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## How to: create a temporary file securely

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[1]

**Q.** How do I create a temporary file securely under UNIX Bash shell?

**A.** There are many ways:

[a] mktemp command - make temporary unique filename

[b] \$RANDOM - Use \$RANDOM variable

## mktemp command

From the man page:

The mktemp utility takes the given filename template and overwrites a portion of it to create a unique filename. The template may be any filename with some number of 'Xs' appended to it, for example /tmp/tfile.XXXXXXXXXX.

For example, create a temporary file:

```
$ mktemp /tmp/output.XXXXXXXXXX
```

Output:

```
/tmp/output.qBYDtF7199
```

Send ls command output to /tmp/output.qBYDtF7199:

```
$ ls > /tmp/output.qBYDtF7199
```

However, you may need to store temporary file name /tmp/output.qBYDtF7199 to a shell variable:

```
TMPFILE=$(mktemp /tmp/output.XXXXXXXXXX)
ls > $TMPFILE
```

## Create a temporary directory

The -d option makes a directory instead of a file.

```
TMPDIR=$(mktemp -d /tmp/output.XXXXXXXXXX)
cd $TMPDIR
# do something
```

Another example:

```
TMPFILE='mktemp -t /tmp/out.myapp.XXXXXXXXXX' && {
    # Safe to use $TMPFILE in this block
    echo data > $TMPFILE
    ...
    # do something
    # clean up
    rm -f $TMPFILE
}
```

## Using \$RANDOM variable

Bash also provide \$RANDOM variable with random value, you can use the same to create a file or directory:

```
TEMPFILE=/tmp/$RANDOM  
> $TEMPFILE  
# create directory  
TEMDIR=/tmp/$RANDOM.$RANDOM  
mkdir $TEMDIR  
# do something...
```

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