

Project Development Phase

Model Performance Test

Date	18 November 2022
Team ID	PNT2022TMID27826
Project Name	AI-powered Nutrition Analyzer for Fitness Enthusiasts
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Model Summary	Classification Model: Sequential Total params: 813,733 Trainable params: 813,733 Non-trainable params: 0	Attached below
2.	Accuracy	Training Accuracy - 95% Validation Accuracy - 93%	Attached below
3.	Confidence Score (Only Yolo Projects)	Class Detected - NIL Confidence Score - NIL	NIL

MODEL SUMMARY:

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Python 3.7.4 64-bit

AI-Powered Nutrition Analysis for Fitness Enthusia.ipynb model_building.ipynb

C: > Users > manya > Downloads > AI-Powered Nutrition Analysis for Fitness Enthusia.ipynb > pwd

+ Code + Markdown ▶ Run All ⌵ Clear Outputs of All Cells ↺ Restart | 📄 Variables 📖 Outline ...

```
# Initializing the CNN
classifier = Sequential()

# First convolution layer and pooling
classifier.add(Conv2D(32, (3, 3), input_shape=(64, 64, 3), activation='relu'))
classifier.add(MaxPooling2D(pool_size=(2, 2)))

# Second convolution layer and pooling
classifier.add(Conv2D(32, (3, 3), activation='relu'))

# input_shape is going to be the pooled feature maps from the previous convolution layer
classifier.add(MaxPooling2D(pool_size=(2, 2)))

# Flattening the Layers
classifier.add(Flatten())

# Adding a fully connected layer
classifier.add(Dense(units=128, activation='relu'))
classifier.add(Dense(units=5, activation='softmax')) # softmax for more than 2
```

[75] Python

2022-11-17 07:38:47.339947: W tensorflow/stream_executor/platform/default/dso_loader.cc:64] Could not load dynamic library 'libcuda.so.1'; dlerror: libcuda.so.1: cannot open shared object file: No such file or directory; LD_LIBRARY_PATH: /opt/ibm/dsdriver/lib:/opt/oracle/lib:/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/tensorflow

2022-11-17 07:38:47.340087: W tensorflow/stream_executor/cuda/cuda_driver.cc:269] failed call to cuInit: UNKNOWN ERROR (303)

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Jupyter Server: Local Cell 1 of 101 Go Live

25°C Mostly clear

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ENG IN 07:26 19-11-2022

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Python 3.7.4 64-bit

AI-Powered Nutrition Analysis for Fitness Enthusia.ipynb model_building.ipynb

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```
classifier.summary()#summary of our model
```

[76] Python

