

Training for CA\_2

Single window of past history : (100, 4)

(72, 20)

Epoch 1/100

50/50 [=====] - 5s 107ms/step - loss: 0.7691 - val\_loss: 1.6120

Epoch 2/100

50/50 [=====] - 5s 98ms/step - loss: 0.6987 - val\_loss: 1.1616

Epoch 3/100

50/50 [=====] - 5s 102ms/step - loss: 0.6661 - val\_loss: 1.1229

Epoch 4/100

50/50 [=====] - 5s 100ms/step - loss: 0.6484 - val\_loss: 1.0921

Epoch 5/100

50/50 [=====] - 5s 99ms/step - loss: 0.5745 - val\_loss: 0.9528

Epoch 6/100

50/50 [=====] - 5s 102ms/step - loss: 0.4452 - val\_loss: 0.7899

Epoch 7/100

50/50 [=====] - 5s 103ms/step - loss: 0.3983 - val\_loss: 0.7718

Epoch 8/100

50/50 [=====] - 5s 105ms/step - loss: 0.3825 - val\_loss: 0.7543

Epoch 9/100

50/50 [=====] - 5s 106ms/step - loss: 0.3894 - val\_loss: 0.8519

Epoch 10/100

50/50 [=====] - 5s 101ms/step - loss: 0.3541 - val\_loss: 0.7730

Epoch 11/100

50/50 [=====] - 5s 100ms/step - loss: 0.3190 - val\_loss: 0.7702

Epoch 12/100

50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan

Epoch 13/100

50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan

Epoch 14/100

50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan

Epoch 15/100

50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan

Epoch 16/100

50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan

Epoch 17/100

50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan

Epoch 18/100

50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan

Epoch 19/100

50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan

Epoch 20/100

50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan

Epoch 21/100

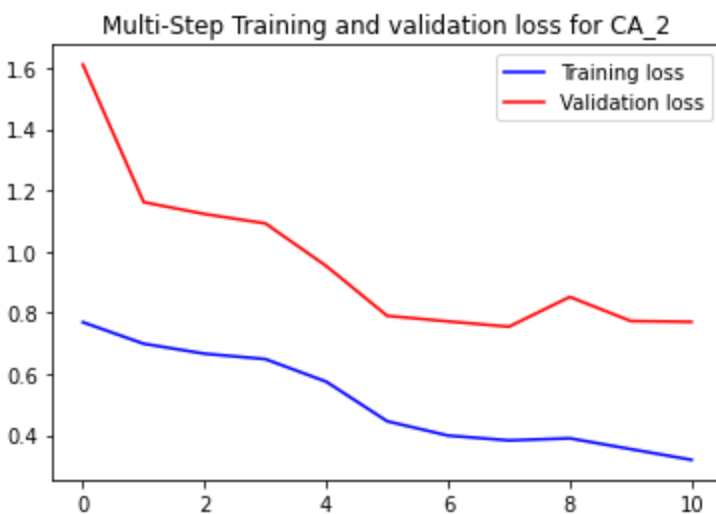
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan

Epoch 22/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 23/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 24/100  
50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan  
Epoch 25/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 26/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 27/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 28/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 29/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 30/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 31/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 32/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 33/100  
50/50 [=====] - 5s 97ms/step - loss: nan - val\_loss: nan  
Epoch 34/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 35/100  
50/50 [=====] - 5s 96ms/step - loss: nan - val\_loss: nan  
Epoch 36/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 37/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 38/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 39/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 40/100  
50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan  
Epoch 41/100  
50/50 [=====] - 6s 113ms/step - loss: nan - val\_loss: nan  
Epoch 42/100  
50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan  
Epoch 43/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 44/100

50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 45/100  
50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan  
Epoch 46/100  
50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan  
Epoch 47/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 48/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 49/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 50/100  
50/50 [=====] - 5s 96ms/step - loss: nan - val\_loss: nan  
Epoch 51/100  
50/50 [=====] - 5s 97ms/step - loss: nan - val\_loss: nan  
Epoch 52/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 53/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 54/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 55/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 56/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 57/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 58/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 59/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 60/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 61/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 62/100  
50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan  
Epoch 63/100  
50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan  
Epoch 64/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 65/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 66/100  
50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan

Epoch 67/100  
50/50 [=====] - 5s 105ms/step - loss: nan - val\_loss: nan  
Epoch 68/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 69/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 70/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 71/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 72/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 73/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 74/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 75/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 76/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 77/100  
50/50 [=====] - 5s 105ms/step - loss: nan - val\_loss: nan  
Epoch 78/100  
50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan  
Epoch 79/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 80/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 81/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 82/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 83/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 84/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 85/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 86/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 87/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 88/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 89/100

50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 90/100  
50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan  
Epoch 91/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 92/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 93/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 94/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 95/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 96/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 97/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 98/100  
50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan  
Epoch 99/100  
50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan  
Epoch 100/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan





50/50 [=====] - 6s 112ms/step - loss: 0.6393 - val\_loss: 0.7112  
Epoch 2/100  
50/50 [=====] - 6s 126ms/step - loss: 0.5235 - val\_loss: 0.5906  
Epoch 3/100  
50/50 [=====] - 5s 100ms/step - loss: 0.5124 - val\_loss: 0.5777  
Epoch 4/100  
50/50 [=====] - 5s 99ms/step - loss: 0.5068 - val\_loss: 0.5734  
Epoch 5/100  
50/50 [=====] - 5s 97ms/step - loss: 0.5021 - val\_loss: 0.5687  
Epoch 6/100  
50/50 [=====] - 5s 98ms/step - loss: 0.4938 - val\_loss: 0.5489  
Epoch 7/100  
50/50 [=====] - 5s 98ms/step - loss: 0.4696 - val\_loss: 0.4757  
Epoch 8/100  
50/50 [=====] - 5s 107ms/step - loss: 0.4078 - val\_loss: 0.3977  
Epoch 9/100  
50/50 [=====] - 6s 129ms/step - loss: 0.3684 - val\_loss: 0.4040  
Epoch 10/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3569 - val\_loss: 0.3806  
Epoch 11/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3525 - val\_loss: 0.3783  
Epoch 12/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3498 - val\_loss: 0.3795  
Epoch 13/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3446 - val\_loss: 0.3810  
Epoch 14/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3422 - val\_loss: 0.3894  
Epoch 15/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3421 - val\_loss: 0.3638  
Epoch 16/100  
50/50 [=====] - 5s 97ms/step - loss: 0.3397 - val\_loss: 0.3687  
Epoch 17/100  
50/50 [=====] - 5s 97ms/step - loss: 0.3380 - val\_loss: 0.3781  
Epoch 18/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3343 - val\_loss: 0.3741  
Epoch 19/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3337 - val\_loss: 0.3772  
Epoch 20/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3303 - val\_loss: 0.3919  
Epoch 21/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3278 - val\_loss: 0.3722  
Epoch 22/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3280 - val\_loss: 0.3803  
Epoch 23/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3208 - val\_loss: 0.4007

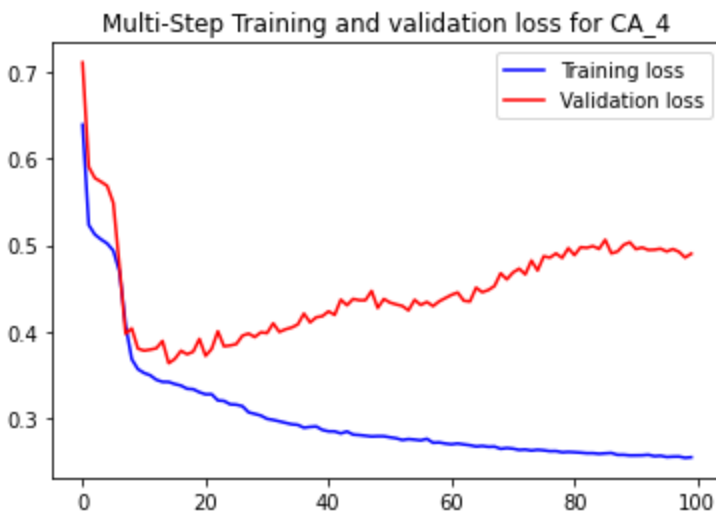
Epoch 24/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3202 - val\_loss: 0.3833  
Epoch 25/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3163 - val\_loss: 0.3843  
Epoch 26/100  
50/50 [=====] - 5s 104ms/step - loss: 0.3159 - val\_loss: 0.3859  
Epoch 27/100  
50/50 [=====] - 5s 108ms/step - loss: 0.3141 - val\_loss: 0.3956  
Epoch 28/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3070 - val\_loss: 0.3980  
Epoch 29/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3052 - val\_loss: 0.3940  
Epoch 30/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3033 - val\_loss: 0.3995  
Epoch 31/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2995 - val\_loss: 0.3986  
Epoch 32/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2982 - val\_loss: 0.4098  
Epoch 33/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2966 - val\_loss: 0.3999  
Epoch 34/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2949 - val\_loss: 0.4029  
Epoch 35/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2932 - val\_loss: 0.4050  
Epoch 36/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2926 - val\_loss: 0.4085  
Epoch 37/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2892 - val\_loss: 0.4211  
Epoch 38/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2902 - val\_loss: 0.4109  
Epoch 39/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2907 - val\_loss: 0.4168  
Epoch 40/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2867 - val\_loss: 0.4181  
Epoch 41/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2850 - val\_loss: 0.4237  
Epoch 42/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2850 - val\_loss: 0.4196  
Epoch 43/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2827 - val\_loss: 0.4372  
Epoch 44/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2849 - val\_loss: 0.4308  
Epoch 45/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2813 - val\_loss: 0.4381  
Epoch 46/100

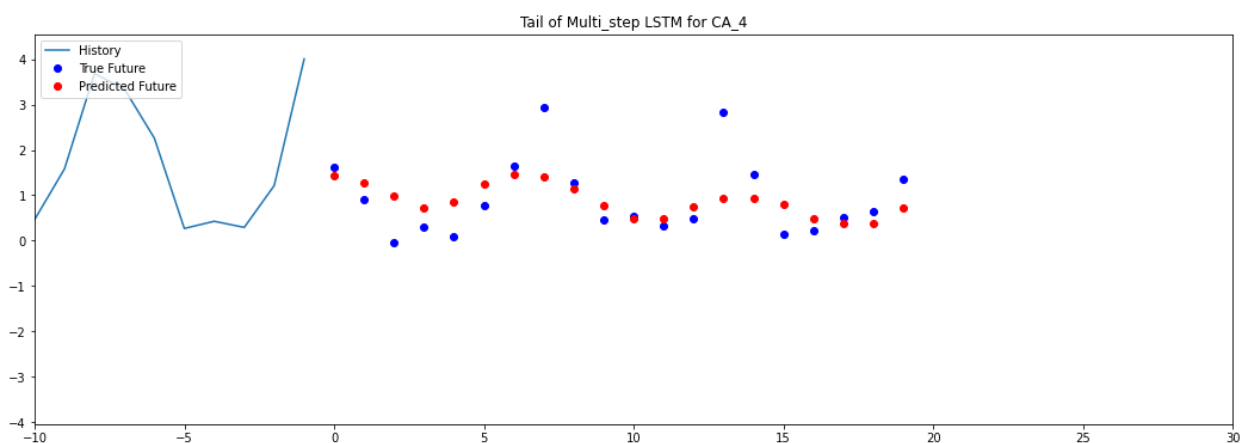
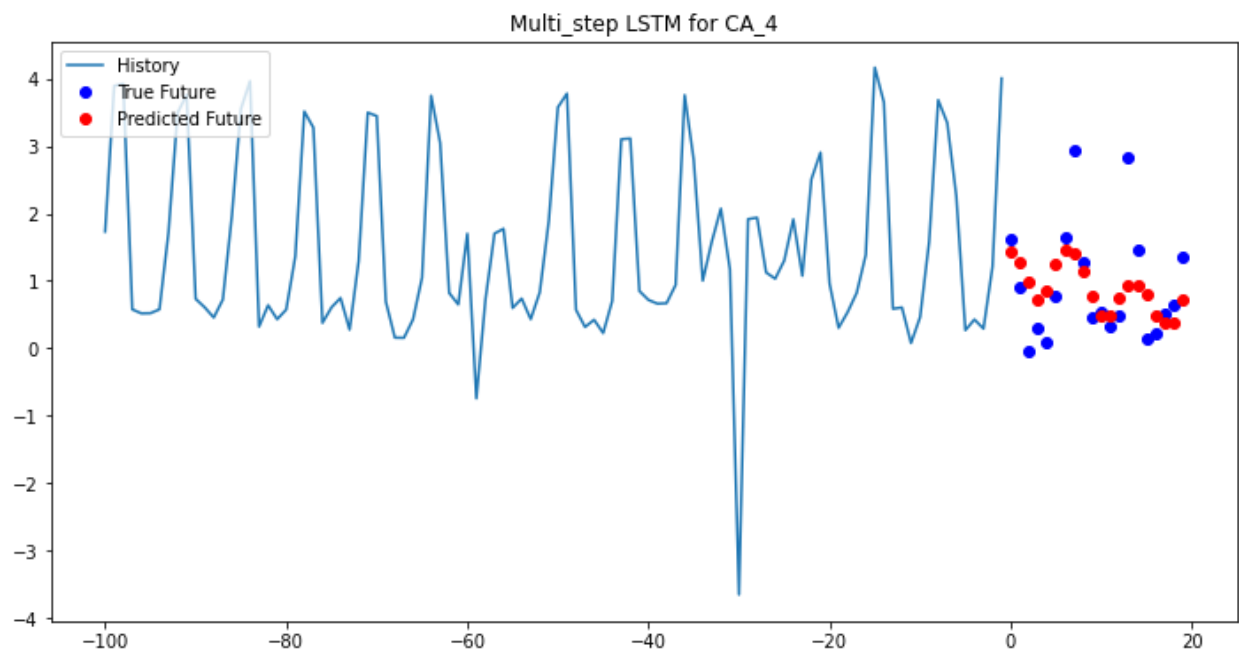


50/50 [=====] - 5s 99ms/step - loss: 0.2808 - val\_loss: 0.4365  
Epoch 47/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2800 - val\_loss: 0.4365  
Epoch 48/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2791 - val\_loss: 0.4472  
Epoch 49/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2795 - val\_loss: 0.4276  
Epoch 50/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2794 - val\_loss: 0.4380  
Epoch 51/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2781 - val\_loss: 0.4338  
Epoch 52/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2771 - val\_loss: 0.4317  
Epoch 53/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2751 - val\_loss: 0.4299  
Epoch 54/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2761 - val\_loss: 0.4248  
Epoch 55/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2755 - val\_loss: 0.4369  
Epoch 56/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2746 - val\_loss: 0.4311  
Epoch 57/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2764 - val\_loss: 0.4345  
Epoch 58/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2719 - val\_loss: 0.4297  
Epoch 59/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2723 - val\_loss: 0.4353  
Epoch 60/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2709 - val\_loss: 0.4390  
Epoch 61/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2701 - val\_loss: 0.4427  
Epoch 62/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2710 - val\_loss: 0.4454  
Epoch 63/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2699 - val\_loss: 0.4360  
Epoch 64/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2690 - val\_loss: 0.4350  
Epoch 65/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2676 - val\_loss: 0.4511  
Epoch 66/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2682 - val\_loss: 0.4458  
Epoch 67/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2672 - val\_loss: 0.4483  
Epoch 68/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2674 - val\_loss: 0.4530

