20 Customizing handlers with `dictConfig()`

There are times when you want to customize logging handlers in particular ways, and if you use `dictConfig()` you may be able to do this without subclassing. As an example, consider that you may want to set the ownership of a log file. On POSIX, this is easily done using `shutil.chown()`, but the file handlers in the stdlib don't offer built-in support. You can customize handler creation using a plain function such as:

```
def owned_file_handler(filename, mode='a', encoding=None, owner=None):
    if owner:
        if not os.path.exists(filename):
            open(filename, 'a').close()
        shutil.chown(filename, *owner)
    return logging.FileHandler(filename, mode, encoding)
```

You can then specify, in a logging configuration passed to `dictConfig()`, that a logging handler be created by calling this function:

```
LOGGING = {
    'version': 1,
    'disable_existing_loggers': False,
    'formatters': {
        'default': {
            'format': '%(asctime)s %(levelname)s %(name)s %(message)s'
        },
    },
    'handlers': {
        'file':{
            # The values below are popped from this dictionary and
            # used to create the handler, set the handler's level and
            # its formatter.
            '()': owned_file_handler,
            'level':'DEBUG',
            'formatter': 'default',
            # The values below are passed to the handler creator callable
            # as keyword arguments.
            'owner': ['pulse', 'pulse'],
            'filename': 'chowntest.log',
            'mode': 'w',
            'encoding': 'utf-8',
        },
    },
    'root': {
        'handlers': ['file'],
        'level': 'DEBUG',
    },
}
```

In this example I am setting the ownership using the `pulse` user and group, just for the purposes of illustration. Putting it together into a working script, `chowntest.py`:

```
import logging, logging.config, os, shutil

def owned_file_handler(filename, mode='a', encoding=None, owner=None):
    if owner:
        if not os.path.exists(filename):
            open(filename, 'a').close()
        shutil.chown(filename, *owner)
    return logging.FileHandler(filename, mode, encoding)

LOGGING = {
    'version': 1,
```

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