```
Model: "sequential"
```

Layer (type)	Output Shape	Param #
=====		
conv2d (Conv2D)	(None, 62, 62, 32)	896
max_pooling2d (MaxPooling2D)	(None, 31, 31, 32)	0
conv2d_1 (Conv2D)	(None, 29, 29, 32)	9248
max_pooling2d_1 (MaxPooling2D)	(None, 14, 14, 32)	0
flatten (Flatten)	(None, 6272)	0
dense (Dense)	(None, 128)	802944
dense_1 (Dense)	(None, 5)	645

87 176 Connect

Jupyter Server: Local Cell 1 of 101 Go Live

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The screenshot shows a Jupyter Notebook interface with a dark theme. The notebook is titled "AI-Powered Nutrition Analysis for Fitness Enthusia.ipynb". The current cell displays a summary of the model's layers and parameters. The layers are listed in a table-like format with their names, shapes, and the number of parameters. Below the table, the total, trainable, and non-trainable parameters are summarized.

Layer	Shape	Parameters
conv2d (Conv2D)	(None, 62, 62, 32)	896
max_pooling2d (MaxPooling2D)	(None, 31, 31, 32)	0
conv2d_1 (Conv2D)	(None, 29, 29, 32)	9248
max_pooling2d_1 (MaxPooling2D)	(None, 14, 14, 32)	0
flatten (Flatten)	(None, 6272)	0
dense (Dense)	(None, 128)	802944
dense_1 (Dense)	(None, 5)	645

Summary:

- Total params: 813,733
- Trainable params: 813,733
- Non-trainable params: 0

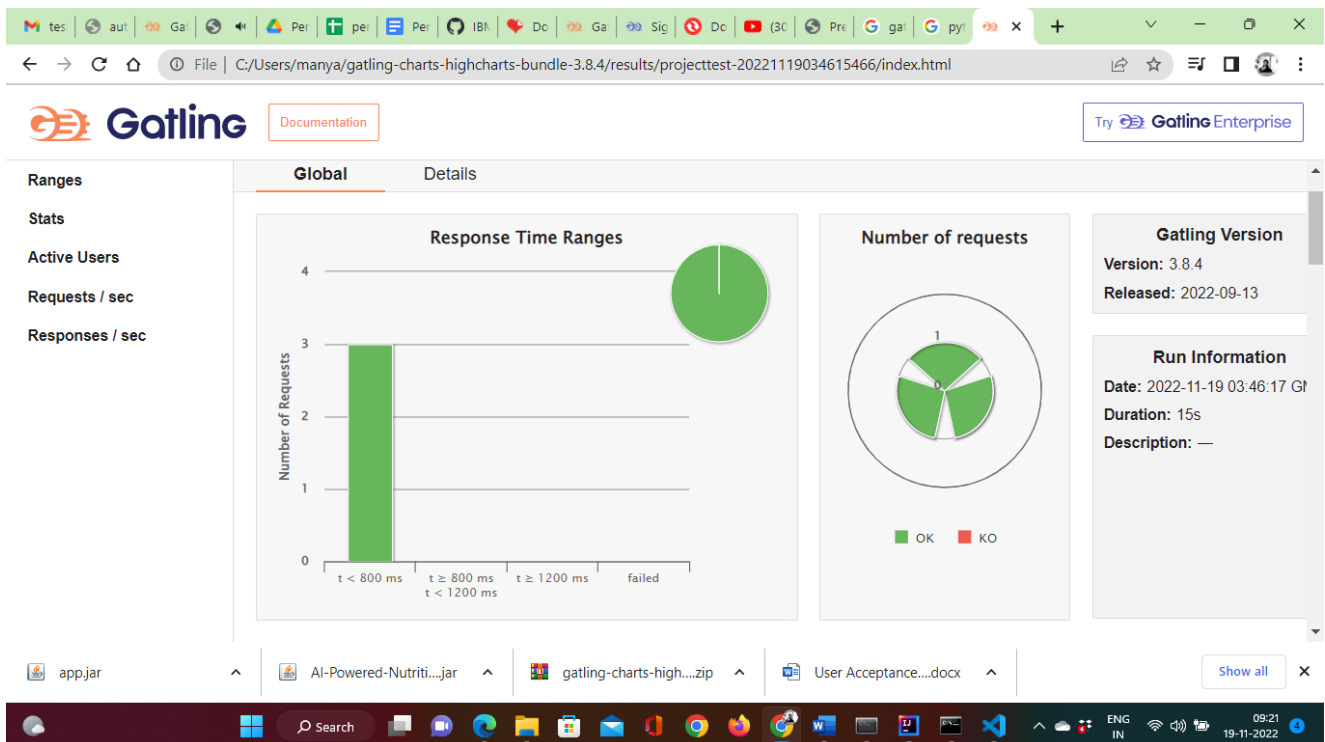
ACCURACY:

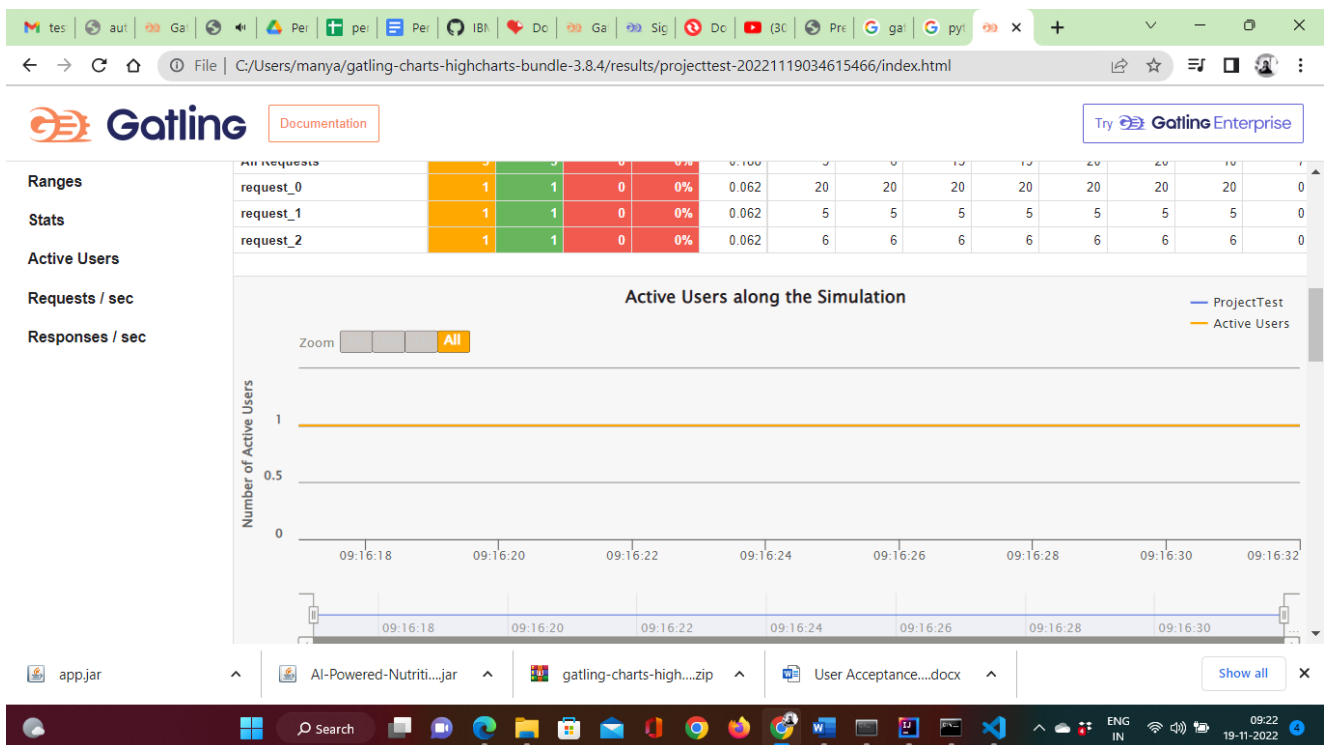
