

Training for CA\_3

Single window of past history : (100, 4)

(72, 1)

Epoch 1/100

50/50 [=====] - 3s 58ms/step - loss: 0.4985 - val\_loss: 0.3943

Epoch 2/100

50/50 [=====] - 3s 50ms/step - loss: 0.3989 - val\_loss: 0.4143

Epoch 3/100

50/50 [=====] - 3s 50ms/step - loss: 0.3636 - val\_loss: 0.4031

Epoch 4/100

50/50 [=====] - 3s 51ms/step - loss: 0.3600 - val\_loss: 0.4506

Epoch 5/100

50/50 [=====] - 3s 50ms/step - loss: 0.3516 - val\_loss: 0.4556

Epoch 6/100

50/50 [=====] - 2s 50ms/step - loss: 0.3478 - val\_loss: 0.4386

Epoch 7/100

50/50 [=====] - 2s 50ms/step - loss: 0.3403 - val\_loss: 0.4378

Epoch 8/100

50/50 [=====] - 3s 50ms/step - loss: 0.3372 - val\_loss: 0.4663

Epoch 9/100

50/50 [=====] - 3s 50ms/step - loss: 0.3350 - val\_loss: 0.4698

Epoch 10/100

50/50 [=====] - 2s 50ms/step - loss: 0.3304 - val\_loss: 0.4694

Epoch 11/100

50/50 [=====] - 2s 49ms/step - loss: 0.3223 - val\_loss: 0.4685

Epoch 12/100

50/50 [=====] - 2s 49ms/step - loss: 0.3241 - val\_loss: 0.4750

Epoch 13/100

50/50 [=====] - 3s 50ms/step - loss: 0.3173 - val\_loss: 0.4697

Epoch 14/100

50/50 [=====] - 3s 50ms/step - loss: 0.3178 - val\_loss: 0.4896

Epoch 15/100

50/50 [=====] - 3s 51ms/step - loss: 0.3100 - val\_loss: 0.4621

Epoch 16/100

50/50 [=====] - 3s 51ms/step - loss: 0.3112 - val\_loss: 0.4632

Epoch 17/100

50/50 [=====] - 2s 50ms/step - loss: 0.3005 - val\_loss: 0.4622

Epoch 18/100

50/50 [=====] - 2s 50ms/step - loss: 0.3021 - val\_loss: 0.4496

Epoch 19/100

50/50 [=====] - 2s 49ms/step - loss: 0.2929 - val\_loss: 0.4651

Epoch 20/100

50/50 [=====] - 3s 50ms/step - loss: 0.2903 - val\_loss: 0.4407

Epoch 21/100

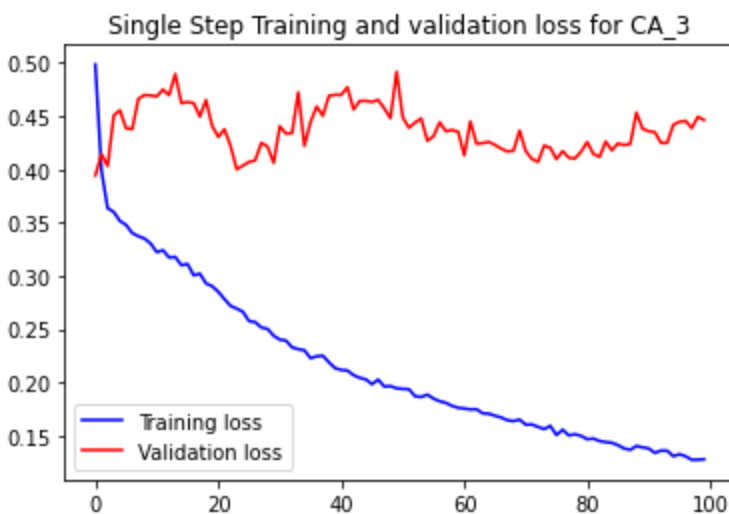
50/50 [=====] - 2s 50ms/step - loss: 0.2851 - val\_loss: 0.4305

