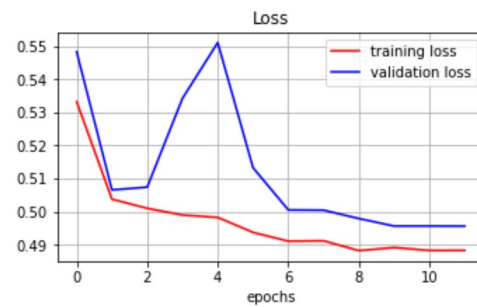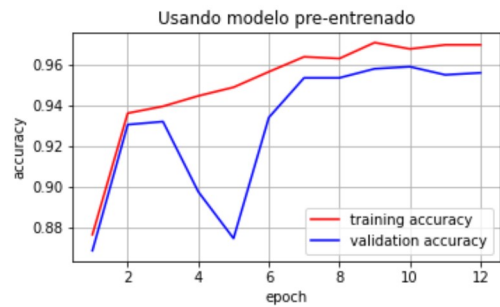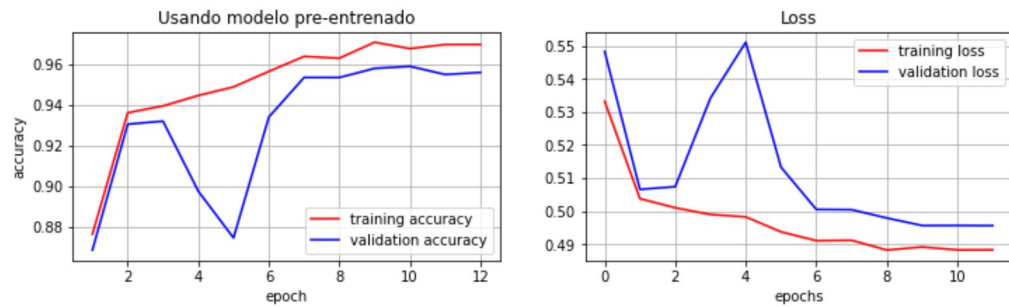```
Imagenes entrenamiento originales: 8000
Imagenes entrenamiento con augmentation: 8000
Entrenamiento: Imágenes con tatuajes: 4596 sin: 3404 total imágenes de train: 8000
Validación: Imágenes con tatuajes: 1149 sin: 851 total imágenes de validate: 2000
Test: Imágenes con tatuajes: 1149 sin: 851 total imágenes de test: 2000
Entrenando con augmentation
Epoch 1/30
250/250 [==============================] - 77s 310ms/step - loss: 0.5332 - accuracy: 0.8764 - val_loss: 0.5483 - val_accuracy: 0.8685 - lr: 1.0000e-04
Epoch 2/30
250/250 [==============================] - 77s 307ms/step - loss: 0.5037 - accuracy: 0.9361 - val_loss: 0.5065 - val_accuracy: 0.9305 - lr: 1.0000e-04
Epoch 3/30
250/250 [==============================] - 76s 305ms/step - loss: 0.5010 - accuracy: 0.9395 - val_loss: 0.5073 - val_accuracy: 0.9320 - lr: 1.0000e-04
Epoch 4/30
250/250 [==============================] - 76s 306ms/step - loss: 0.4989 - accuracy: 0.9446 - val_loss: 0.5342 - val_accuracy: 0.8975 - lr: 1.0000e-04
Epoch 5/30
250/250 [==============================] - ETA: 0s - loss: 0.4982 - accuracy: 0.9489
Epoch 00005: ReduceLROnPlateau reducing learning rate to 2.499999936844688e-05.