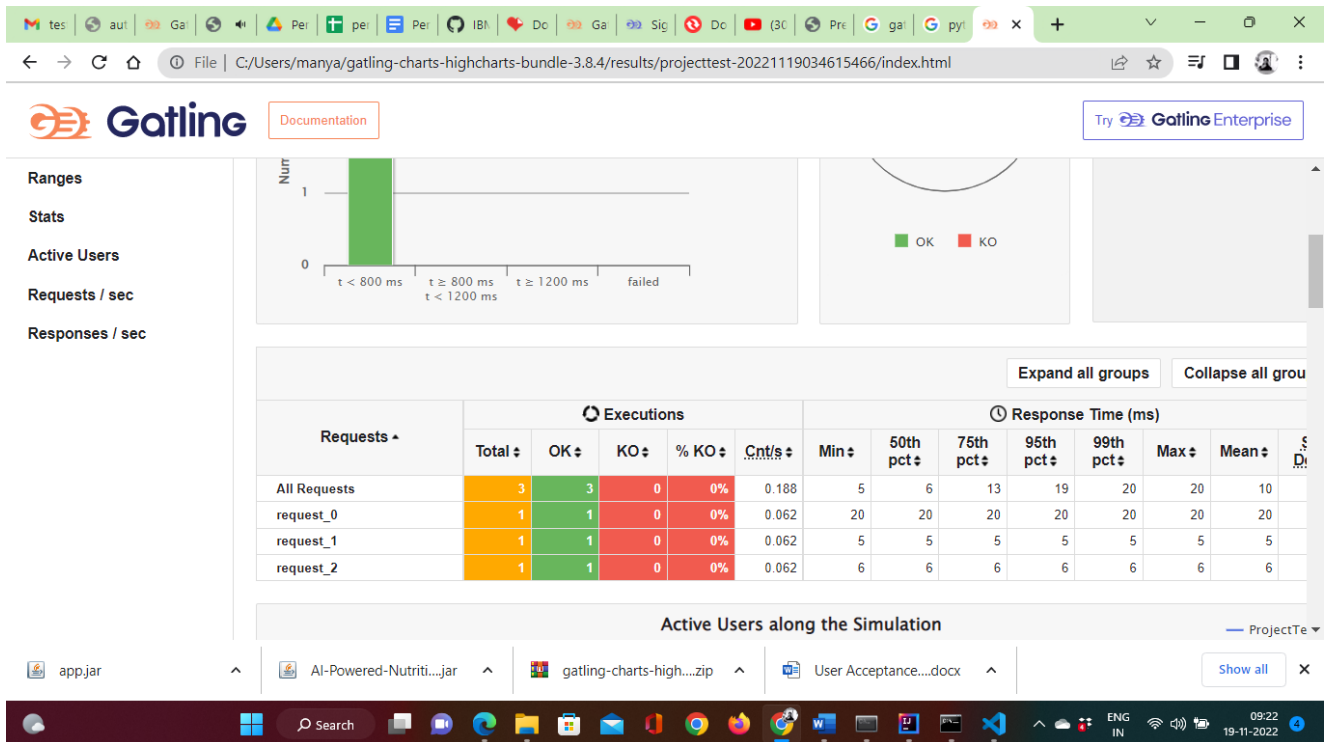
The screenshot shows a Jupyter Notebook interface with a dark theme. The notebook is titled "AI-Powered Nutrition Analysis for Fitness Enthusia.ipynb". The current cell displays the training process, including the number of epochs, the loss, accuracy, validation loss, and validation accuracy for each epoch. The output is formatted as a table with columns for epoch, loss, accuracy, validation loss, and validation accuracy. A warning message is also visible, indicating that the `Model.fit_generator` method is deprecated.

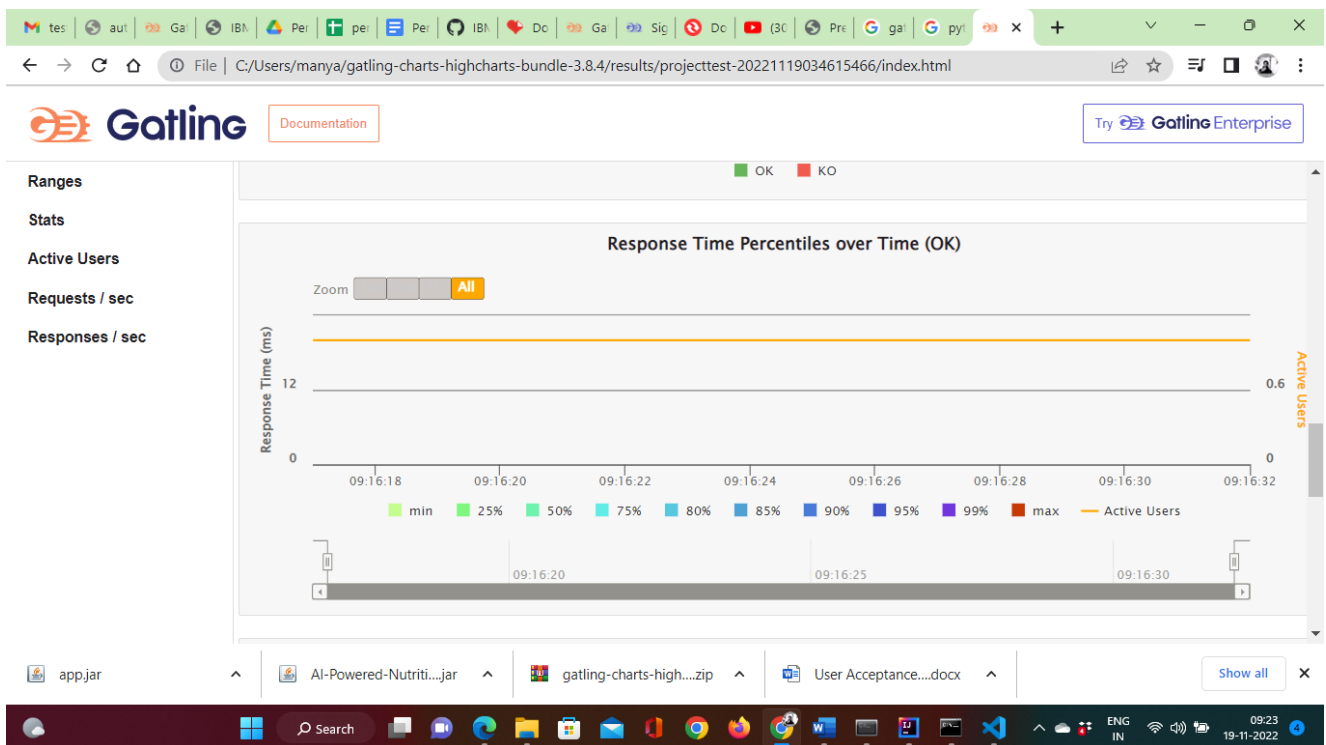
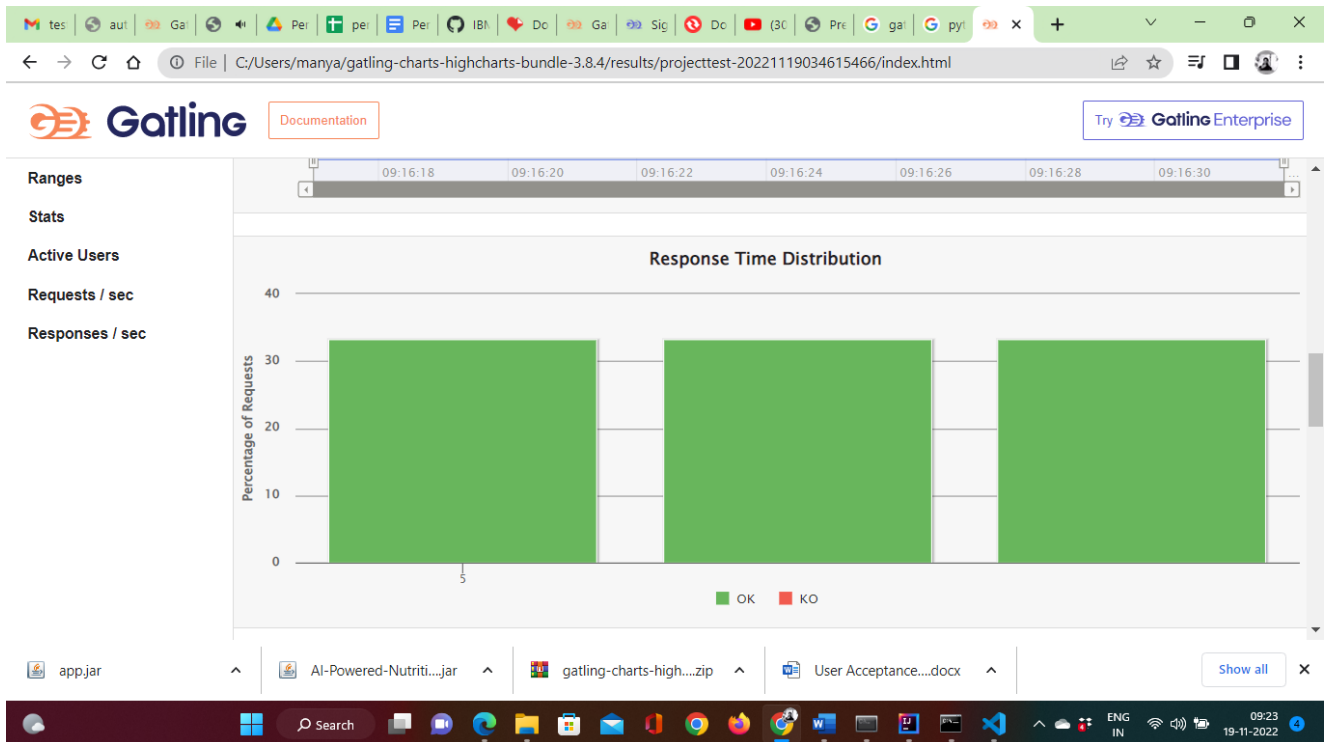
Epoch	Loss	Accuracy	Val Loss	Val Accuracy