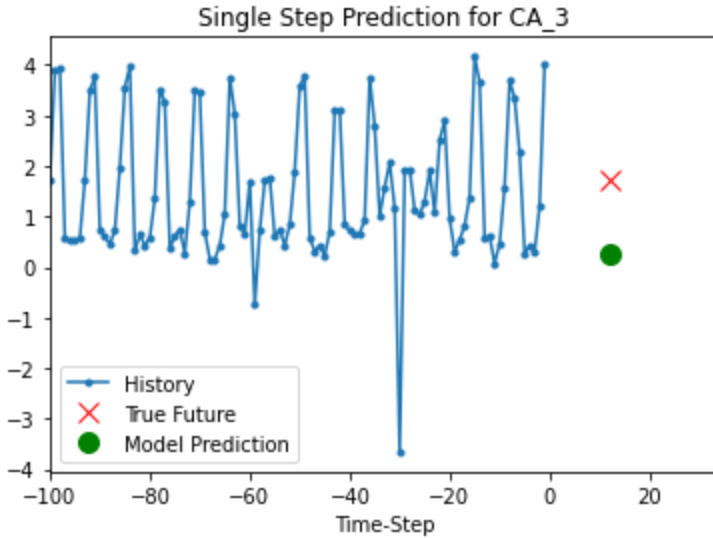
Epoch 22/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2782 - val\_loss: 0.4377  
Epoch 23/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2718 - val\_loss: 0.4219  
Epoch 24/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2692 - val\_loss: 0.4000  
Epoch 25/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2663 - val\_loss: 0.4036  
Epoch 26/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2575 - val\_loss: 0.4070  
Epoch 27/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2566 - val\_loss: 0.4084  
Epoch 28/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2515 - val\_loss: 0.4249  
Epoch 29/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2502 - val\_loss: 0.4215  
Epoch 30/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2439 - val\_loss: 0.4061  
Epoch 31/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2402 - val\_loss: 0.4405  
Epoch 32/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2393 - val\_loss: 0.4336  
Epoch 33/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2329 - val\_loss: 0.4341  
Epoch 34/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2312 - val\_loss: 0.4723  
Epoch 35/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2302 - val\_loss: 0.4222  
Epoch 36/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2227 - val\_loss: 0.4444  
Epoch 37/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2245 - val\_loss: 0.4591  
Epoch 38/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2251 - val\_loss: 0.4504  
Epoch 39/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2188 - val\_loss: 0.4691  
Epoch 40/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2134 - val\_loss: 0.4700  
Epoch 41/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2117 - val\_loss: 0.4699  
Epoch 42/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2111 - val\_loss: 0.4772  
Epoch 43/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2068 - val\_loss: 0.4563  
Epoch 44/100

50/50 [=====] - 3s 50ms/step - loss: 0.2043 - val\_loss: 0.4643  
Epoch 45/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2028 - val\_loss: 0.4643  
Epoch 46/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1983 - val\_loss: 0.4633  
Epoch 47/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2026 - val\_loss: 0.4653  
Epoch 48/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1961 - val\_loss: 0.4572  
Epoch 49/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1966 - val\_loss: 0.4481  
Epoch 50/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1944 - val\_loss: 0.4916  
Epoch 51/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1938 - val\_loss: 0.4489  
Epoch 52/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1936 - val\_loss: 0.4391  
Epoch 53/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1870 - val\_loss: 0.4439  
Epoch 54/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1863 - val\_loss: 0.4479  
Epoch 55/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1885 - val\_loss: 0.4269  
Epoch 56/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1847 - val\_loss: 0.4311  
Epoch 57/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1823 - val\_loss: 0.4442  
Epoch 58/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1808 - val\_loss: 0.4358  
Epoch 59/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1780 - val\_loss: 0.4369  
Epoch 60/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1762 - val\_loss: 0.4354  
Epoch 61/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1755 - val\_loss: 0.4132  
Epoch 62/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1746 - val\_loss: 0.4450  
Epoch 63/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1748 - val\_loss: 0.4240  
Epoch 64/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1710 - val\_loss: 0.4247  
Epoch 65/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1706 - val\_loss: 0.4258  
Epoch 66/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1687 - val\_loss: 0.4230