Epoch 69/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2649 - val\_loss: 0.4677  
Epoch 70/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2658 - val\_loss: 0.4606  
Epoch 71/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2651 - val\_loss: 0.4685  
Epoch 72/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2636 - val\_loss: 0.4730  
Epoch 73/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2640 - val\_loss: 0.4664  
Epoch 74/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2629 - val\_loss: 0.4823  
Epoch 75/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2637 - val\_loss: 0.4709  
Epoch 76/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2631 - val\_loss: 0.4873  
Epoch 77/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2622 - val\_loss: 0.4857  
Epoch 78/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2623 - val\_loss: 0.4905  
Epoch 79/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2609 - val\_loss: 0.4853  
Epoch 80/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2613 - val\_loss: 0.4967  
Epoch 81/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2609 - val\_loss: 0.4886  
Epoch 82/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2605 - val\_loss: 0.4978  
Epoch 83/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2598 - val\_loss: 0.4970  
Epoch 84/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2598 - val\_loss: 0.4990  
Epoch 85/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2591 - val\_loss: 0.4958  
Epoch 86/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2597 - val\_loss: 0.5064  
Epoch 87/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2601 - val\_loss: 0.4906  
Epoch 88/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2579 - val\_loss: 0.4928  
Epoch 89/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2579 - val\_loss: 0.5005  
Epoch 90/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2572 - val\_loss: 0.5035  
Epoch 91/100

50/50 [=====] - 5s 100ms/step - loss: 0.2573 - val\_loss: 0.4955  
Epoch 92/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2574 - val\_loss: 0.4974  
Epoch 93/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2580 - val\_loss: 0.4946  
Epoch 94/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2564 - val\_loss: 0.4949  
Epoch 95/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2569 - val\_loss: 0.4961  
Epoch 96/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2554 - val\_loss: 0.4928  
Epoch 97/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2558 - val\_loss: 0.4956  
Epoch 98/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2559 - val\_loss: 0.4925  
Epoch 99/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2545 - val\_loss: 0.4858  
Epoch 100/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2551 - val\_loss: 0.4903





CA\_4 - True Future: [2787. 2487. 2088. 2239. 2153. 2432. 2806. 3343. 2643. 2299. 2335. 2244. 2316. 3301. 2727. 2166. 2207. 2323. 2383. 2677.]

CA\_4 - Model Prediction: [2711.756 2641.8303 2522.8245 2411.799 2470.4146 2637.5054 2724.1528

2701.4507 2590.7954 2439.6804 2319.4062 2316.2383 2422.9956 2506.962

2502.5056 2449.1833 2312.4382 2267.933 2274.794 2411.2783]

CA\_4 - Model Percentage Error: [ 2.69981688 6.22558594 20.82492638 7.71768969 14.742896 8.45005638

2.91686272 19.1908261 1.97520204 6.11920052 0.66782655 3.21917474

4.6198448 24.05447095 8.232284 13.07402353 4.77744596 2.37050773

4.54074925 9.92609935]%

CA\_4 - Model Mean Percentage Error: 8.31727447554806%

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Training for CA\_1

Single window of past history : (100, 4)

(72, 20)

Epoch 1/100

50/50 [=====] - 5s 107ms/step - loss: 0.7736 - val\_loss: 0.7266

Epoch 2/100

50/50 [=====] - 5s 98ms/step - loss: 0.7339 - val\_loss: 0.7201

Epoch 3/100

50/50 [=====] - 5s 99ms/step - loss: 0.7002 - val\_loss: 0.7210

Epoch 4/100

50/50 [=====] - 5s 98ms/step - loss: 0.6952 - val\_loss: 0.7215

Epoch 5/100

50/50 [=====] - 5s 98ms/step - loss: 0.6874 - val\_loss: 0.8644

Epoch 6/100

50/50 [=====] - 5s 98ms/step - loss: 0.6810 - val\_loss: 0.7257

Epoch 7/100

50/50 [=====] - 5s 97ms/step - loss: 0.6566 - val\_loss: 0.6454

Epoch 8/100

50/50 [=====] - 5s 100ms/step - loss: 0.4928 - val\_loss: 0.4127

Epoch 9/100

50/50 [=====] - 5s 99ms/step - loss: 0.4061 - val\_loss: 0.3986

Epoch 10/100

50/50 [=====] - 5s 98ms/step - loss: 0.3884 - val\_loss: 0.3942

Epoch 11/100

50/50 [=====] - 5s 97ms/step - loss: 0.3821 - val\_loss: 0.3942

Epoch 12/100

50/50 [=====] - 5s 98ms/step - loss: 0.3756 - val\_loss: 0.3733

Epoch 13/100

50/50 [=====] - 5s 99ms/step - loss: 0.3564 - val\_loss: 0.3626

Epoch 14/100

50/50 [=====] - 5s 97ms/step - loss: 0.3468 - val\_loss: 0.3612

Epoch 15/100

50/50 [=====] - 5s 99ms/step - loss: 0.3370 - val\_loss: 0.3506

Epoch 16/100

50/50 [=====] - 5s 100ms/step - loss: 0.3272 - val\_loss: 0.3533

Epoch 17/100

50/50 [=====] - 5s 99ms/step - loss: 0.3227 - val\_loss: 0.3433

Epoch 18/100

50/50 [=====] - 5s 97ms/step - loss: 0.3220 - val\_loss: 0.3569

Epoch 19/100

50/50 [=====] - 5s 96ms/step - loss: 0.3182 - val\_loss: 0.3557

Epoch 20/100

50/50 [=====] - 5s 97ms/step - loss: 0.3102 - val\_loss: 0.3532

Epoch 21/100

50/50 [=====] - 5s 101ms/step - loss: 0.3121 - val\_loss: 0.3608

Epoch 22/100

50/50 [=====] - 5s 102ms/step - loss: 0.3021 - val\_loss: 0.3435  
Epoch 23/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3118 - val\_loss: 0.3605  
Epoch 24/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2959 - val\_loss: 0.3568  
Epoch 25/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2985 - val\_loss: 0.3607  
Epoch 26/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2975 - val\_loss: 0.3666  
Epoch 27/100  
50/50 [=====] - 6s 129ms/step - loss: 0.2880 - val\_loss: 0.3551  
Epoch 28/100  
50/50 [=====] - 5s 107ms/step - loss: 0.2867 - val\_loss: 0.3774  
Epoch 29/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2956 - val\_loss: 0.3541  
Epoch 30/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2796 - val\_loss: 0.3601  
Epoch 31/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2784 - val\_loss: 0.3628  
Epoch 32/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2919 - val\_loss: 0.3576  
Epoch 33/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2751 - val\_loss: 0.3571  
Epoch 34/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2716 - val\_loss: 0.6819  
Epoch 35/100  
50/50 [=====] - 5s 97ms/step - loss: 0.3016 - val\_loss: 0.3626  
Epoch 36/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2684 - val\_loss: 0.3577  
Epoch 37/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2662 - val\_loss: 0.3465  
Epoch 38/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2650 - val\_loss: 0.3491  
Epoch 39/100  
50/50 [=====] - 5s 97ms/step - loss: 0.2644 - val\_loss: 0.3451  
Epoch 40/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2619 - val\_loss: 0.3625  
Epoch 41/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3086 - val\_loss: 0.3737  
Epoch 42/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2629 - val\_loss: 0.3703  
Epoch 43/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2563 - val\_loss: 0.3635  
Epoch 44/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2560 - val\_loss: 0.3858

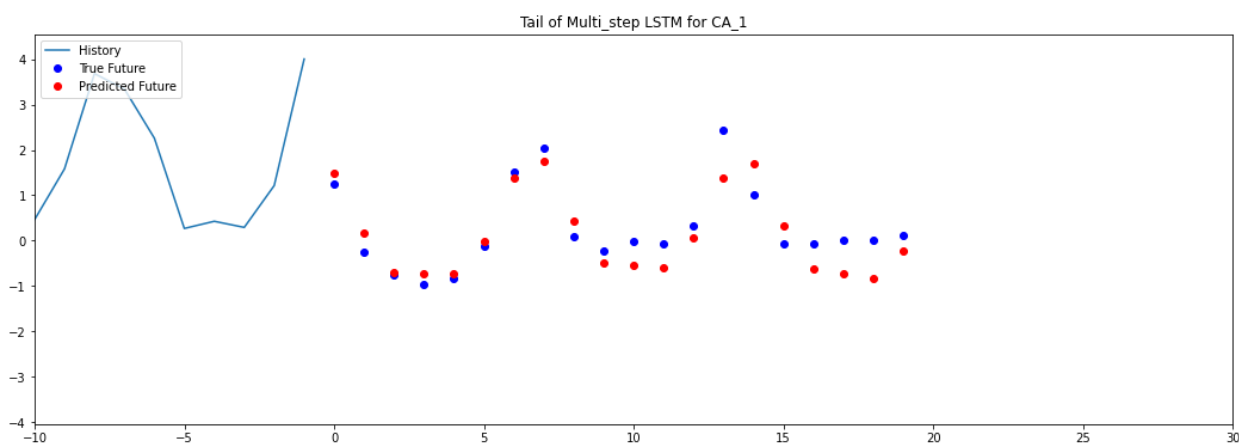
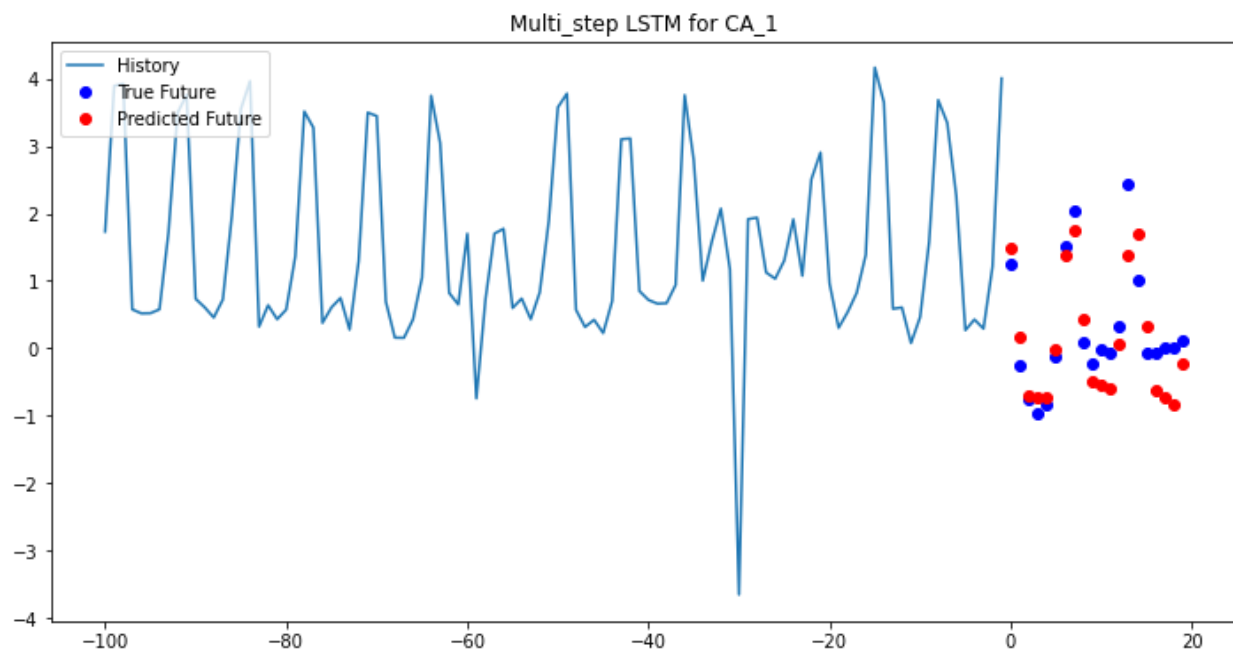
Epoch 45/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2619 - val\_loss: 0.4773  
Epoch 46/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2684 - val\_loss: 0.3713  
Epoch 47/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2520 - val\_loss: 0.3654  
Epoch 48/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2504 - val\_loss: 0.4037  
Epoch 49/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2510 - val\_loss: 0.3832  
Epoch 50/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2503 - val\_loss: 0.4077  
Epoch 51/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2483 - val\_loss: 0.3980  
Epoch 52/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3089 - val\_loss: 0.3526  
Epoch 53/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2487 - val\_loss: 0.3605  
Epoch 54/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2453 - val\_loss: 0.3493  
Epoch 55/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2442 - val\_loss: 0.3466  
Epoch 56/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2435 - val\_loss: 0.3543  
Epoch 57/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2528 - val\_loss: 0.3607  
Epoch 58/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2423 - val\_loss: 0.3796  
Epoch 59/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2417 - val\_loss: 0.3517  
Epoch 60/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2402 - val\_loss: 0.3709  
Epoch 61/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2402 - val\_loss: 0.3738  
Epoch 62/100  
50/50 [=====] - 5s 100ms/step - loss: 0.4027 - val\_loss: 0.6107  
Epoch 63/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3122 - val\_loss: 0.3831  
Epoch 64/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2482 - val\_loss: 0.4043  
Epoch 65/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2413 - val\_loss: 0.3929  
Epoch 66/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2392 - val\_loss: 0.4500  
Epoch 67/100

50/50 [=====] - 5s 102ms/step - loss: 0.2375 - val\_loss: 0.4682  
Epoch 68/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2365 - val\_loss: 0.4405  
Epoch 69/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2363 - val\_loss: 0.4527  
Epoch 70/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2358 - val\_loss: 0.3559  
Epoch 71/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2362 - val\_loss: 0.3648  
Epoch 72/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2350 - val\_loss: 0.4512  
Epoch 73/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2342 - val\_loss: 0.3715  
Epoch 74/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2351 - val\_loss: 0.3588  
Epoch 75/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2657 - val\_loss: 0.7330  
Epoch 76/100  
50/50 [=====] - 5s 99ms/step - loss: 0.5134 - val\_loss: 0.4375  
Epoch 77/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2896 - val\_loss: 0.3828  
Epoch 78/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2513 - val\_loss: 0.3791  
Epoch 79/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2403 - val\_loss: 0.3711  
Epoch 80/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2360 - val\_loss: 0.3643  
Epoch 81/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2348 - val\_loss: 0.3579  
Epoch 82/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2336 - val\_loss: 0.3595  
Epoch 83/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2331 - val\_loss: 0.3622  
Epoch 84/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2317 - val\_loss: 0.3520  
Epoch 85/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2311 - val\_loss: 0.3618  
Epoch 86/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2307 - val\_loss: 0.3715  
Epoch 87/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2304 - val\_loss: 0.3544  
Epoch 88/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2300 - val\_loss: 0.3620  
Epoch 89/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2294 - val\_loss: 0.3567



Epoch 90/100  
 50/50 [=====] - 5s 100ms/step - loss: 0.2299 - val\_loss: 0.3548  
 Epoch 91/100  
 50/50 [=====] - 5s 99ms/step - loss: 0.2294 - val\_loss: 0.3656  
 Epoch 92/100  
 50/50 [=====] - 5s 97ms/step - loss: 0.2285 - val\_loss: 0.3601  
 Epoch 93/100  
 50/50 [=====] - 5s 99ms/step - loss: 0.2285 - val\_loss: 0.3596  
 Epoch 94/100  
 50/50 [=====] - 5s 95ms/step - loss: 0.2282 - val\_loss: 0.3527  
 Epoch 95/100  
 50/50 [=====] - 5s 99ms/step - loss: 0.2272 - val\_loss: 0.3623  
 Epoch 96/100  
 50/50 [=====] - 5s 99ms/step - loss: 0.2280 - val\_loss: 0.3809  
 Epoch 97/100  
 50/50 [=====] - 5s 100ms/step - loss: 0.2272 - val\_loss: 0.3604  
 Epoch 98/100  
 50/50 [=====] - 5s 103ms/step - loss: 0.2398 - val\_loss: 0.3744  
 Epoch 99/100  
 50/50 [=====] - 5s 96ms/step - loss: 0.2270 - val\_loss: 0.3718  
 Epoch 100/100  
 50/50 [=====] - 5s 99ms/step - loss: 0.2256 - val\_loss: 0.3652





CA\_1 - True Future: [5247. 3741. 3246. 3031. 3173. 3871. 5498. 6032. 4075. 3765. 3983. 3928. 4327. 6412. 4986. 3933. 3936. 3995. 4007. 4111.]

