Data Collection and Image Preprocessing:

```python
import keras
from keras.preprocessing.image import ImageDataGenerator
import matplotlib.pyplot as plt
import numpy as np
batch_size = 32

train_datagen = ImageDataGenerator(
    shear_range=0.2,
    rotation_range=180,
    zoom_range=0.2,
    horizontal_flip=True,
)

val_datagen = ImageDataGenerator(
    rescale=1./255
)
train_generator = train_datagen.flow_from_directory(
    'train_set/',
    target_size=(150, 150),
    batch_size=batch_size,
    class_mode='binary'
)

val_generator = val_datagen.flow_from_directory(
    'test_set/',
    target_size=(150, 150),
    batch_size=batch_size,
    class_mode='binary'
)
```

Output:

```
Found 435 images belonging to 2 classes.
Found 121 images belonging to 2 classes.
```