

# Ant Pattern Usage

Continua uses an Ant-like wildcard syntax in various [Actions](#) and [workspace rules](#) to find files.

The three wild cards are:

Character	Behavior
**	Matches any files in any directories
*	Matches files in in a directory
?	Matches a single character in a file/directory name

## Examples

Example file system:

```
Output\  
  Binaries\  
    App.exe  
    Installer.exe  
    Helpers\  
      setup.bat  
      cleanup.exe  
  Images\  
    logo.png  
  Website\  
    connect.jpeg  
  App\  
    error.png  
    license.jpeg  
  Source\  
    App.cs  
    MoreCode.cs  
  ServerApp.exe
```

### Wildcard Example: \*\*

To find all files ending in `.exe` you could use the pattern: `Output\**.exe`

It would return the following files:

```
Output\ServerApp.exe  
Output\Binaries\App.exe  
Output\Binaries\Installer.exe  
Output\Binaries\Helpers\cleanup.exe
```

### Wildcard Example: \*

To find all `.exe` files in the `Binaries` directory and not in sub-directories you would use the pattern: `Output\Binaries\*.exe`

It would return the following files:

```
Output\Binaries\App.exe  
Output\Binaries\Installer.exe
```

### Wildcard Example: ?

To find all files in the `Images` directory that have a file extension of 3 characters you would use the pattern: `Output\Images\**.*??`

It would return the following files:

```
Output\Images\logo.png  
Output\Images\App\error.png
```

### Mixed Wildcard Example

To find all `.exe` files in any sub-directory of the `Output` directory you would use the pattern: `Output\*\**.*exe`

It would return the following files:

```
Output\Binaries\App.exe  
Output\Binaries\Installer.exe  
Output\Binaries\Helpers\cleanup.exe
```



For more information on Ant patterns, see the official documentation at <http://ant.apache.org/manual/dirtasks.html#patterns>