CA\_1 - Model Prediction: [5457.4697 4161.9946 3287.7725 3268.1055 3258.567 3972.5706 5359.6943

5730.385 4410.666 3505.9492 3461.6934 3398.8284 4046.5083 5358.74

5691.3154 4312.71 3373.1917 3280.2783 3155.3608 3769.8335]

CA\_1 - Model Percentage Error: [ 4.01123931 11.25353191 1.28689036 7.82268125 2.69671902 2.62388418

2.51556319 5.00025256 8.23720284 6.88049884 13.08829125 13.47178286

6.48235958 16.42638437 14.14591716 9.65446125 14.29899262 17.890405

21.25378488 8.29886898]%

CA\_1 - Model Mean Percentage Error: 9.366985570935498%

=====

=====

Training for CA\_3

Single window of past history : (100, 4)

(72, 20)

Epoch 1/100

50/50 [=====] - 5s 110ms/step - loss: 0.7064 - val\_loss: 0.6413

Epoch 2/100

50/50 [=====] - 5s 97ms/step - loss: 0.6283 - val\_loss: 0.6525

Epoch 3/100

50/50 [=====] - 5s 99ms/step - loss: 0.6147 - val\_loss: 0.6538

Epoch 4/100

50/50 [=====] - 5s 101ms/step - loss: 0.6059 - val\_loss: 0.6463

Epoch 5/100

50/50 [=====] - 5s 101ms/step - loss: 0.5929 - val\_loss: 0.6243

Epoch 6/100

50/50 [=====] - 5s 100ms/step - loss: 0.5713 - val\_loss: 0.5879

Epoch 7/100

50/50 [=====] - 5s 101ms/step - loss: 0.5325 - val\_loss: 0.5164

Epoch 8/100

50/50 [=====] - 5s 99ms/step - loss: 0.4655 - val\_loss: 0.4100

Epoch 9/100

50/50 [=====] - 5s 99ms/step - loss: 0.4285 - val\_loss: 0.4174

Epoch 10/100

50/50 [=====] - 5s 100ms/step - loss: 0.4179 - val\_loss: 0.3951

Epoch 11/100

50/50 [=====] - 5s 100ms/step - loss: 0.4095 - val\_loss: 0.3852

Epoch 12/100

50/50 [=====] - 5s 102ms/step - loss: 0.4005 - val\_loss: 0.4134

Epoch 13/100

50/50 [=====] - 5s 104ms/step - loss: 0.3926 - val\_loss: 0.3879

Epoch 14/100

50/50 [=====] - 5s 104ms/step - loss: 0.3841 - val\_loss: 0.3757

Epoch 15/100

50/50 [=====] - 5s 99ms/step - loss: 0.3752 - val\_loss: 0.3968

Epoch 16/100

50/50 [=====] - 5s 100ms/step - loss: 0.3664 - val\_loss: 0.3860

Epoch 17/100

50/50 [=====] - 5s 100ms/step - loss: 0.3594 - val\_loss: 0.3567

Epoch 18/100

50/50 [=====] - 5s 100ms/step - loss: 0.3496 - val\_loss: 0.3532

Epoch 19/100

50/50 [=====] - 5s 101ms/step - loss: 0.3419 - val\_loss: 0.3460

Epoch 20/100

50/50 [=====] - 5s 102ms/step - loss: 0.3327 - val\_loss: 0.3471

Epoch 21/100

50/50 [=====] - 5s 101ms/step - loss: 0.3257 - val\_loss: 0.3395

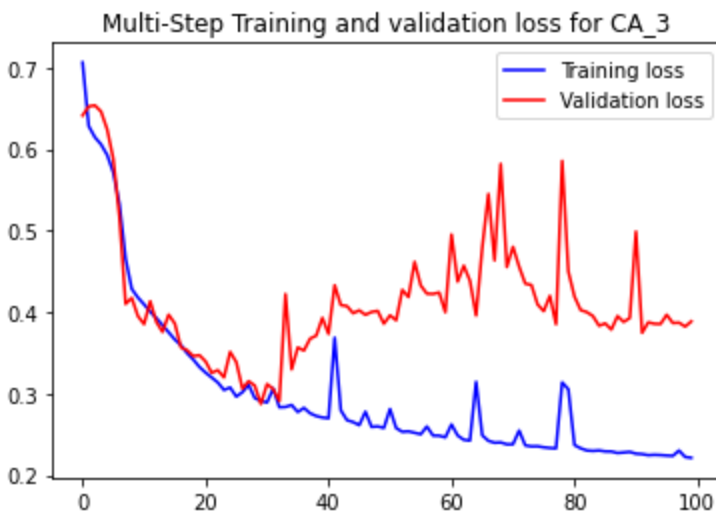
Epoch 22/100

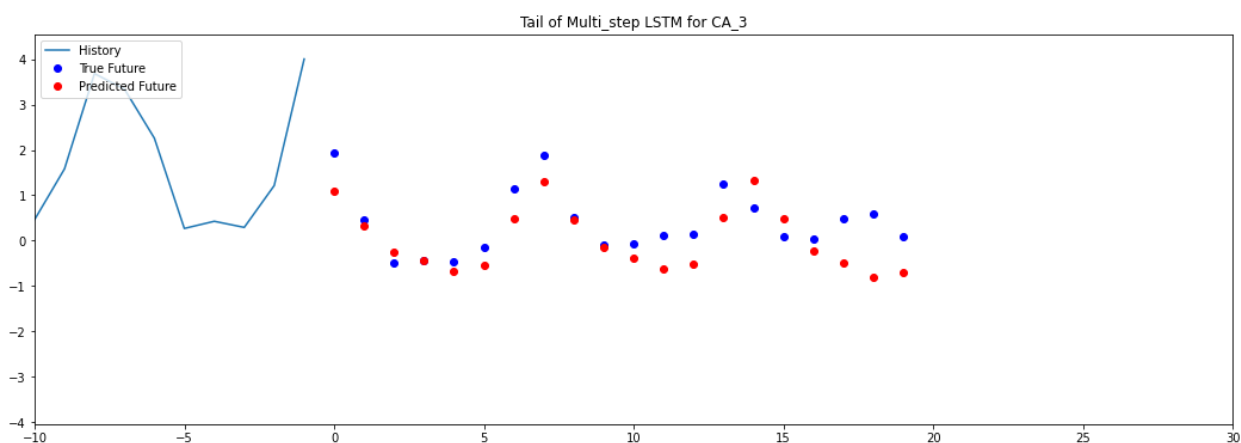
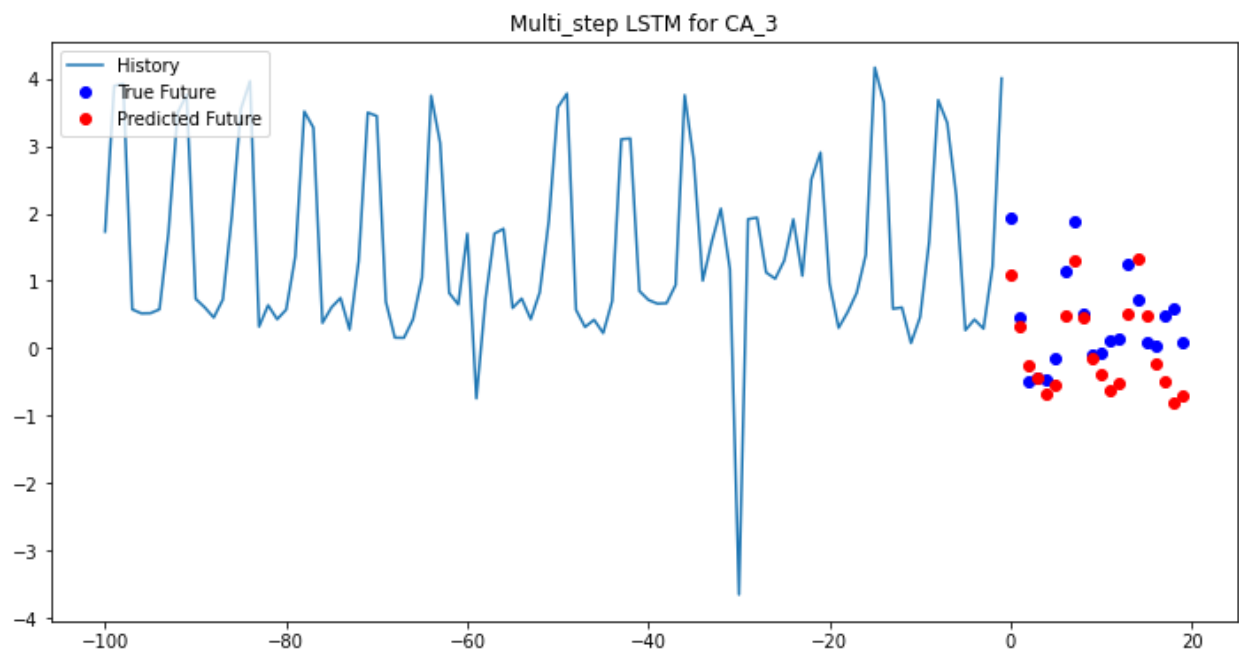
50/50 [=====] - 5s 100ms/step - loss: 0.3197 - val\_loss: 0.3255  
Epoch 23/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3135 - val\_loss: 0.3287  
Epoch 24/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3044 - val\_loss: 0.3199  
Epoch 25/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3075 - val\_loss: 0.3512  
Epoch 26/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2963 - val\_loss: 0.3386  
Epoch 27/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3018 - val\_loss: 0.3061  
Epoch 28/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3107 - val\_loss: 0.3152  
Epoch 29/100  
50/50 [=====] - 5s 97ms/step - loss: 0.2946 - val\_loss: 0.3098  
Epoch 30/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2909 - val\_loss: 0.2872  
Epoch 31/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2891 - val\_loss: 0.3117  
Epoch 32/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3062 - val\_loss: 0.3057  
Epoch 33/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2832 - val\_loss: 0.2908  
Epoch 34/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2836 - val\_loss: 0.4222  
Epoch 35/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2860 - val\_loss: 0.3297  
Epoch 36/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2774 - val\_loss: 0.3566  
Epoch 37/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2824 - val\_loss: 0.3528  
Epoch 38/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2759 - val\_loss: 0.3674  
Epoch 39/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2725 - val\_loss: 0.3711  
Epoch 40/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2706 - val\_loss: 0.3930  
Epoch 41/100  
50/50 [=====] - 5s 110ms/step - loss: 0.2697 - val\_loss: 0.3733  
Epoch 42/100  
50/50 [=====] - 6s 114ms/step - loss: 0.3686 - val\_loss: 0.4330  
Epoch 43/100  
50/50 [=====] - 5s 110ms/step - loss: 0.2794 - val\_loss: 0.4087  
Epoch 44/100  
50/50 [=====] - 5s 110ms/step - loss: 0.2674 - val\_loss: 0.4074

Epoch 45/100  
50/50 [=====] - 7s 148ms/step - loss: 0.2651 - val\_loss: 0.3987  
Epoch 46/100  
50/50 [=====] - 5s 109ms/step - loss: 0.2613 - val\_loss: 0.4022  
Epoch 47/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2778 - val\_loss: 0.3966  
Epoch 48/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2591 - val\_loss: 0.4002  
Epoch 49/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2597 - val\_loss: 0.4015  
Epoch 50/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2578 - val\_loss: 0.3858  
Epoch 51/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2811 - val\_loss: 0.3960  
Epoch 52/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2577 - val\_loss: 0.3900  
Epoch 53/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2531 - val\_loss: 0.4273  
Epoch 54/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2536 - val\_loss: 0.4185  
Epoch 55/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2519 - val\_loss: 0.4617  
Epoch 56/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2501 - val\_loss: 0.4327  
Epoch 57/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2596 - val\_loss: 0.4226  
Epoch 58/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2485 - val\_loss: 0.4223  
Epoch 59/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2483 - val\_loss: 0.4241  
Epoch 60/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2463 - val\_loss: 0.3998  
Epoch 61/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2622 - val\_loss: 0.4953  
Epoch 62/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2486 - val\_loss: 0.4374  
Epoch 63/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2433 - val\_loss: 0.4570  
Epoch 64/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2424 - val\_loss: 0.4385  
Epoch 65/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3144 - val\_loss: 0.3958  
Epoch 66/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2488 - val\_loss: 0.4790  
Epoch 67/100

50/50 [=====] - 5s 103ms/step - loss: 0.2420 - val\_loss: 0.5450  
Epoch 68/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2397 - val\_loss: 0.4635  
Epoch 69/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2401 - val\_loss: 0.5820  
Epoch 70/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2377 - val\_loss: 0.4553  
Epoch 71/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2379 - val\_loss: 0.4801  
Epoch 72/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2546 - val\_loss: 0.4558  
Epoch 73/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2364 - val\_loss: 0.4349  
Epoch 74/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2352 - val\_loss: 0.4333  
Epoch 75/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2354 - val\_loss: 0.4094  
Epoch 76/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2340 - val\_loss: 0.4011  
Epoch 77/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2332 - val\_loss: 0.4200  
Epoch 78/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2328 - val\_loss: 0.3851  
Epoch 79/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3137 - val\_loss: 0.5857  
Epoch 80/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3054 - val\_loss: 0.4500  
Epoch 81/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2368 - val\_loss: 0.4192  
Epoch 82/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2329 - val\_loss: 0.4025  
Epoch 83/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2302 - val\_loss: 0.4000  
Epoch 84/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2297 - val\_loss: 0.3952  
Epoch 85/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2302 - val\_loss: 0.3833  
Epoch 86/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2290 - val\_loss: 0.3861  
Epoch 87/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2289 - val\_loss: 0.3786  
Epoch 88/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2271 - val\_loss: 0.3952  
Epoch 89/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2277 - val\_loss: 0.3880

