_MSG_KEXINIT received
debug1: kex: algorithm: curve25519-sha256@libssh.org
debug1: kex: host key algorithm: ssh-rsa
debug1: kex: server->client cipher: aes128-ctr MAC: hmac-sha2-256 compression:
none
debug1: kex: client->server cipher: aes128-ctr MAC: hmac-sha2-256 compression:
none
debug1: expecting SSH2_MSG_KEX_ECDH_REPLY
```

```
debug1: Server host key: ssh-rsa
SHA256:nThbg6kXUpJWG17E1IGOCspRomTxdCARLviKw6E5SY8
debug1: Host 'github.com' is known and matches the RSA host key.
debug1: Found key in /c/Users/lenovo/.ssh/known_hosts:1
debug1: rekey after 4294967296 blocks
debug1: SSH2_MSG_NEWKEYS sent
debug1: expecting SSH2_MSG_NEWKEYS
debug1: SSH2_MSG_NEWKEYS received
debug1: rekey after 4294967296 blocks
debug1: SSH2_MSG_SERVICE_ACCEPT received
debug1: Authentications that can continue: publickey
debug1: Next authentication method: publickey
debug1: Offering public key: RSA
SHA256:QKd2H3+vz5G1QwveHTcZhpSniESA9r3c1cbihHPrheM /c/Users/lenovo/.ssh/id_rsa
debug1: Authentications that can continue: publickey
debug1: Trying private key: /c/Users/lenovo/.ssh/id_dsa
debug1: Trying private key: /c/Users/lenovo/.ssh/id_ecdsa
debug1: Trying private key: /c/Users/lenovo/.ssh/id_ed25519
debug1: No more authentication methods to try.
git@github.com: Permission denied (publickey).

lenovo@lizx MINGW64 /d/learngit (master)
```

见《Could not read from remote respository》

```
$ ssh -T git@github.com
Hi hzlizhenxing! You've successfully authenticated, but GitHub does not provide
shell access.

lenovo@lizx MINGW64 /d/learngit (master)
$ git push -u origin master
Counting objects: 22, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (17/17), done.
Writing objects: 100% (22/22), 1.77 KiB | 100.00 KiB/s, done.
Total 22 (delta 5), reused 0 (delta 0)
remote: Resolving deltas: 100% (5/5), done.
```

```
To github.com:hzlizhenxing/learngit.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.

lenovo@lizx MINGW64 /d/learngit (master)

$ ls -ah
./  ../  .git/  id_rsa.pub  LICENSE.txt  readme.txt  test.txt

lenovo@lizx MINGW64 /d/learngit (master)
$ git ad id_rsa.pub
git: 'ad' is not a git command. See 'git --help'.

The most similar commands are
        add
        am

lenovo@lizx MINGW64 /d/learngit (master)
$ git add id_rsa.pub
warning: LF will be replaced by CRLF in id_rsa.pub.
The file will have its original line endings in your working directory.

lenovo@lizx MINGW64 /d/learngit (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        new file:   id_rsa.pub



lenovo@lizx MINGW64 /d/learngit (master)
$ git commit id_rsa.pub  -m  "add id_rsa.pub file"
```

```
warning: LF will be replaced by CRLF in id_rsa.pub.
The file will have its original line endings in your working directory.
[master 42afc3c] add id_rsa.pub file
 1 file changed, 1 insertion(+)
 create mode 100644 id_rsa.pub

lenovo@lizx MINGW64 /d/learngit (master)
$ git status
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean

lenovo@lizx MINGW64 /d/learngit (master)
$ git push -u origin master
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 677 bytes | 169.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To github.com:hzlizhenxing/learngit.git
   8bd0856..42afc3c  master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.

lenovo@lizx MINGW64 /d/learngit (master)
$ ssh -T git@github.com
Hi hzlizhenxing! You've successfully authenticated, but GitHub does not provide
shell access.

lenovo@lizx MINGW64 /d/learngit (master)
```