250/250 [==============================] - 77s 306ms/step - loss: 0.4982 - accuracy: 0.9489 - val_loss: 0.5510 - val_accuracy: 0.8745 - lr: 1.0000e-04
Epoch 6/30
250/250 [==============================] - 77s 306ms/step - loss: 0.4937 - accuracy: 0.9565 - val_loss: 0.5132 - val_accuracy: 0.9340 - lr: 2.5000e-05
Epoch 7/30
250/250 [==============================] - 76s 305ms/step - loss: 0.4910 - accuracy: 0.9639 - val_loss: 0.5005 - val_accuracy: 0.9535 - lr: 2.5000e-05
Epoch 8/30
250/250 [==============================] - ETA: 0s - loss: 0.4911 - accuracy: 0.9630
Epoch 00008: ReduceLROnPlateau reducing learning rate to 6.24999984211172e-06.
250/250 [==============================] - 76s 303ms/step - loss: 0.4911 - accuracy: 0.9630 - val_loss: 0.5004 - val_accuracy: 0.9535 - lr: 2.5000e-05
Epoch 9/30
250/250 [==============================] - 76s 304ms/step - loss: 0.4882 - accuracy: 0.9709 - val_loss: 0.4979 - val_accuracy: 0.9580 - lr: 6.2500e-06
Epoch 10/30
250/250 [==============================] - 76s 304ms/step - loss: 0.4891 - accuracy: 0.9678 - val_loss: 0.4956 - val_accuracy: 0.9590 - lr: 6.2500e-06
Epoch 11/30
250/250 [==============================] - 76s 305ms/step - loss: 0.4882 - accuracy: 0.9697 - val_loss: 0.4956 - val_accuracy: 0.9550 - lr: 6.2500e-06
Epoch 12/30
250/250 [==============================] - ETA: 0s - loss: 0.4883 - accuracy: 0.9697Restoring model weights from the end of the best epoch.
250/250 [==============================] - 77s 308ms/step - loss: 0.4883 - accuracy: 0.9697 - val_loss: 0.4956 - val_accuracy: 0.9560 - lr: 6.2500e-06
Epoch 00012: early stopping
```

Evaluando modelo ...
WARNING:tensorflow:From <ipython-input-7-5aaea5141803>:13: Sequential.predict_classes (from tensorflow.python.keras.engine.sequential) is deprecated and will be removed after
Instructions for updating:
Please use instead:* `np.argmax(model.predict(x), axis=-1)`,   if your model does multi-class classification   (e.g. if it uses a `softmax` last-layer activation).* `(model.p
63/63 [==============================] - 1s 22ms/step
Clases reales:    [0 0 0 0 0 0 0 1 0 1 0 1 0 0 0 1 0 1 0 0 0 1 1 0 1 1 0 1 0 1]
Clases predichas: [0 1 0 0 0 0 0 1 0 1 0 1 0 0 0 1 0 1 0 1 0 1 1 1 1 0 1 1 0 1 0 1]

 Classification Report
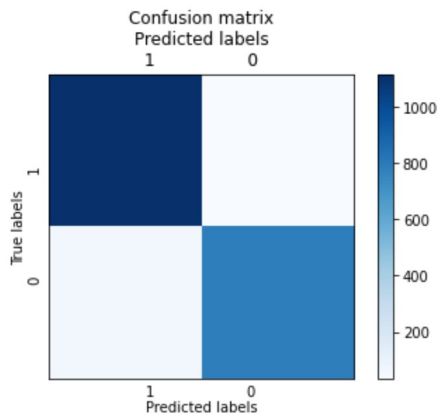              precision    recall  f1-score   support

           0       0.96      0.93      0.94       851
           1       0.95      0.97      0.96      1149

    accuracy                           0.95      2000
   macro avg       0.95      0.95      0.95      2000
weighted avg       0.95      0.95      0.95      2000

Matriz de confusión
prediction     1     0
label
1           1117    32
0             61   790

```
Modelo guardado en la siguiente ruta: /content/drive/My Drive/MAIR-Master/08MAIR-TFM/modelos/20200627-18:28-12000-mobilenetv2-ft-2-adam-0.956.h5
Saved model to disk at 20200627-18:28-
```