Epoch 90/100  
 50/50 [=====] - 5s 103ms/step - loss: 0.2284 - val\_loss: 0.3928  
 Epoch 91/100  
 50/50 [=====] - 5s 103ms/step - loss: 0.2263 - val\_loss: 0.4989  
 Epoch 92/100  
 50/50 [=====] - 5s 101ms/step - loss: 0.2257 - val\_loss: 0.3746  
 Epoch 93/100  
 50/50 [=====] - 5s 100ms/step - loss: 0.2244 - val\_loss: 0.3875  
 Epoch 94/100  
 50/50 [=====] - 5s 100ms/step - loss: 0.2249 - val\_loss: 0.3857  
 Epoch 95/100  
 50/50 [=====] - 5s 101ms/step - loss: 0.2245 - val\_loss: 0.3854  
 Epoch 96/100  
 50/50 [=====] - 5s 99ms/step - loss: 0.2239 - val\_loss: 0.3968  
 Epoch 97/100  
 50/50 [=====] - 5s 98ms/step - loss: 0.2236 - val\_loss: 0.3866  
 Epoch 98/100  
 50/50 [=====] - 5s 103ms/step - loss: 0.2301 - val\_loss: 0.3870  
 Epoch 99/100  
 50/50 [=====] - 5s 101ms/step - loss: 0.2222 - val\_loss: 0.3823  
 Epoch 100/100  
 50/50 [=====] - 5s 103ms/step - loss: 0.2212 - val\_loss: 0.3886





CA\_3 - True Future: [8164. 6371. 5244. 5309. 5261. 5637. 7217. 8094. 6446. 5722. 5740. 5951. 5986. 7347. 6696. 5930. 5882. 6421. 6547. 5928.]

CA\_3 - Model Prediction: [7133.504 6233.9336 5511.365 5300.772 5018.773 5171.7812 6419.401 7394.8457 6390.895 5655.287 5361.231 5067.339 5209.9463 6433.7144 7428.591 6412.631 5564.3403 5221.5083 4846.664 4970.7876]

CA\_3 - Model Percentage Error: [12.62244113 2.15141118 5.09849799 0.15498262 4.60420169 8.25294926

11.05167135 8.637933 0.85487093 1.16590162 6.59876381 14.84895199

12.96447897 12.43072879 10.94072312 8.13880033 5.40053839 18.68076155

25.97122251 16.14730773]%

CA\_3 - Model Mean Percentage Error: 9.335856897808444%

=====  
=====

Training for TX\_2

Single window of past history : (100, 3)



(72, 20)

Epoch 1/100

50/50 [=====] - 5s 109ms/step - loss: 0.7579 - val\_loss: 0.6988

Epoch 2/100

50/50 [=====] - 5s 98ms/step - loss: 0.7249 - val\_loss: 0.7193

Epoch 3/100

50/50 [=====] - 5s 98ms/step - loss: 0.6983 - val\_loss: 0.7424

Epoch 4/100

50/50 [=====] - 5s 103ms/step - loss: 0.6907 - val\_loss: 0.7519

Epoch 5/100

50/50 [=====] - 5s 100ms/step - loss: 0.6864 - val\_loss: 0.7693

Epoch 6/100

50/50 [=====] - 5s 98ms/step - loss: 0.6822 - val\_loss: 0.7546

Epoch 7/100

50/50 [=====] - 5s 99ms/step - loss: 0.6738 - val\_loss: 0.7569

Epoch 8/100

50/50 [=====] - 5s 102ms/step - loss: 0.6570 - val\_loss: 0.6691

Epoch 9/100

50/50 [=====] - 5s 99ms/step - loss: 0.5450 - val\_loss: 0.4746

Epoch 10/100

50/50 [=====] - 5s 99ms/step - loss: 0.4684 - val\_loss: 0.4532

Epoch 11/100

50/50 [=====] - 5s 100ms/step - loss: 0.4565 - val\_loss: 0.5393

Epoch 12/100

50/50 [=====] - 5s 102ms/step - loss: 0.4430 - val\_loss: 0.6254

Epoch 13/100

50/50 [=====] - 5s 103ms/step - loss: 0.4447 - val\_loss: 0.6702

Epoch 14/100

50/50 [=====] - 5s 103ms/step - loss: 0.4248 - val\_loss: 0.5250

Epoch 15/100

50/50 [=====] - 5s 101ms/step - loss: 0.4664 - val\_loss: 0.5456

Epoch 16/100

50/50 [=====] - 5s 102ms/step - loss: 0.3946 - val\_loss: 0.5415

Epoch 17/100

50/50 [=====] - 5s 102ms/step - loss: 0.4960 - val\_loss: 0.6372

Epoch 18/100

50/50 [=====] - 5s 102ms/step - loss: 0.4199 - val\_loss: 0.5540

Epoch 19/100

50/50 [=====] - 5s 102ms/step - loss: 0.3798 - val\_loss: 0.5051

Epoch 20/100

50/50 [=====] - 5s 103ms/step - loss: 0.3669 - val\_loss: 0.4985

Epoch 21/100

50/50 [=====] - 5s 102ms/step - loss: 0.4801 - val\_loss: 0.7407

Epoch 22/100

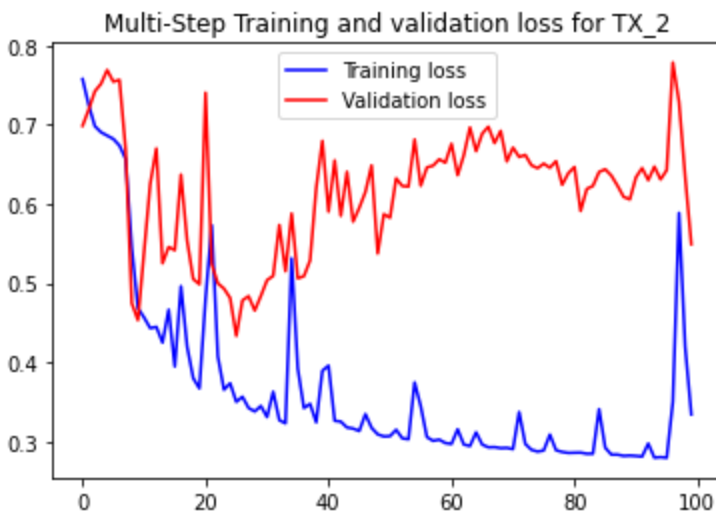
50/50 [=====] - 5s 101ms/step - loss: 0.5730 - val\_loss: 0.5240

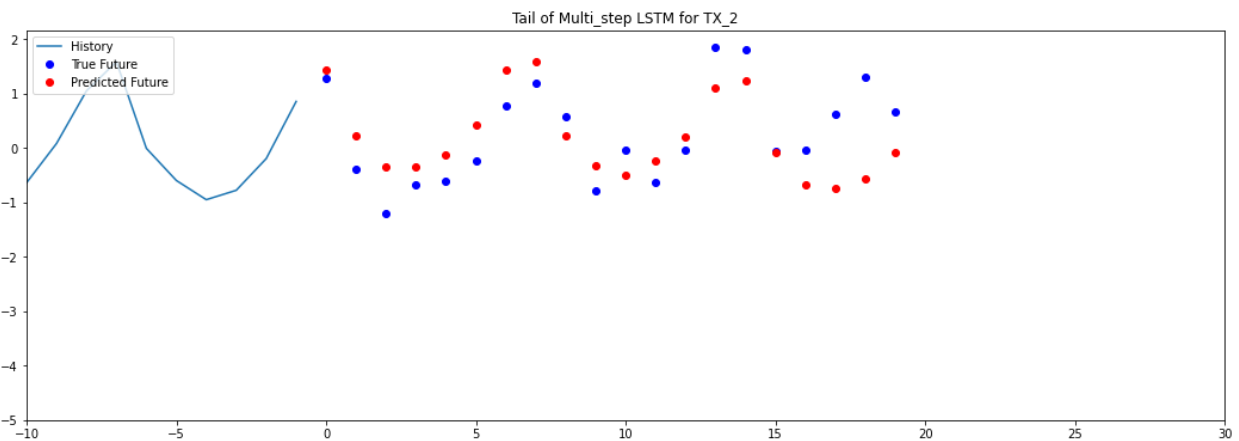
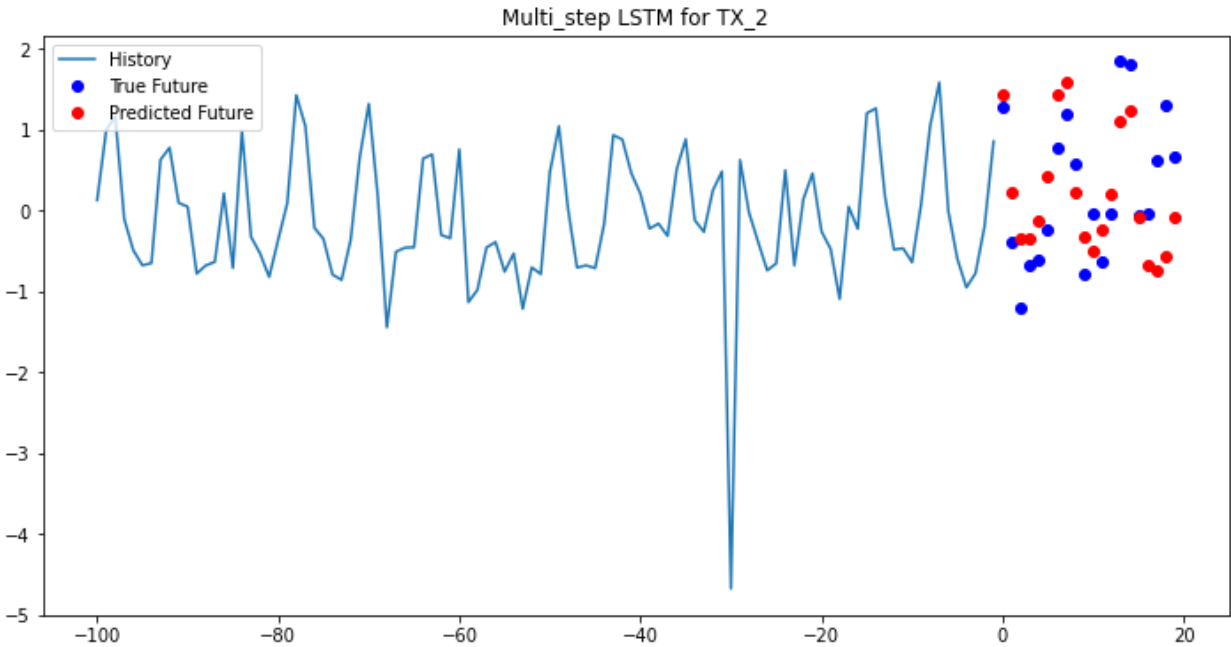
Epoch 23/100  
50/50 [=====] - 5s 102ms/step - loss: 0.4073 - val\_loss: 0.4997  
Epoch 24/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3652 - val\_loss: 0.4930  
Epoch 25/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3734 - val\_loss: 0.4811  
Epoch 26/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3499 - val\_loss: 0.4333  
Epoch 27/100  
50/50 [=====] - 5s 104ms/step - loss: 0.3564 - val\_loss: 0.4781  
Epoch 28/100  
50/50 [=====] - 5s 104ms/step - loss: 0.3421 - val\_loss: 0.4835  
Epoch 29/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3378 - val\_loss: 0.4653  
Epoch 30/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3447 - val\_loss: 0.4838  
Epoch 31/100  
50/50 [=====] - 5s 104ms/step - loss: 0.3307 - val\_loss: 0.5036  
Epoch 32/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3626 - val\_loss: 0.5092  
Epoch 33/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3268 - val\_loss: 0.5735  
Epoch 34/100  
50/50 [=====] - 5s 106ms/step - loss: 0.3227 - val\_loss: 0.5150  
Epoch 35/100  
50/50 [=====] - 5s 103ms/step - loss: 0.5314 - val\_loss: 0.5880  
Epoch 36/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3920 - val\_loss: 0.5060  
Epoch 37/100  
50/50 [=====] - 5s 105ms/step - loss: 0.3420 - val\_loss: 0.5087  
Epoch 38/100  
50/50 [=====] - 5s 107ms/step - loss: 0.3474 - val\_loss: 0.5287  
Epoch 39/100  
50/50 [=====] - 5s 104ms/step - loss: 0.3240 - val\_loss: 0.6203  
Epoch 40/100  
50/50 [=====] - 5s 104ms/step - loss: 0.3891 - val\_loss: 0.6798  
Epoch 41/100  
50/50 [=====] - 5s 105ms/step - loss: 0.3957 - val\_loss: 0.5902  
Epoch 42/100  
50/50 [=====] - 5s 104ms/step - loss: 0.3260 - val\_loss: 0.6551  
Epoch 43/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3249 - val\_loss: 0.5850  
Epoch 44/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3175 - val\_loss: 0.6407  
Epoch 45/100

50/50 [=====] - 5s 106ms/step - loss: 0.3161 - val\_loss: 0.5777  
Epoch 46/100  
50/50 [=====] - 5s 109ms/step - loss: 0.3130 - val\_loss: 0.5951  
Epoch 47/100  
50/50 [=====] - 5s 106ms/step - loss: 0.3344 - val\_loss: 0.6153  
Epoch 48/100  
50/50 [=====] - 5s 104ms/step - loss: 0.3171 - val\_loss: 0.6488  
Epoch 49/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3088 - val\_loss: 0.5374  
Epoch 50/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3062 - val\_loss: 0.5872  
Epoch 51/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3066 - val\_loss: 0.5825  
Epoch 52/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3146 - val\_loss: 0.6324  
Epoch 53/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3038 - val\_loss: 0.6227  
Epoch 54/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3026 - val\_loss: 0.6221  
Epoch 55/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3745 - val\_loss: 0.6816  
Epoch 56/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3443 - val\_loss: 0.6231  
Epoch 57/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3054 - val\_loss: 0.6462  
Epoch 58/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3006 - val\_loss: 0.6484  
Epoch 59/100  
50/50 [=====] - 5s 104ms/step - loss: 0.3021 - val\_loss: 0.6565  
Epoch 60/100  
50/50 [=====] - 7s 138ms/step - loss: 0.2978 - val\_loss: 0.6522  
Epoch 61/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2967 - val\_loss: 0.6761  
Epoch 62/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3152 - val\_loss: 0.6364  
Epoch 63/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2960 - val\_loss: 0.6616  
Epoch 64/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2940 - val\_loss: 0.6967  
Epoch 65/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3113 - val\_loss: 0.6667  
Epoch 66/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2959 - val\_loss: 0.6889  
Epoch 67/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2924 - val\_loss: 0.6977

