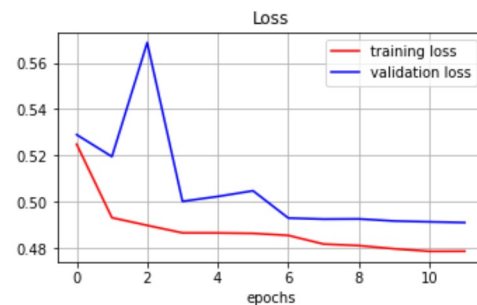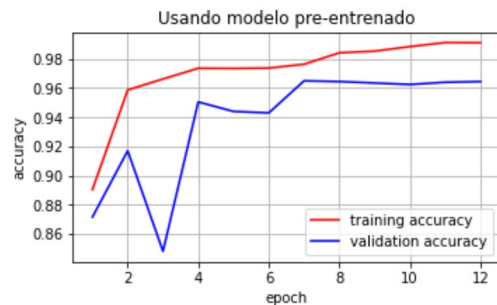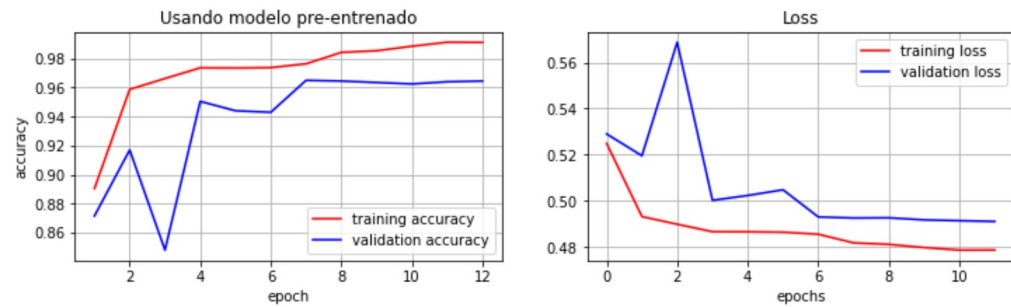```
Imagenes entrenamiento originales: 8000
Imagenes entrenamiento con augmentation: 8000
Entrenamiento: Imágenes con tatuajes: 4596 sin: 3404 total imágenes de train: 8000
Validación: Imágenes con tatuajes: 1149 sin: 851 total imágenes de validate: 2000
Test: Imágenes con tatuajes: 1149 sin: 851 total imágenes de test: 2000
Downloading data from https://storage.googleapis.com/tensorflow/keras-applications/mobilenet_v2/mobilenet_v2_weights_tf_dim_ordering_tf_kernels_1.0_224_no_top.h5
9412608/9406464 [==============================] - 0s 0us/step
Entrenando sin augmentation
Epoch 1/30
250/250 [==============================] - 39s 154ms/step - loss: 0.5249 - accuracy: 0.8904 - val_loss: 0.5290 - val_accuracy: 0.8715 - lr: 1.0000e-04
Epoch 2/30
250/250 [==============================] - 38s 151ms/step - loss: 0.4931 - accuracy: 0.9588 - val_loss: 0.5195 - val_accuracy: 0.9170 - lr: 1.0000e-04
Epoch 3/30
250/250 [==============================] - 38s 153ms/step - loss: 0.4898 - accuracy: 0.9663 - val_loss: 0.5688 - val_accuracy: 0.8480 - lr: 1.0000e-04
Epoch 4/30
250/250 [==============================] - 39s 155ms/step - loss: 0.4866 - accuracy: 0.9736 - val_loss: 0.5002 - val_accuracy: 0.9505 - lr: 1.0000e-04
Epoch 5/30
250/250 [==============================] - 38s 153ms/step - loss: 0.4865 - accuracy: 0.9735 - val_loss: 0.5023 - val_accuracy: 0.9440 - lr: 1.0000e-04
Epoch 6/30
250/250 [==============================] - 37s 148ms/step - loss: 0.4864 - accuracy: 0.9737 - val_loss: 0.5048 - val_accuracy: 0.9430 - lr: 1.0000e-04
Epoch 7/30
250/250 [==============================] - ETA: 0s - loss: 0.4855 - accuracy: 0.9764
Epoch 00007: ReduceLROnPlateau reducing learning rate to 2.499999936844688e-05.
250/250 [==============================] - 37s 148ms/step - loss: 0.4855 - accuracy: 0.9764 - val_loss: 0.4930 - val_accuracy: 0.9650 - lr: 1.0000e-04
Epoch 8/30
250/250 [==============================] - 38s 152ms/step - loss: 0.4817 - accuracy: 0.9843 - val_loss: 0.4925 - val_accuracy: 0.9645 - lr: 2.5000e-05
Epoch 9/30
250/250 [==============================] - 39s 156ms/step - loss: 0.4811 - accuracy: 0.9854 - val_loss: 0.4926 - val_accuracy: 0.9635 - lr: 2.5000e-05
Epoch 10/30
250/250 [==============================] - ETA: 0s - loss: 0.4797 - accuracy: 0.9885
Epoch 00010: ReduceLROnPlateau reducing learning rate to 6.24999984211172e-06.
250/250 [==============================] - 39s 156ms/step - loss: 0.4797 - accuracy: 0.9885 - val_loss: 0.4917 - val_accuracy: 0.9625 - lr: 2.5000e-05
Epoch 11/30
250/250 [==============================] - 38s 152ms/step - loss: 0.4786 - accuracy: 0.9912 - val_loss: 0.4913 - val_accuracy: 0.9640 - lr: 6.2500e-06
Epoch 12/30
250/250 [==============================] - ETA: 0s - loss: 0.4787 - accuracy: 0.9911Restoring model weights from the end of the best epoch.
250/250 [==============================] - 39s 156ms/step - loss: 0.4787 - accuracy: 0.9911 - val_loss: 0.4910 - val_accuracy: 0.9645 - lr: 6.2500e-06
Epoch 00012: early stopping
```

```
Evaluando modelo ...
63/63 [==============================] - 1s 23ms/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 0 0 1 1 0 1 1 0 1 0 1]

 Classification Report
              precision   recall f1-score   support

           0   0.96   0.96   0.96   851
           1   0.97   0.97   0.97   1149

    accuracy   0.96   2000
   macro avg   0.96   0.96   0.96   2000
weighted avg   0.96   0.96   0.96   2000

Matriz de confusión
prediction   1   0
label
1   1117   32
0   38   813
```
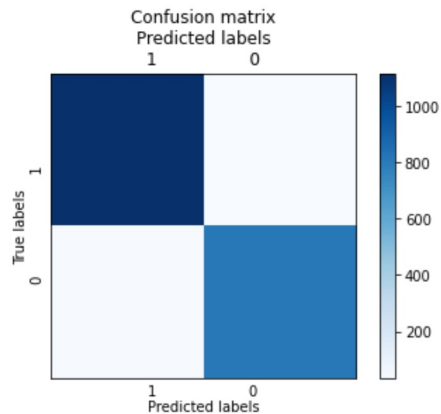


```
Saved model to disk at 20200627-17:36-
```