Epoch 1/20	0.1085	0.9653	0.0717	0.9773
Epoch 2/20	5.1722e-04	1.0000	0.0281	0.9820
Epoch 3/20	9.7756e-05	1.0000	0.0328	0.9820
Epoch 4/20	1.4685e-04	1.0000	0.0084	1.0000
Epoch 5/20	0.0670	0.9863	0.0199	0.9829
Epoch 6/20	0.0399	0.9871	0.1538	0.9374

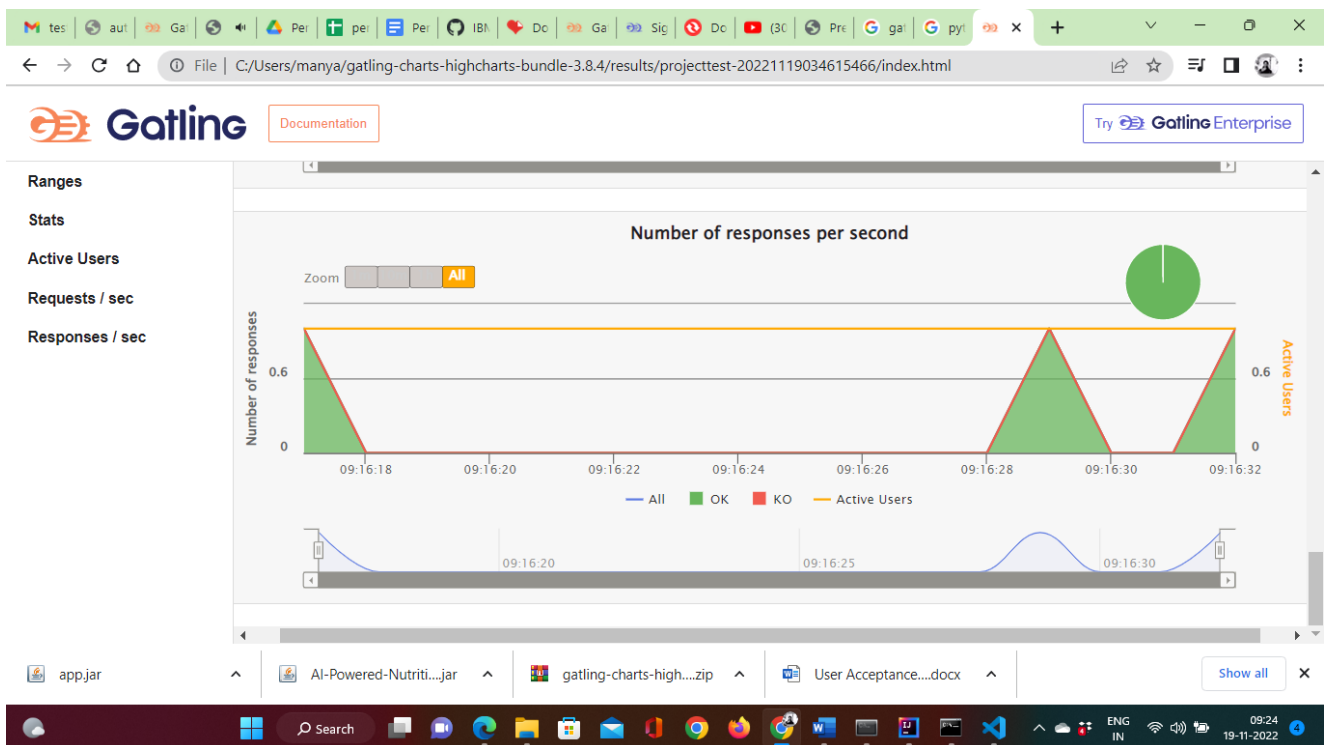
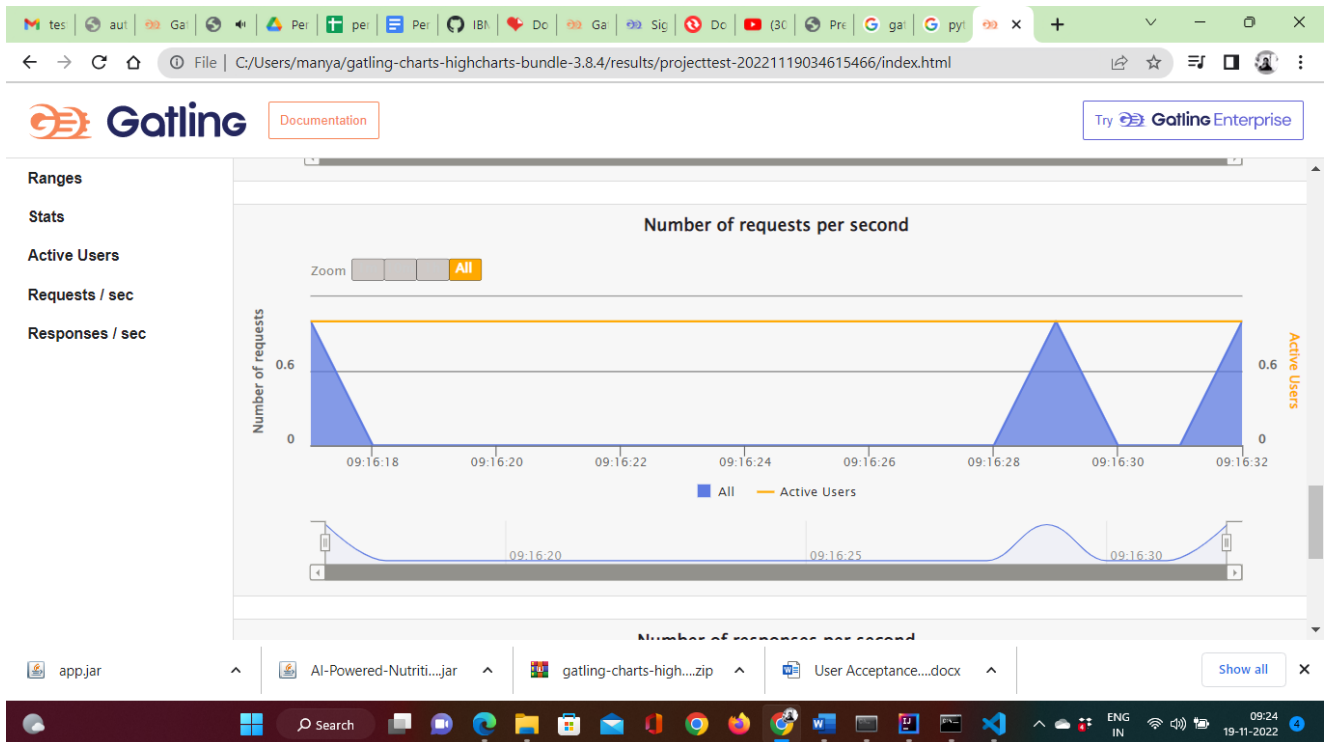
```
File Edit Selection View Go Run Terminal Help
AI-Powered Nutrition Analysis for Fitness Enthusia.ipynb X model_building.ipynb
C: > Users > manya > Downloads > AI-Powered Nutrition Analysis for Fitness Enthusia.ipynb > pwd
+ Code + Markdown | Run All | Clear Outputs of All Cells | Restart | Variables | Outline ... Python 3.7.4 64-bit