Epoch 68/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2926 - val\_loss: 0.6770  
Epoch 69/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2914 - val\_loss: 0.6924  
Epoch 70/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2917 - val\_loss: 0.6538  
Epoch 71/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2902 - val\_loss: 0.6713  
Epoch 72/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3370 - val\_loss: 0.6595  
Epoch 73/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2968 - val\_loss: 0.6619  
Epoch 74/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2893 - val\_loss: 0.6489  
Epoch 75/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2870 - val\_loss: 0.6452  
Epoch 76/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2884 - val\_loss: 0.6510  
Epoch 77/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3085 - val\_loss: 0.6458  
Epoch 78/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2887 - val\_loss: 0.6542  
Epoch 79/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2866 - val\_loss: 0.6243  
Epoch 80/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2854 - val\_loss: 0.6389  
Epoch 81/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2856 - val\_loss: 0.6467  
Epoch 82/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2857 - val\_loss: 0.5912  
Epoch 83/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2843 - val\_loss: 0.6190  
Epoch 84/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2844 - val\_loss: 0.6228  
Epoch 85/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3407 - val\_loss: 0.6404  
Epoch 86/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2920 - val\_loss: 0.6439  
Epoch 87/100  
50/50 [=====] - 5s 97ms/step - loss: 0.2832 - val\_loss: 0.6359  
Epoch 88/100  
50/50 [=====] - 5s 95ms/step - loss: 0.2832 - val\_loss: 0.6231  
Epoch 89/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2816 - val\_loss: 0.6090  
Epoch 90/100

50/50 [=====] - 5s 100ms/step - loss: 0.2820 - val\_loss: 0.6058  
Epoch 91/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2815 - val\_loss: 0.6338  
Epoch 92/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2808 - val\_loss: 0.6454  
Epoch 93/100  
50/50 [=====] - 5s 97ms/step - loss: 0.2972 - val\_loss: 0.6301  
Epoch 94/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2793 - val\_loss: 0.6472  
Epoch 95/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2800 - val\_loss: 0.6310  
Epoch 96/100  
50/50 [=====] - 5s 97ms/step - loss: 0.2791 - val\_loss: 0.6427  
Epoch 97/100  
50/50 [=====] - 5s 97ms/step - loss: 0.3501 - val\_loss: 0.7789  
Epoch 98/100  
50/50 [=====] - 5s 102ms/step - loss: 0.5887 - val\_loss: 0.7291  
Epoch 99/100  
50/50 [=====] - 5s 98ms/step - loss: 0.4197 - val\_loss: 0.6349  
Epoch 100/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3340 - val\_loss: 0.5492





TX\_2 - True Future: [4794. 3441. 2798. 3216. 3264. 3562. 4384. 4712. 4225. 3121. 3722. 3245. 3737. 5240. 5210. 3714. 3737. 4259. 4799. 4295.]

TX\_2 - Model Prediction: [4905.654 3938.2183 3482.372 3475.6082 3662.6306 4097.961 4908.4707

5032.798 3944.5168 3497.051 3361.009 3562.5222 3915.1868 4642.256 4746.241 3686.439 3213.2195 3168.8542 3297.8782 3689.1648]

TX\_2 - Model Percentage Error: [ 2.3290323 14.44981871 24.4593306 8.07239286 12.21294777 15.04662935

11.96329159 6.80810381 6.63865454 12.0490556 9.69884382 9.78496816 4.76817682 11.40733093 8.90132033 0.74208495 14.01606951 25.59628438 31.27988802 14.10559267]%

TX\_2 - Model Mean Percentage Error: 12.216490835852046%

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Training for TX\_3

Single window of past history : (100, 3)

(72, 20)

Epoch 1/100

50/50 [=====] - 6s 119ms/step - loss: 0.7416 - val\_loss: 0.8614

Epoch 2/100

50/50 [=====] - 5s 98ms/step - loss: 0.6602 - val\_loss: 0.6904

Epoch 3/100

50/50 [=====] - 5s 98ms/step - loss: 0.6333 - val\_loss: 0.7256

Epoch 4/100

50/50 [=====] - 5s 97ms/step - loss: 0.6306 - val\_loss: 0.7468

Epoch 5/100

50/50 [=====] - 5s 99ms/step - loss: 0.6290 - val\_loss: 0.7291

Epoch 6/100

50/50 [=====] - 5s 99ms/step - loss: 0.6289 - val\_loss: 0.7549

Epoch 7/100

50/50 [=====] - 5s 99ms/step - loss: 0.6251 - val\_loss: 0.7568

Epoch 8/100

50/50 [=====] - 5s 98ms/step - loss: 0.6232 - val\_loss: 0.7493

Epoch 9/100

50/50 [=====] - 5s 97ms/step - loss: 0.6177 - val\_loss: 0.7188

Epoch 10/100

50/50 [=====] - 5s 99ms/step - loss: 0.6047 - val\_loss: 0.6958

Epoch 11/100

50/50 [=====] - 5s 100ms/step - loss: 0.5552 - val\_loss: 0.6290

Epoch 12/100

50/50 [=====] - 5s 100ms/step - loss: 0.4896 - val\_loss: 0.6557

Epoch 13/100

50/50 [=====] - 5s 99ms/step - loss: 0.4503 - val\_loss: 0.5455

Epoch 14/100

50/50 [=====] - 5s 100ms/step - loss: 0.4336 - val\_loss: 0.5063

Epoch 15/100

50/50 [=====] - 5s 100ms/step - loss: 0.4269 - val\_loss: 0.5034

Epoch 16/100

50/50 [=====] - 5s 100ms/step - loss: 0.4171 - val\_loss: 0.4983

Epoch 17/100

50/50 [=====] - 5s 99ms/step - loss: 0.4125 - val\_loss: 0.5163

Epoch 18/100

50/50 [=====] - 5s 100ms/step - loss: 0.4009 - val\_loss: 0.4736

Epoch 19/100

50/50 [=====] - 5s 103ms/step - loss: 0.3949 - val\_loss: 0.5563

Epoch 20/100

50/50 [=====] - 5s 103ms/step - loss: 0.3889 - val\_loss: 0.5040

Epoch 21/100

50/50 [=====] - 5s 101ms/step - loss: 0.3805 - val\_loss: 0.6985

Epoch 22/100

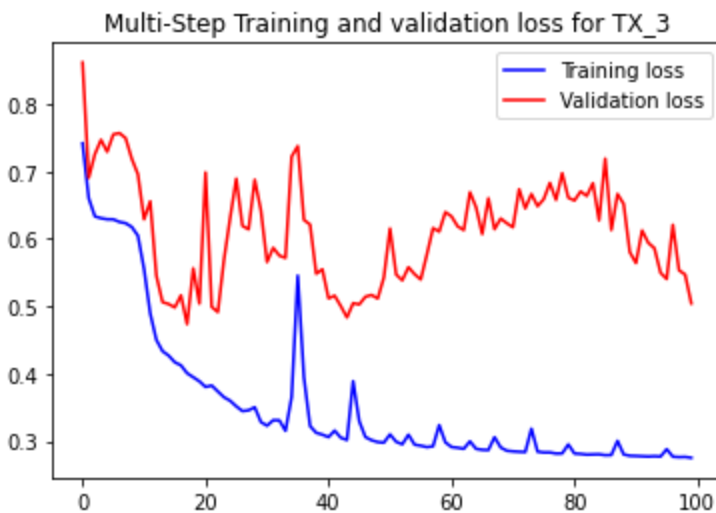
50/50 [=====] - 5s 101ms/step - loss: 0.3826 - val\_loss: 0.4992  
Epoch 23/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3738 - val\_loss: 0.4914  
Epoch 24/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3653 - val\_loss: 0.5693  
Epoch 25/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3600 - val\_loss: 0.6311  
Epoch 26/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3518 - val\_loss: 0.6893  
Epoch 27/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3447 - val\_loss: 0.6193  
Epoch 28/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3459 - val\_loss: 0.6141  
Epoch 29/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3504 - val\_loss: 0.6876  
Epoch 30/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3286 - val\_loss: 0.6424  
Epoch 31/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3230 - val\_loss: 0.5657  
Epoch 32/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3312 - val\_loss: 0.5868  
Epoch 33/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3311 - val\_loss: 0.5752  
Epoch 34/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3154 - val\_loss: 0.5717  
Epoch 35/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3655 - val\_loss: 0.7219  
Epoch 36/100  
50/50 [=====] - 5s 100ms/step - loss: 0.5456 - val\_loss: 0.7375  
Epoch 37/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3948 - val\_loss: 0.6281  
Epoch 38/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3226 - val\_loss: 0.6211  
Epoch 39/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3125 - val\_loss: 0.5483  
Epoch 40/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3098 - val\_loss: 0.5549  
Epoch 41/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3061 - val\_loss: 0.5118  
Epoch 42/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3158 - val\_loss: 0.5157  
Epoch 43/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3052 - val\_loss: 0.5003  
Epoch 44/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3019 - val\_loss: 0.4836

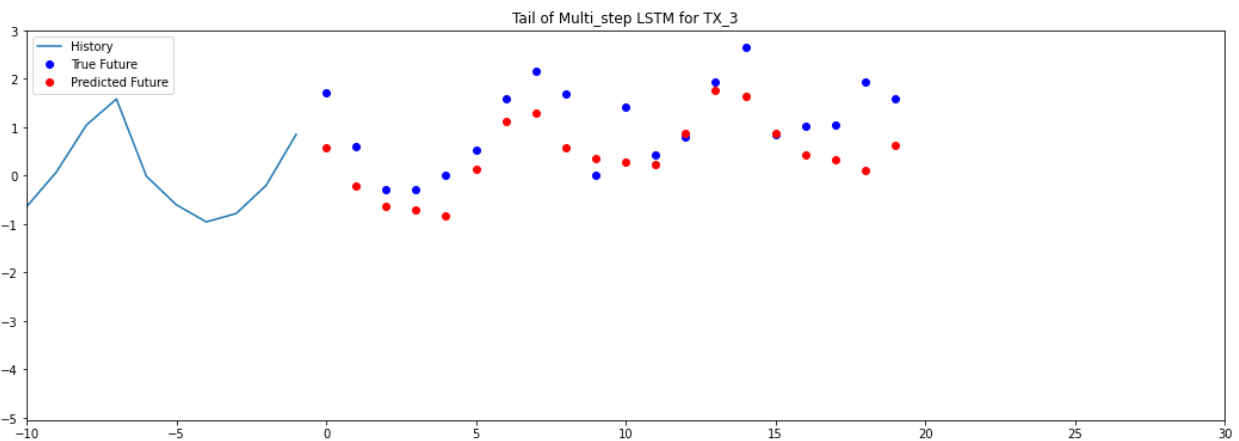
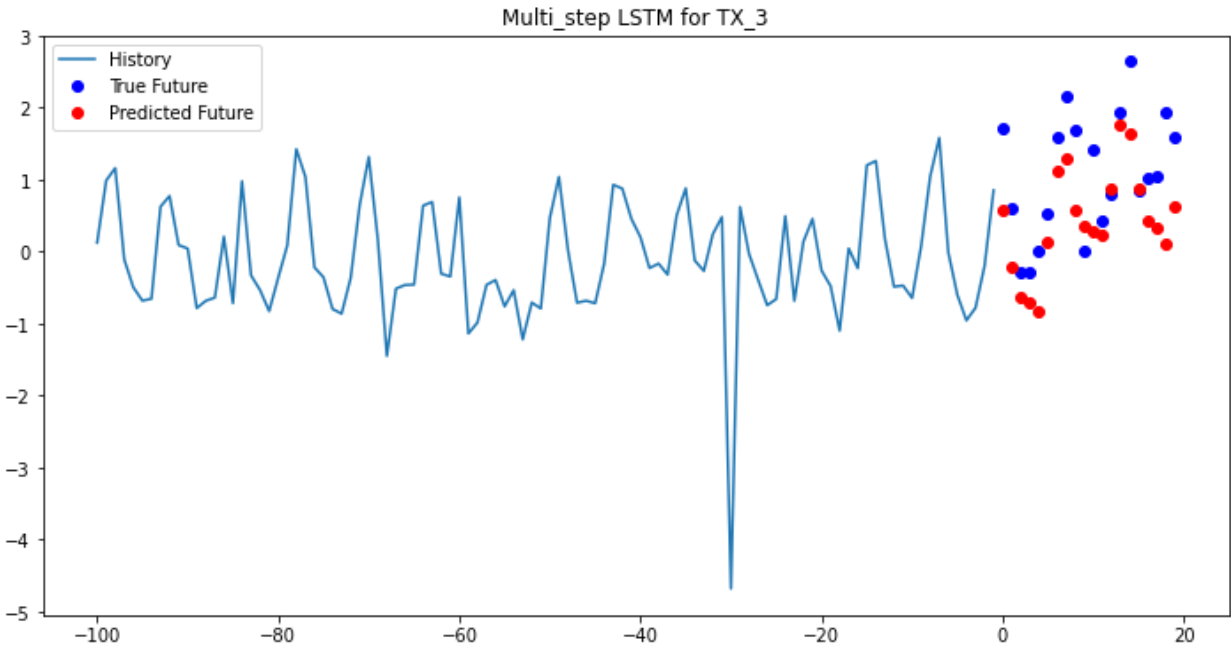


Epoch 45/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3890 - val\_loss: 0.5046  
Epoch 46/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3296 - val\_loss: 0.5028  
Epoch 47/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3062 - val\_loss: 0.5142  
Epoch 48/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3015 - val\_loss: 0.5168  
Epoch 49/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2988 - val\_loss: 0.5115  
Epoch 50/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2979 - val\_loss: 0.5427  
Epoch 51/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3102 - val\_loss: 0.6154  
Epoch 52/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2993 - val\_loss: 0.5472  
Epoch 53/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2955 - val\_loss: 0.5385  
Epoch 54/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3098 - val\_loss: 0.5580  
Epoch 55/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2949 - val\_loss: 0.5476  
Epoch 56/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2934 - val\_loss: 0.5398  
Epoch 57/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2913 - val\_loss: 0.5770  
Epoch 58/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2926 - val\_loss: 0.6160  
Epoch 59/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3240 - val\_loss: 0.6107  
Epoch 60/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2984 - val\_loss: 0.6396  
Epoch 61/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2914 - val\_loss: 0.6333  
Epoch 62/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2904 - val\_loss: 0.6186  
Epoch 63/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2888 - val\_loss: 0.6130  
Epoch 64/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2998 - val\_loss: 0.6691  
Epoch 65/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2888 - val\_loss: 0.6467  
Epoch 66/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2873 - val\_loss: 0.6071  
Epoch 67/100

50/50 [=====] - 5s 98ms/step - loss: 0.2870 - val\_loss: 0.6602  
Epoch 68/100  
50/50 [=====] - 5s 98ms/step - loss: 0.3061 - val\_loss: 0.6143  
Epoch 69/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2908 - val\_loss: 0.6301  
Epoch 70/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2860 - val\_loss: 0.6231  
Epoch 71/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2850 - val\_loss: 0.6172  
Epoch 72/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2844 - val\_loss: 0.6736  
Epoch 73/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2840 - val\_loss: 0.6452  
Epoch 74/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3186 - val\_loss: 0.6665  
Epoch 75/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2845 - val\_loss: 0.6484  
Epoch 76/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2834 - val\_loss: 0.6588  
Epoch 77/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2835 - val\_loss: 0.6830  
Epoch 78/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2818 - val\_loss: 0.6578  
Epoch 79/100  
50/50 [=====] - 7s 135ms/step - loss: 0.2820 - val\_loss: 0.6974  
Epoch 80/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2953 - val\_loss: 0.6610  
Epoch 81/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2818 - val\_loss: 0.6569  
Epoch 82/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2812 - val\_loss: 0.6703  
Epoch 83/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2802 - val\_loss: 0.6637  
Epoch 84/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2805 - val\_loss: 0.6825  
Epoch 85/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2807 - val\_loss: 0.6275  
Epoch 86/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2794 - val\_loss: 0.7190  
Epoch 87/100  
50/50 [=====] - 5s 98ms/step - loss: 0.2796 - val\_loss: 0.6131  
Epoch 88/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3006 - val\_loss: 0.6665  
Epoch 89/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2805 - val\_loss: 0.6517

Epoch 90/100  
 50/50 [=====] - 5s 99ms/step - loss: 0.2785 - val\_loss: 0.5803  
 Epoch 91/100  
 50/50 [=====] - 5s 100ms/step - loss: 0.2782 - val\_loss: 0.5641  
 Epoch 92/100  
 50/50 [=====] - 5s 100ms/step - loss: 0.2778 - val\_loss: 0.6124  
 Epoch 93/100  
 50/50 [=====] - 5s 98ms/step - loss: 0.2774 - val\_loss: 0.5942  
 Epoch 94/100  
 50/50 [=====] - 5s 100ms/step - loss: 0.2778 - val\_loss: 0.5862  
 Epoch 95/100  
 50/50 [=====] - 5s 99ms/step - loss: 0.2774 - val\_loss: 0.5497  
 Epoch 96/100  
 50/50 [=====] - 5s 99ms/step - loss: 0.2883 - val\_loss: 0.5406  
 Epoch 97/100  
 50/50 [=====] - 5s 100ms/step - loss: 0.2771 - val\_loss: 0.6208  
 Epoch 98/100  
 50/50 [=====] - 5s 100ms/step - loss: 0.2765 - val\_loss: 0.5535  
 Epoch 99/100  
 50/50 [=====] - 5s 101ms/step - loss: 0.2768 - val\_loss: 0.5470  
 Epoch 100/100  
 50/50 [=====] - 5s 102ms/step - loss: 0.2754 - val\_loss: 0.5043





TX\_3 - True Future: [4286. 3538. 2934. 2939. 3135. 3486. 4202. 4575. 4262. 3141. 4091. 3421. 3664. 4432. 4905. 3707. 3825. 3831. 4438. 4198.]

TX\_3 - Model Prediction: [3512.479 2990.9543 2705.644 2662.4788 2580.2197 3217.774 3878.279

4003.1946 3516.7231 3375.4614 3311.2908 3286.2688 3725.1343 4317.7866 4236.0107 3710.1719 3424.5107 3353.088 3196.7908 3556.8674]

TX\_3 - Model Percentage Error: [18.04762007 15.46200267 7.78309329 9.40868459 17.69634046 7.69437964

7.70397304 12.49847912 17.48655222 7.46454714 19.05913538 3.93835724 1.66851194 2.57701667 13.63892473 0.08556447 10.47030739 12.47486582 27.96776089 15.27233369]%

TX\_3 - Model Mean Percentage Error: 11.419922523271167%

=====  
=====

Training for TX\_1

Single window of past history : (100, 3)

(72, 20)

Epoch 1/100

50/50 [=====] - 5s 109ms/step - loss: 0.7482 - val\_loss: 0.7507

Epoch 2/100

50/50 [=====] - 5s 99ms/step - loss: 0.7250 - val\_loss: 0.7249

Epoch 3/100

50/50 [=====] - 5s 100ms/step - loss: 0.7090 - val\_loss: 0.7151

Epoch 4/100

50/50 [=====] - 5s 100ms/step - loss: 0.6999 - val\_loss: 0.7055

Epoch 5/100

50/50 [=====] - 5s 100ms/step - loss: 0.6961 - val\_loss: 0.7388

Epoch 6/100

50/50 [=====] - 5s 101ms/step - loss: 0.6913 - val\_loss: 0.7288

Epoch 7/100

50/50 [=====] - 5s 100ms/step - loss: 0.6845 - val\_loss: 0.6985

Epoch 8/100

50/50 [=====] - 5s 101ms/step - loss: 0.6749 - val\_loss: 0.7278

Epoch 9/100

50/50 [=====] - 5s 100ms/step - loss: 0.6596 - val\_loss: 0.6467

Epoch 10/100

50/50 [=====] - 5s 101ms/step - loss: 0.5702 - val\_loss: 0.5104

Epoch 11/100

50/50 [=====] - 5s 101ms/step - loss: 0.5212 - val\_loss: 0.5000

Epoch 12/100

50/50 [=====] - 5s 101ms/step - loss: 0.4796 - val\_loss: 0.4879

Epoch 13/100

50/50 [=====] - 5s 101ms/step - loss: 0.4644 - val\_loss: 0.5027

Epoch 14/100

50/50 [=====] - 5s 100ms/step - loss: 0.4508 - val\_loss: 0.4385

Epoch 15/100

50/50 [=====] - 5s 101ms/step - loss: 0.4592 - val\_loss: 0.6607

Epoch 16/100

50/50 [=====] - 5s 101ms/step - loss: 0.4745 - val\_loss: 0.4035

Epoch 17/100

50/50 [=====] - 5s 102ms/step - loss: 0.3996 - val\_loss: 0.4015

Epoch 18/100

50/50 [=====] - 5s 102ms/step - loss: 0.4464 - val\_loss: 0.3967

Epoch 19/100

50/50 [=====] - 5s 101ms/step - loss: 0.3812 - val\_loss: 0.3806

Epoch 20/100

50/50 [=====] - 5s 101ms/step - loss: 0.3732 - val\_loss: 0.3666

Epoch 21/100

50/50 [=====] - 5s 102ms/step - loss: 0.3664 - val\_loss: 0.4074

Epoch 22/100

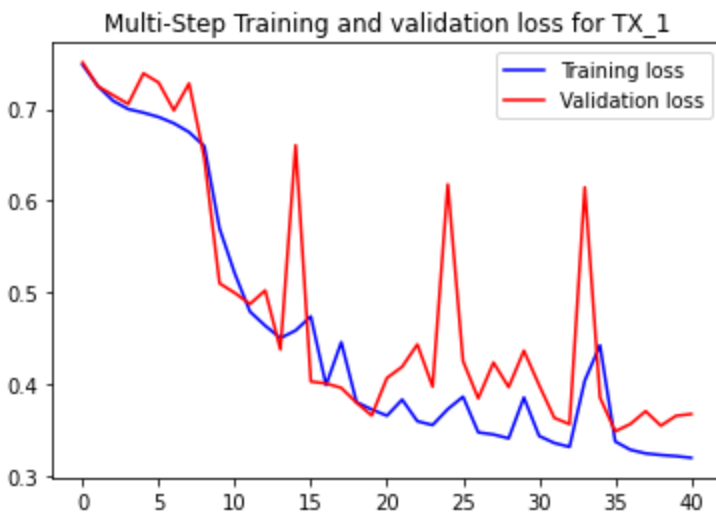
50/50 [=====] - 5s 101ms/step - loss: 0.3839 - val\_loss: 0.4197  
Epoch 23/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3604 - val\_loss: 0.4440  
Epoch 24/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3562 - val\_loss: 0.3980  
Epoch 25/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3736 - val\_loss: 0.6181  
Epoch 26/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3871 - val\_loss: 0.4259  
Epoch 27/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3483 - val\_loss: 0.3852  
Epoch 28/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3460 - val\_loss: 0.4242  
Epoch 29/100  
50/50 [=====] - 5s 99ms/step - loss: 0.3418 - val\_loss: 0.3975  
Epoch 30/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3862 - val\_loss: 0.4371  
Epoch 31/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3444 - val\_loss: 0.3997  
Epoch 32/100  
50/50 [=====] - 5s 105ms/step - loss: 0.3367 - val\_loss: 0.3641  
Epoch 33/100  
50/50 [=====] - 5s 108ms/step - loss: 0.3325 - val\_loss: 0.3572  
Epoch 34/100  
50/50 [=====] - 5s 105ms/step - loss: 0.4045 - val\_loss: 0.6148  
Epoch 35/100  
50/50 [=====] - 5s 101ms/step - loss: 0.4430 - val\_loss: 0.3862  
Epoch 36/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3384 - val\_loss: 0.3494  
Epoch 37/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3294 - val\_loss: 0.3574  
Epoch 38/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3254 - val\_loss: 0.3713  
Epoch 39/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3237 - val\_loss: 0.3555  
Epoch 40/100  
50/50 [=====] - 5s 109ms/step - loss: 0.3224 - val\_loss: 0.3663  
Epoch 41/100  
50/50 [=====] - 5s 105ms/step - loss: 0.3206 - val\_loss: 0.3682  
Epoch 42/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 43/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 44/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan

Epoch 45/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 46/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 47/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 48/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 49/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 50/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 51/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 52/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 53/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 54/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 55/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 56/100  
50/50 [=====] - 5s 97ms/step - loss: nan - val\_loss: nan  
Epoch 57/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 58/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 59/100  
50/50 [=====] - 5s 97ms/step - loss: nan - val\_loss: nan  
Epoch 60/100  
50/50 [=====] - 5s 96ms/step - loss: nan - val\_loss: nan  
Epoch 61/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 62/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 63/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 64/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 65/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 66/100  
50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan  
Epoch 67/100

50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan  
Epoch 68/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 69/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 70/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 71/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 72/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 73/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 74/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 75/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 76/100  
50/50 [=====] - 5s 97ms/step - loss: nan - val\_loss: nan  
Epoch 77/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 78/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 79/100  
50/50 [=====] - 5s 97ms/step - loss: nan - val\_loss: nan  
Epoch 80/100  
50/50 [=====] - 5s 97ms/step - loss: nan - val\_loss: nan  
Epoch 81/100  
50/50 [=====] - 6s 110ms/step - loss: nan - val\_loss: nan  
Epoch 82/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 83/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 84/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 85/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 86/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 87/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 88/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 89/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan



Epoch 90/100  
 50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
 Epoch 91/100  
 50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
 Epoch 92/100  
 50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
 Epoch 93/100  
 50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
 Epoch 94/100  
 50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
 Epoch 95/100  
 50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
 Epoch 96/100  
 50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
 Epoch 97/100  
 50/50 [=====] - 8s 154ms/step - loss: nan - val\_loss: nan  
 Epoch 98/100  
 50/50 [=====] - 6s 118ms/step - loss: nan - val\_loss: nan  
 Epoch 99/100  
 50/50 [=====] - 5s 108ms/step - loss: nan - val\_loss: nan  
 Epoch 100/100  
 50/50 [=====] - 6s 119ms/step - loss: nan - val\_loss: nan





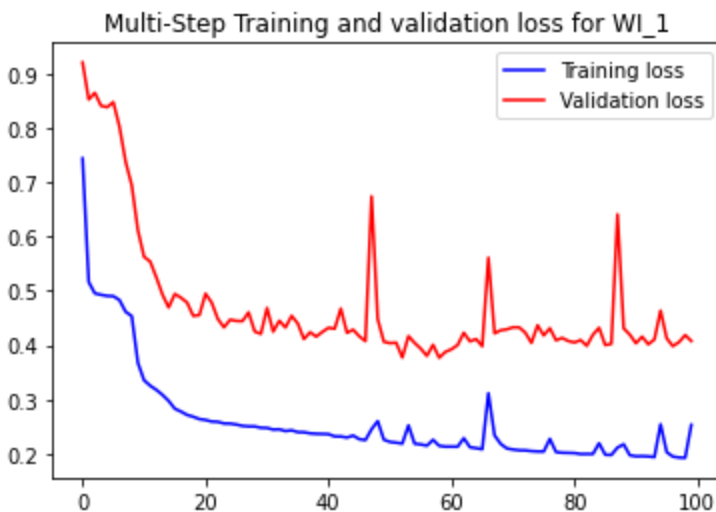
50/50 [=====] - 6s 117ms/step - loss: 0.7446 - val\_loss: 0.9215  
Epoch 2/100  
50/50 [=====] - 5s 103ms/step - loss: 0.5164 - val\_loss: 0.8532  
Epoch 3/100  
50/50 [=====] - 5s 100ms/step - loss: 0.4956 - val\_loss: 0.8655  
Epoch 4/100  
50/50 [=====] - 5s 100ms/step - loss: 0.4929 - val\_loss: 0.8416  
Epoch 5/100  
50/50 [=====] - 5s 102ms/step - loss: 0.4909 - val\_loss: 0.8390  
Epoch 6/100  
50/50 [=====] - 5s 100ms/step - loss: 0.4905 - val\_loss: 0.8484  
Epoch 7/100  
50/50 [=====] - 5s 104ms/step - loss: 0.4833 - val\_loss: 0.8031  
Epoch 8/100  
50/50 [=====] - 5s 103ms/step - loss: 0.4617 - val\_loss: 0.7385  
Epoch 9/100  
50/50 [=====] - 5s 102ms/step - loss: 0.4535 - val\_loss: 0.6948  
Epoch 10/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3674 - val\_loss: 0.6120  
Epoch 11/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3353 - val\_loss: 0.5632  
Epoch 12/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3253 - val\_loss: 0.5542  
Epoch 13/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3176 - val\_loss: 0.5250  
Epoch 14/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3083 - val\_loss: 0.4932  
Epoch 15/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2973 - val\_loss: 0.4696  
Epoch 16/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2829 - val\_loss: 0.4944  
Epoch 17/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2775 - val\_loss: 0.4876  
Epoch 18/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2713 - val\_loss: 0.4786  
Epoch 19/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2680 - val\_loss: 0.4541  
Epoch 20/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2637 - val\_loss: 0.4556  
Epoch 21/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2621 - val\_loss: 0.4950  
Epoch 22/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2591 - val\_loss: 0.4785  
Epoch 23/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2586 - val\_loss: 0.4484