526/526 [=====] - 16s 31ms/step - loss: 0.0399 - accuracy: 0.9871 - val_loss: 0.1538 - val_accuracy: 0.9374
Epoch 7/20
526/526 [=====] - 17s 32ms/step - loss: 8.4732e-04 - accuracy: 1.0000 - val_loss: 0.0019 - val_accuracy: 1.0000
Epoch 8/20
526/526 [=====] - 16s 30ms/step - loss: 8.7237e-05 - accuracy: 1.0000 - val_loss: 0.0012 - val_accuracy: 1.0000
Epoch 9/20
526/526 [=====] - 17s 32ms/step - loss: 1.1924e-04 - accuracy: 1.0000 - val_loss: 0.0029 - val_accuracy: 1.0000
Epoch 10/20
526/526 [=====] - 17s 32ms/step - loss: 6.0652e-05 - accuracy: 1.0000 - val_loss: 0.0027 - val_accuracy: 1.0000
Epoch 11/20
526/526 [=====] - 17s 33ms/step - loss: 3.0809e-05 - accuracy: 1.0000 - val_loss: 0.0016 - val_accuracy: 1.0000
Epoch 12/20
526/526 [=====] - 17s 33ms/step - loss: 1.6197e-05 - accuracy: 1.0000 - val_loss: 0.0013 - val_accuracy: 1.0000
Epoch 13/20
526/526 [=====] - 17s 32ms/step - loss: 1.7806e-05 - accuracy: 1.0000 - val_loss: 0.0011 - val_accuracy: 1.0000
...
Epoch 19/20
526/526 [=====] - 17s 33ms/step - loss: 2.2444e-05 - accuracy: 1.0000 - val_loss: 0.1567 - val_accuracy: 0.9773
Epoch 20/20
526/526 [=====] - 17s 33ms/step - loss: 1.7329e-04 - accuracy: 1.0000 - val_loss: 0.1739 - val_accuracy: 0.9773
<keras.callbacks.History at 0x7f6e54136730>
```

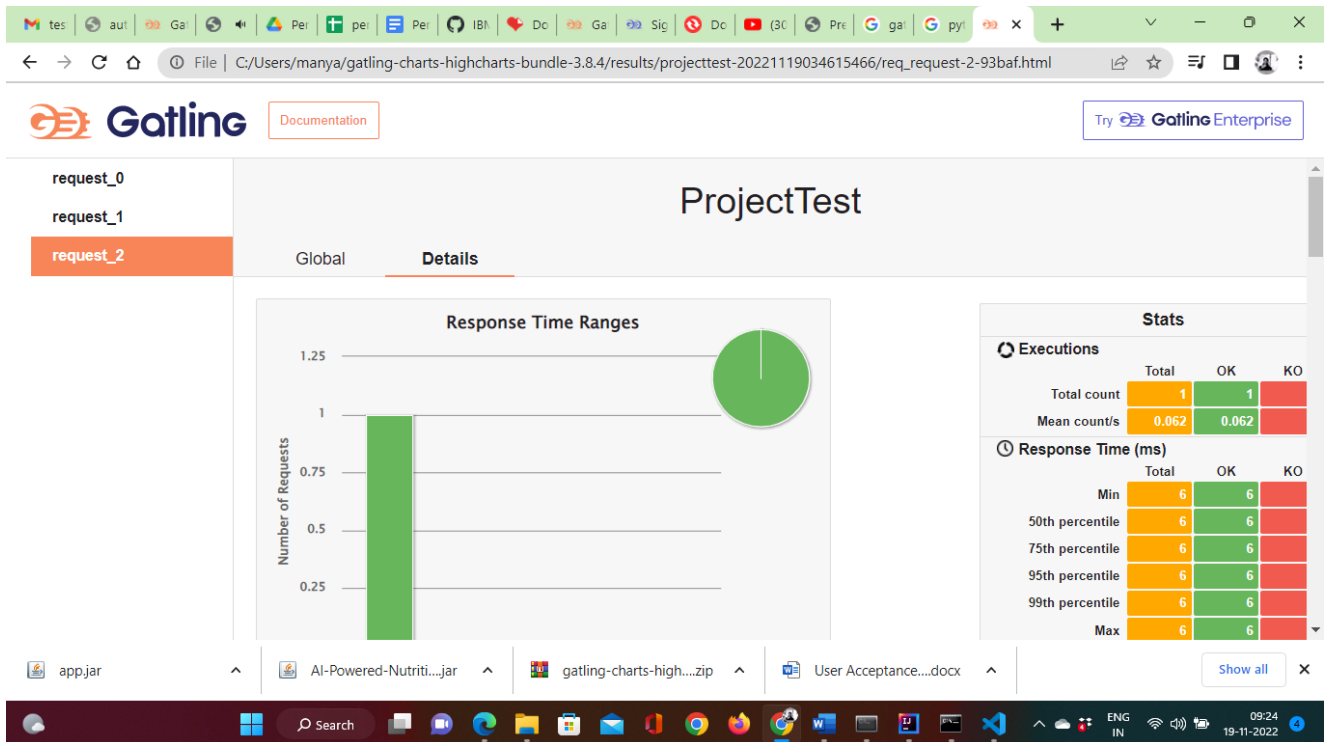
PERFORMANCE TESTING REPORTS:











Command Prompt - gatling.bat