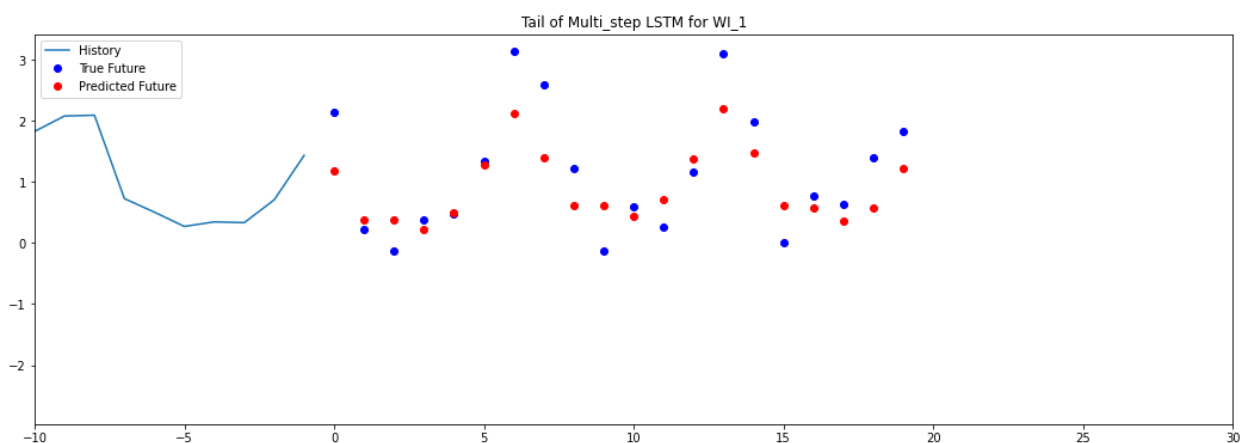
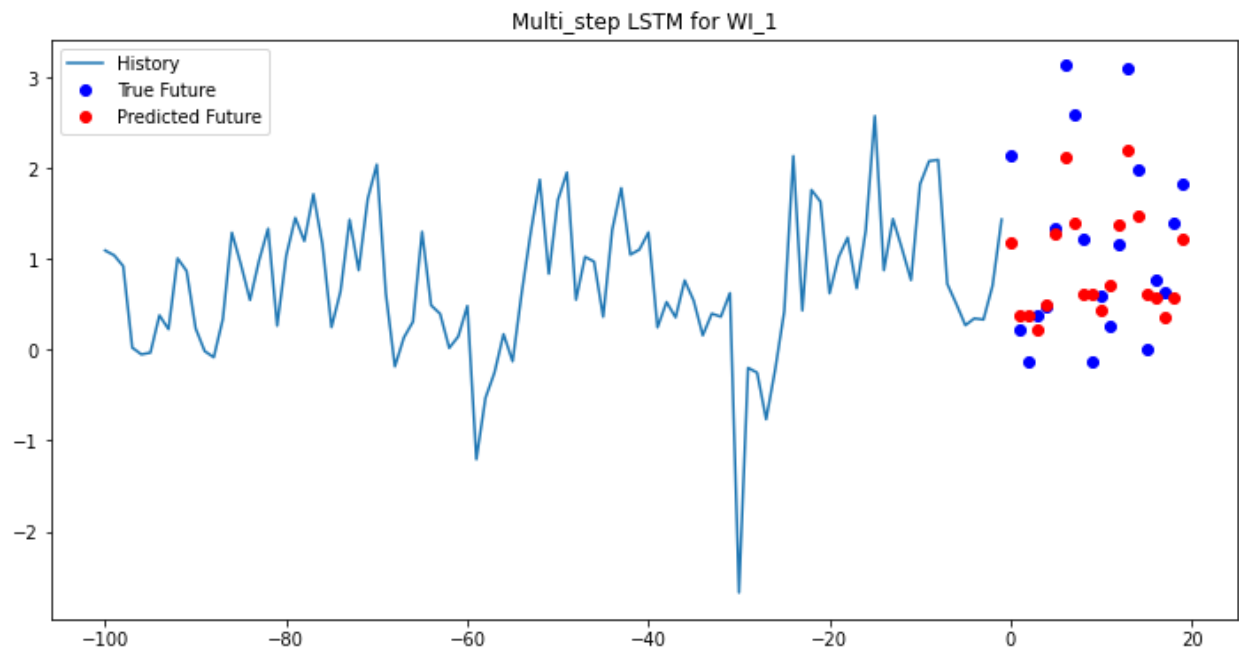
Epoch 24/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2556 - val\_loss: 0.4328  
Epoch 25/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2554 - val\_loss: 0.4470  
Epoch 26/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2537 - val\_loss: 0.4448  
Epoch 27/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2512 - val\_loss: 0.4443  
Epoch 28/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2503 - val\_loss: 0.4605  
Epoch 29/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2501 - val\_loss: 0.4252  
Epoch 30/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2476 - val\_loss: 0.4209  
Epoch 31/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2473 - val\_loss: 0.4686  
Epoch 32/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2443 - val\_loss: 0.4250  
Epoch 33/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2448 - val\_loss: 0.4451  
Epoch 34/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2416 - val\_loss: 0.4326  
Epoch 35/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2430 - val\_loss: 0.4542  
Epoch 36/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2396 - val\_loss: 0.4400  
Epoch 37/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2395 - val\_loss: 0.4113  
Epoch 38/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2373 - val\_loss: 0.4238  
Epoch 39/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2365 - val\_loss: 0.4159  
Epoch 40/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2363 - val\_loss: 0.4245  
Epoch 41/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2359 - val\_loss: 0.4321  
Epoch 42/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2317 - val\_loss: 0.4303  
Epoch 43/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2316 - val\_loss: 0.4675  
Epoch 44/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2296 - val\_loss: 0.4228  
Epoch 45/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2333 - val\_loss: 0.4285  
Epoch 46/100

50/50 [=====] - 5s 100ms/step - loss: 0.2267 - val\_loss: 0.4165  
Epoch 47/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2250 - val\_loss: 0.4075  
Epoch 48/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2450 - val\_loss: 0.6747  
Epoch 49/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2599 - val\_loss: 0.4481  
Epoch 50/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2256 - val\_loss: 0.4063  
Epoch 51/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2215 - val\_loss: 0.4038  
Epoch 52/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2202 - val\_loss: 0.4046  
Epoch 53/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2185 - val\_loss: 0.3773  
Epoch 54/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2521 - val\_loss: 0.4168  
Epoch 55/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2184 - val\_loss: 0.4042  
Epoch 56/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2169 - val\_loss: 0.3936  
Epoch 57/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2147 - val\_loss: 0.3803  
Epoch 58/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2254 - val\_loss: 0.4007  
Epoch 59/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2144 - val\_loss: 0.3768  
Epoch 60/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2129 - val\_loss: 0.3876  
Epoch 61/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2129 - val\_loss: 0.3925  
Epoch 62/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2127 - val\_loss: 0.4003  
Epoch 63/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2285 - val\_loss: 0.4229  
Epoch 64/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2117 - val\_loss: 0.4070  
Epoch 65/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2101 - val\_loss: 0.4113  
Epoch 66/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2080 - val\_loss: 0.3980  
Epoch 67/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3114 - val\_loss: 0.5614  
Epoch 68/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2337 - val\_loss: 0.4218

Epoch 69/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2179 - val\_loss: 0.4275  
Epoch 70/100  
50/50 [=====] - 5s 97ms/step - loss: 0.2096 - val\_loss: 0.4292  
Epoch 71/100  
50/50 [=====] - 5s 99ms/step - loss: 0.2075 - val\_loss: 0.4330  
Epoch 72/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2062 - val\_loss: 0.4329  
Epoch 73/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2060 - val\_loss: 0.4231  
Epoch 74/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2046 - val\_loss: 0.4042  
Epoch 75/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2039 - val\_loss: 0.4367  
Epoch 76/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2038 - val\_loss: 0.4180  
Epoch 77/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2272 - val\_loss: 0.4313  
Epoch 78/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2028 - val\_loss: 0.4091  
Epoch 79/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2016 - val\_loss: 0.4133  
Epoch 80/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2013 - val\_loss: 0.4077  
Epoch 81/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2010 - val\_loss: 0.4050  
Epoch 82/100  
50/50 [=====] - 5s 100ms/step - loss: 0.1992 - val\_loss: 0.4094  
Epoch 83/100  
50/50 [=====] - 5s 101ms/step - loss: 0.1993 - val\_loss: 0.3988  
Epoch 84/100  
50/50 [=====] - 5s 102ms/step - loss: 0.1993 - val\_loss: 0.4192  
Epoch 85/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2192 - val\_loss: 0.4322  
Epoch 86/100  
50/50 [=====] - 5s 102ms/step - loss: 0.1979 - val\_loss: 0.4002  
Epoch 87/100  
50/50 [=====] - 5s 104ms/step - loss: 0.1975 - val\_loss: 0.4026  
Epoch 88/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2111 - val\_loss: 0.6414  
Epoch 89/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2172 - val\_loss: 0.4311  
Epoch 90/100  
50/50 [=====] - 5s 102ms/step - loss: 0.1969 - val\_loss: 0.4195  
Epoch 91/100

50/50 [=====] - 5s 102ms/step - loss: 0.1951 - val\_loss: 0.4035  
Epoch 92/100  
50/50 [=====] - 5s 103ms/step - loss: 0.1953 - val\_loss: 0.4157  
Epoch 93/100  
50/50 [=====] - 5s 102ms/step - loss: 0.1948 - val\_loss: 0.4017  
Epoch 94/100  
50/50 [=====] - 5s 100ms/step - loss: 0.1936 - val\_loss: 0.4105  
Epoch 95/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2541 - val\_loss: 0.4638  
Epoch 96/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2027 - val\_loss: 0.4127  
Epoch 97/100  
50/50 [=====] - 5s 103ms/step - loss: 0.1945 - val\_loss: 0.3983  
Epoch 98/100  
50/50 [=====] - 5s 102ms/step - loss: 0.1927 - val\_loss: 0.4056  
Epoch 99/100  
50/50 [=====] - 5s 103ms/step - loss: 0.1922 - val\_loss: 0.4185  
Epoch 100/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2531 - val\_loss: 0.4078





WI\_1 - True Future: [4600. 2798. 2466. 2937. 3036. 3845. 5538. 5034. 3740. 2460. 3135. 2831. 3676. 5516. 4461. 2597. 3313. 3180. 3899. 4308.]

WI\_1 - Model Prediction: [3705.512 2933.733 2943.8052 2798.061 3055.9775 3784.377 4591.5586

3894.648 3167.7947 3166.522 2994.7449 3258.6025 3885.018 4661.1943

3967.0884 3164.8345 3120.9077 2928.524 3122.0938 3743.5225]

WI\_1 - Model Percentage Error: [19.44539211 4.85106898 19.37571678 4.73064232 0.65802171 1.57667222

17.08994955 22.63313569 15.29960755 28.72040539 4.47384775 15.10429315

5.68601922 15.49683945 11.07176913 21.86501627 5.79813719 7.90805265

19.92578225 13.10300694]%

WI\_1 - Model Mean Percentage Error: 12.740668815713073%

=====

=====

Training for WI\_2



Single window of past history : (100, 3)

(72, 20)

Epoch 1/100

50/50 [=====] - 6s 112ms/step - loss: nan - val\_loss: nan

Epoch 2/100

50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan

Epoch 3/100

50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan

Epoch 4/100

50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan

Epoch 5/100

50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan

Epoch 6/100

50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan

Epoch 7/100

50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan

Epoch 8/100

50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan

Epoch 9/100

50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan

Epoch 10/100

50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan

Epoch 11/100

50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan

Epoch 12/100

50/50 [=====] - 7s 140ms/step - loss: nan - val\_loss: nan

Epoch 13/100

50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan

Epoch 14/100

50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan

Epoch 15/100

50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan

Epoch 16/100

50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan

Epoch 17/100

50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan

Epoch 18/100

50/50 [=====] - 5s 105ms/step - loss: nan - val\_loss: nan

Epoch 19/100

50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan

Epoch 20/100

50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan

Epoch 21/100

50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan

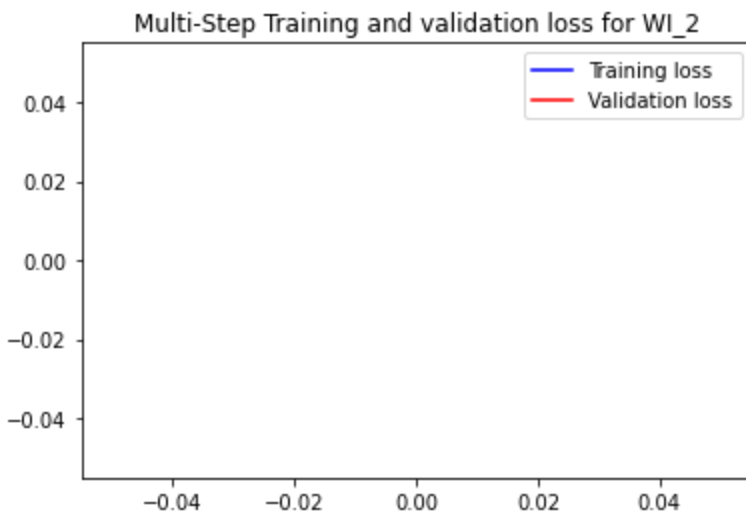
Epoch 22/100

50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 23/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 24/100  
50/50 [=====] - 5s 97ms/step - loss: nan - val\_loss: nan  
Epoch 25/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 26/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 27/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 28/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 29/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 30/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 31/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 32/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 33/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 34/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 35/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 36/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 37/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 38/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 39/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 40/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 41/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 42/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 43/100  
50/50 [=====] - 5s 97ms/step - loss: nan - val\_loss: nan  
Epoch 44/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan

Epoch 45/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 46/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 47/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 48/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 49/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 50/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 51/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 52/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 53/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 54/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 55/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 56/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 57/100  
50/50 [=====] - 5s 98ms/step - loss: nan - val\_loss: nan  
Epoch 58/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 59/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 60/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 61/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 62/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 63/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 64/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 65/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 66/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 67/100

50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 68/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 69/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 70/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 71/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 72/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 73/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 74/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 75/100  
50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan  
Epoch 76/100  
50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan  
Epoch 77/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 78/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 79/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 80/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 81/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 82/100  
50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan  
Epoch 83/100  
50/50 [=====] - 5s 104ms/step - loss: nan - val\_loss: nan  
Epoch 84/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 85/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 86/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 87/100  
50/50 [=====] - 5s 99ms/step - loss: nan - val\_loss: nan  
Epoch 88/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 89/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan

Epoch 90/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 91/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 92/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 93/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 94/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 95/100  
50/50 [=====] - 5s 103ms/step - loss: nan - val\_loss: nan  
Epoch 96/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan  
Epoch 97/100  
50/50 [=====] - 5s 100ms/step - loss: nan - val\_loss: nan  
Epoch 98/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 99/100  
50/50 [=====] - 5s 101ms/step - loss: nan - val\_loss: nan  
Epoch 100/100  
50/50 [=====] - 5s 102ms/step - loss: nan - val\_loss: nan





50/50 [=====] - 5s 109ms/step - loss: 0.7815 - val\_loss: 1.0817  
Epoch 2/100  
50/50 [=====] - 5s 102ms/step - loss: 0.7498 - val\_loss: 0.9540  
Epoch 3/100  
50/50 [=====] - 5s 104ms/step - loss: 0.7043 - val\_loss: 0.9290  
Epoch 4/100  
50/50 [=====] - 5s 102ms/step - loss: 0.6902 - val\_loss: 0.9935  
Epoch 5/100  
50/50 [=====] - 5s 102ms/step - loss: 0.6847 - val\_loss: 1.0461  
Epoch 6/100  
50/50 [=====] - 5s 102ms/step - loss: 0.6724 - val\_loss: 1.0398  
Epoch 7/100  
50/50 [=====] - 5s 102ms/step - loss: 0.6584 - val\_loss: 0.9732  
Epoch 8/100  
50/50 [=====] - 5s 101ms/step - loss: 0.6314 - val\_loss: 0.9363  
Epoch 9/100  
50/50 [=====] - 5s 101ms/step - loss: 0.6082 - val\_loss: 0.8901  
Epoch 10/100  
50/50 [=====] - 5s 101ms/step - loss: 0.5971 - val\_loss: 0.8508  
Epoch 11/100  
50/50 [=====] - 5s 101ms/step - loss: 0.5908 - val\_loss: 0.8136  
Epoch 12/100  
50/50 [=====] - 5s 101ms/step - loss: 0.5771 - val\_loss: 0.7832  
Epoch 13/100  
50/50 [=====] - 5s 100ms/step - loss: 0.5302 - val\_loss: 0.7346  
Epoch 14/100  
50/50 [=====] - 5s 102ms/step - loss: 0.4544 - val\_loss: 0.6650  
Epoch 15/100  
50/50 [=====] - 5s 100ms/step - loss: 0.4248 - val\_loss: 0.6195  
Epoch 16/100  
50/50 [=====] - 5s 101ms/step - loss: 0.4136 - val\_loss: 0.6467  
Epoch 17/100  
50/50 [=====] - 5s 101ms/step - loss: 0.4063 - val\_loss: 0.6459  
Epoch 18/100  
50/50 [=====] - 5s 102ms/step - loss: 0.4000 - val\_loss: 0.6625  
Epoch 19/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3962 - val\_loss: 0.5750  
Epoch 20/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3927 - val\_loss: 0.6346  
Epoch 21/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3879 - val\_loss: 0.6116  
Epoch 22/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3854 - val\_loss: 0.5947  
Epoch 23/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3802 - val\_loss: 0.5697

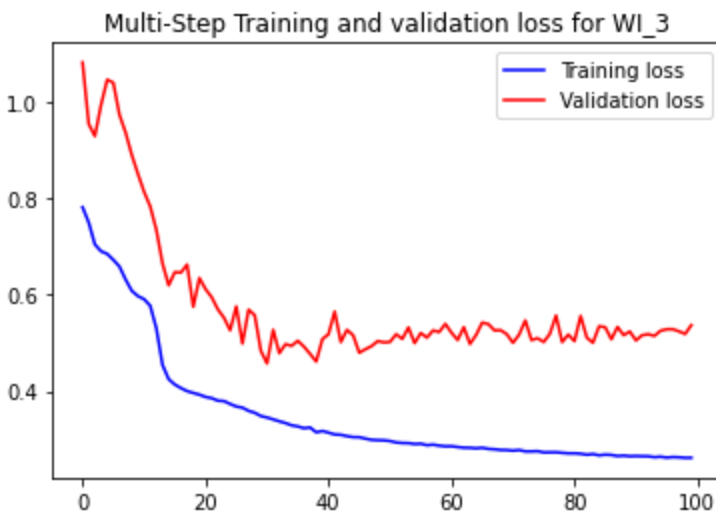
Epoch 24/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3793 - val\_loss: 0.5521  
Epoch 25/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3734 - val\_loss: 0.5262  
Epoch 26/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3681 - val\_loss: 0.5757  
Epoch 27/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3657 - val\_loss: 0.4986  
Epoch 28/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3591 - val\_loss: 0.5690  
Epoch 29/100  
50/50 [=====] - 6s 119ms/step - loss: 0.3551 - val\_loss: 0.5574  
Epoch 30/100  
50/50 [=====] - 6s 123ms/step - loss: 0.3483 - val\_loss: 0.4835  
Epoch 31/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3452 - val\_loss: 0.4574  
Epoch 32/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3413 - val\_loss: 0.5271  
Epoch 33/100  
50/50 [=====] - 5s 108ms/step - loss: 0.3374 - val\_loss: 0.4786  
Epoch 34/100  
50/50 [=====] - 5s 104ms/step - loss: 0.3337 - val\_loss: 0.4973  
Epoch 35/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3291 - val\_loss: 0.4939  
Epoch 36/100  
50/50 [=====] - 5s 100ms/step - loss: 0.3268 - val\_loss: 0.5044  
Epoch 37/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3230 - val\_loss: 0.4924  
Epoch 38/100  
50/50 [=====] - 5s 107ms/step - loss: 0.3246 - val\_loss: 0.4772  
Epoch 39/100  
50/50 [=====] - 5s 103ms/step - loss: 0.3146 - val\_loss: 0.4614  
Epoch 40/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3173 - val\_loss: 0.5078  
Epoch 41/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3138 - val\_loss: 0.5180  
Epoch 42/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3101 - val\_loss: 0.5650  
Epoch 43/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3094 - val\_loss: 0.5018  
Epoch 44/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3066 - val\_loss: 0.5271  
Epoch 45/100  
50/50 [=====] - 5s 101ms/step - loss: 0.3046 - val\_loss: 0.5160  
Epoch 46/100

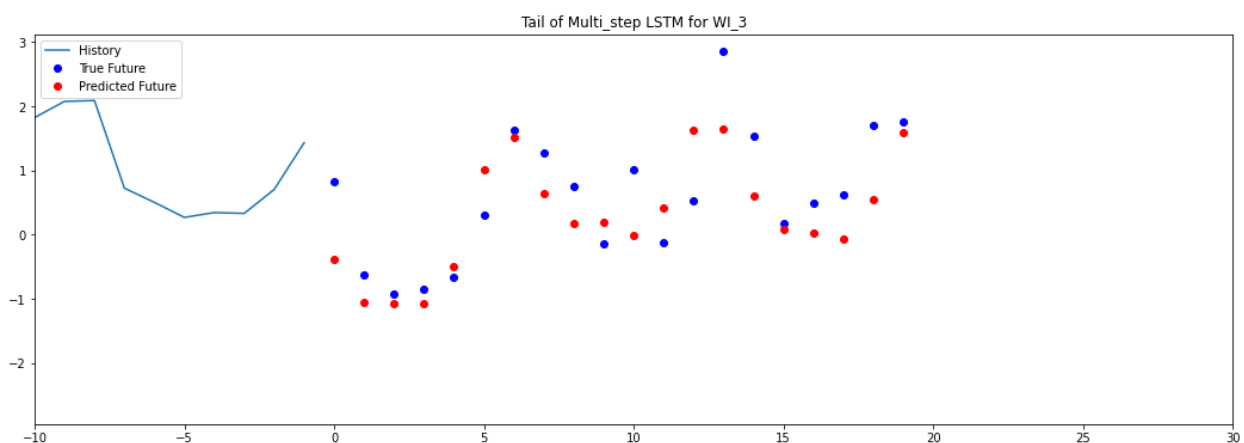
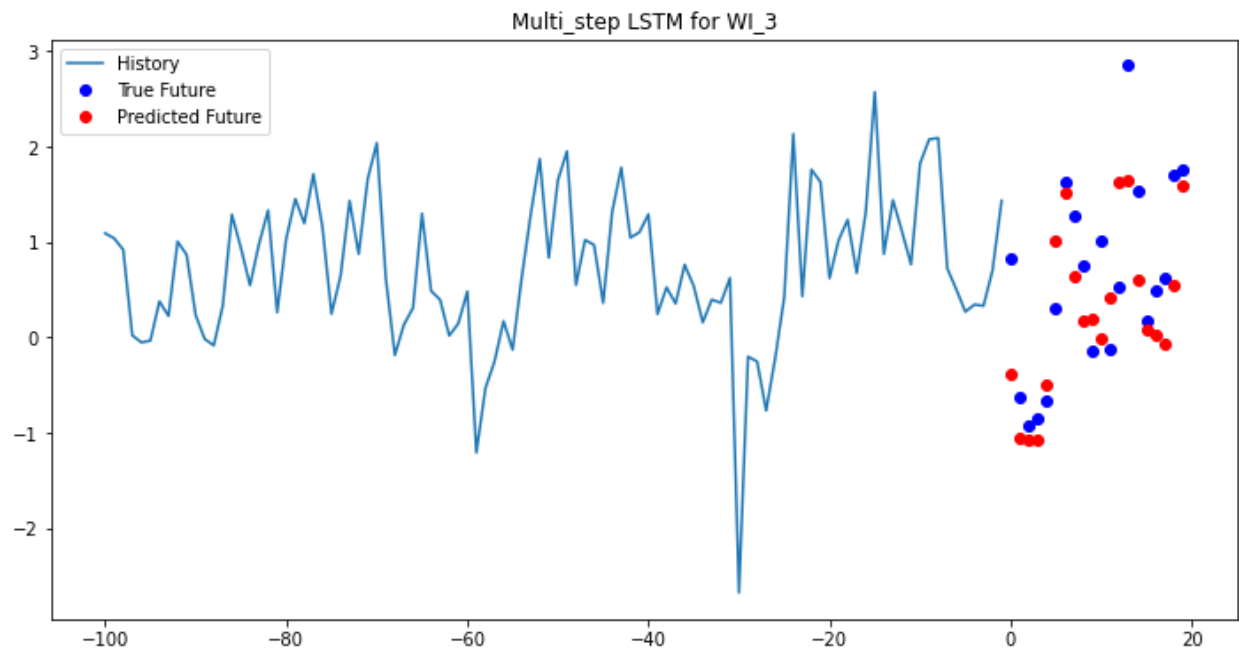


50/50 [=====] - 5s 101ms/step - loss: 0.3044 - val\_loss: 0.4797  
Epoch 47/100  
50/50 [=====] - 5s 102ms/step - loss: 0.3014 - val\_loss: 0.4869  
Epoch 48/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2989 - val\_loss: 0.4934  
Epoch 49/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2983 - val\_loss: 0.5039  
Epoch 50/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2979 - val\_loss: 0.5011  
Epoch 51/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2965 - val\_loss: 0.5020  
Epoch 52/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2935 - val\_loss: 0.5180  
Epoch 53/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2924 - val\_loss: 0.5083  
Epoch 54/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2921 - val\_loss: 0.5321  
Epoch 55/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2902 - val\_loss: 0.4996  
Epoch 56/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2909 - val\_loss: 0.5205  
Epoch 57/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2878 - val\_loss: 0.5110  
Epoch 58/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2890 - val\_loss: 0.5258  
Epoch 59/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2869 - val\_loss: 0.5227  
Epoch 60/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2856 - val\_loss: 0.5395  
Epoch 61/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2857 - val\_loss: 0.5212  
Epoch 62/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2841 - val\_loss: 0.5060  
Epoch 63/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2826 - val\_loss: 0.5326  
Epoch 64/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2824 - val\_loss: 0.4978  
Epoch 65/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2814 - val\_loss: 0.5165  
Epoch 66/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2824 - val\_loss: 0.5422  
Epoch 67/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2802 - val\_loss: 0.5390  
Epoch 68/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2794 - val\_loss: 0.5259

Epoch 69/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2779 - val\_loss: 0.5264  
Epoch 70/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2778 - val\_loss: 0.5179  
Epoch 71/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2765 - val\_loss: 0.5003  
Epoch 72/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2778 - val\_loss: 0.5172  
Epoch 73/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2749 - val\_loss: 0.5465  
Epoch 74/100  
50/50 [=====] - 5s 106ms/step - loss: 0.2749 - val\_loss: 0.5060  
Epoch 75/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2754 - val\_loss: 0.5096  
Epoch 76/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2729 - val\_loss: 0.5020  
Epoch 77/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2731 - val\_loss: 0.5189  
Epoch 78/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2732 - val\_loss: 0.5567  
Epoch 79/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2720 - val\_loss: 0.5017  
Epoch 80/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2710 - val\_loss: 0.5174  
Epoch 81/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2710 - val\_loss: 0.5036  
Epoch 82/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2701 - val\_loss: 0.5559  
Epoch 83/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2681 - val\_loss: 0.5112  
Epoch 84/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2694 - val\_loss: 0.5003  
Epoch 85/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2668 - val\_loss: 0.5345  
Epoch 86/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2682 - val\_loss: 0.5327  
Epoch 87/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2676 - val\_loss: 0.5075  
Epoch 88/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2653 - val\_loss: 0.5332  
Epoch 89/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2662 - val\_loss: 0.5160  
Epoch 90/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2650 - val\_loss: 0.5237  
Epoch 91/100

50/50 [=====] - 5s 104ms/step - loss: 0.2654 - val\_loss: 0.5052  
Epoch 92/100  
50/50 [=====] - 5s 100ms/step - loss: 0.2650 - val\_loss: 0.5160  
Epoch 93/100  
50/50 [=====] - 5s 104ms/step - loss: 0.2648 - val\_loss: 0.5180  
Epoch 94/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2630 - val\_loss: 0.5145  
Epoch 95/100  
50/50 [=====] - 5s 102ms/step - loss: 0.2639 - val\_loss: 0.5253  
Epoch 96/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2621 - val\_loss: 0.5284  
Epoch 97/100  
50/50 [=====] - 5s 105ms/step - loss: 0.2632 - val\_loss: 0.5284  
Epoch 98/100  
50/50 [=====] - 5s 103ms/step - loss: 0.2627 - val\_loss: 0.5240  
Epoch 99/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2616 - val\_loss: 0.5186  
Epoch 100/100  
50/50 [=====] - 5s 101ms/step - loss: 0.2617 - val\_loss: 0.5369





WI\_3 - True Future: [3998. 2806. 2564. 2632. 2775. 3580. 4653. 4362. 3938. 3210. 4153. 3219.  
3756. 5657. 4577. 3468. 3728. 3833. 4721. 4759.]

WI\_3 - Model Prediction: [3013.672 2454.9663 2444.362 2441.7732 2921.8708 4156.284 4561.183  
3851.8232 3465.9844 3478.7192 3319.4941 3668.725 4654.3154 4679.7886  
3816.1567 3395.2637 3344.3423 3268.6282 3770.5337 4631.396 ]

WI\_3 - Model Percentage Error: [24.62050728 12.51011017 4.66606628 7.22746226 5.29264323  
16.09732345

1.97328379 11.69593668 11.98617636 8.37131583 20.06997013 13.97095675  
23.91681123 17.27437557 16.62318684 2.09735664 10.29124772 14.72402364  
20.13273265 2.68131969]%

WI\_3 - Model Mean Percentage Error: 12.311140308290232%

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