```
Simulation ProjectTest started...

2022-11-19 09:16:22          5s elapsed
----- Requests -----
> Global          (OK=1   KO=0   )
> request_0       (OK=1   KO=0   )

----- ProjectTest -----
[-----] 0%
waiting: 0 / active: 1 / done: 0

2022-11-19 09:16:27          10s elapsed
----- Requests -----
> Global          (OK=1   KO=0   )
> request_0       (OK=1   KO=0   )

----- ProjectTest -----
[-----] 0%
waiting: 0 / active: 1 / done: 0

2022-11-19 09:16:32          15s elapsed
----- Requests -----
> Global          (OK=2   KO=0   )
> request_0       (OK=1   KO=0   )
> request_1       (OK=1   KO=0   )

----- ProjectTest -----
[-----] 0%
waiting: 0 / active: 1 / done: 0

2022-11-19 09:16:32          15s elapsed
----- Requests -----
```

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Command Prompt - gatling.bat

```
=====
2022-11-19 09:16:32                      15s elapsed
--- Requests -----
> Global                                (OK=3    KO=0    )
> request_0                            (OK=1    KO=0    )
> request_1                            (OK=1    KO=0    )
> request_2                            (OK=1    KO=0    )
=====
```

```
--- ProjectTest -----
[#####]100%
waiting: 0 / active: 0 / done: 1
=====
```

Simulation ProjectTest completed in 15 seconds

Parsing log file(s)...

Parsing log file(s) done

Generating reports...

```
----- Global Information -----
> request count                        3 (OK=3    KO=0    )
> min response time                    5 (OK=5    KO=-    )
> max response time                    20 (OK=20   KO=-    )
> mean response time                   10 (OK=10   KO=-    )
> std deviation                        7 (OK=7    KO=-    )
> response time 50th percentile        6 (OK=6    KO=-    )
> response time 75th percentile        13 (OK=13   KO=-    )
> response time 95th percentile        19 (OK=19   KO=-    )
> response time 99th percentile        20 (OK=20   KO=-    )
> mean requests/sec                    0.188 (OK=0.188 KO=-    )
----- Response Time Distribution -----
> t < 800 ms                          3 (100%)
> 800 ms <= t < 1200 ms               0 ( 0%)
> t >= 1200 ms                        0 ( 0%)
> failed                              0 ( 0%)
=====
```

Reports generated in 0s.

Please open the following file: file:///C:/Users/many/gatling-charts-highcharts-bundle-3.8.4/results/projecttest-20221119034615466/index.html

Press any key to continue . . .



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