Epoch 67/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1670 - val\_loss: 0.4195  
Epoch 68/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1645 - val\_loss: 0.4169  
Epoch 69/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1636 - val\_loss: 0.4174  
Epoch 70/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1651 - val\_loss: 0.4365  
Epoch 71/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1603 - val\_loss: 0.4172  
Epoch 72/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1605 - val\_loss: 0.4098  
Epoch 73/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1582 - val\_loss: 0.4071  
Epoch 74/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1561 - val\_loss: 0.4223  
Epoch 75/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1592 - val\_loss: 0.4202  
Epoch 76/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1506 - val\_loss: 0.4096  
Epoch 77/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1555 - val\_loss: 0.4171  
Epoch 78/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1502 - val\_loss: 0.4110  
Epoch 79/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1513 - val\_loss: 0.4102  
Epoch 80/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1498 - val\_loss: 0.4167  
Epoch 81/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1466 - val\_loss: 0.4257  
Epoch 82/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1472 - val\_loss: 0.4146  
Epoch 83/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1450 - val\_loss: 0.4116  
Epoch 84/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1439 - val\_loss: 0.4262  
Epoch 85/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1433 - val\_loss: 0.4178  
Epoch 86/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1411 - val\_loss: 0.4243  
Epoch 87/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1380 - val\_loss: 0.4229  
Epoch 88/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1366 - val\_loss: 0.4239  
Epoch 89/100

50/50 [=====] - 3s 51ms/step - loss: 0.1403 - val\_loss: 0.4533  
Epoch 90/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1390 - val\_loss: 0.4380  
Epoch 91/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1379 - val\_loss: 0.4358  
Epoch 92/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1338 - val\_loss: 0.4349  
Epoch 93/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1359 - val\_loss: 0.4249  
Epoch 94/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1358 - val\_loss: 0.4249  
Epoch 95/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1307 - val\_loss: 0.4419  
Epoch 96/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1325 - val\_loss: 0.4447  
Epoch 97/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1306 - val\_loss: 0.4456  
Epoch 98/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1273 - val\_loss: 0.4388  
Epoch 99/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1274 - val\_loss: 0.4494  
Epoch 100/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1278 - val\_loss: 0.4463





CA\_3 - True Future: 7921

CA\_3 - Model Prediction: 6138

CA\_3 - Model Percentage Error: 22.51%

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Training for CA\_4

Single window of past history : (100, 4)

(72, 1)

Epoch 1/100

50/50 [=====] - 3s 56ms/step - loss: 0.4673 - val\_loss: 0.4149

Epoch 2/100

50/50 [=====] - 2s 49ms/step - loss: 0.3807 - val\_loss: 0.3873

Epoch 3/100

50/50 [=====] - 2s 49ms/step - loss: 0.3618 - val\_loss: 0.3760

Epoch 4/100

50/50 [=====] - 3s 51ms/step - loss: 0.3600 - val\_loss: 0.3737

Epoch 5/100

50/50 [=====] - 3s 52ms/step - loss: 0.3529 - val\_loss: 0.3700

Epoch 6/100

50/50 [=====] - 3s 52ms/step - loss: 0.3528 - val\_loss: 0.3742

Epoch 7/100

50/50 [=====] - 3s 52ms/step - loss: 0.3456 - val\_loss: 0.3719

Epoch 8/100

50/50 [=====] - 3s 52ms/step - loss: 0.3442 - val\_loss: 0.3775

Epoch 9/100

50/50 [=====] - 3s 52ms/step - loss: 0.3403 - val\_loss: 0.3866

Epoch 10/100

50/50 [=====] - 3s 51ms/step - loss: 0.3366 - val\_loss: 0.3739

Epoch 11/100

50/50 [=====] - 3s 52ms/step - loss: 0.3346 - val\_loss: 0.3807

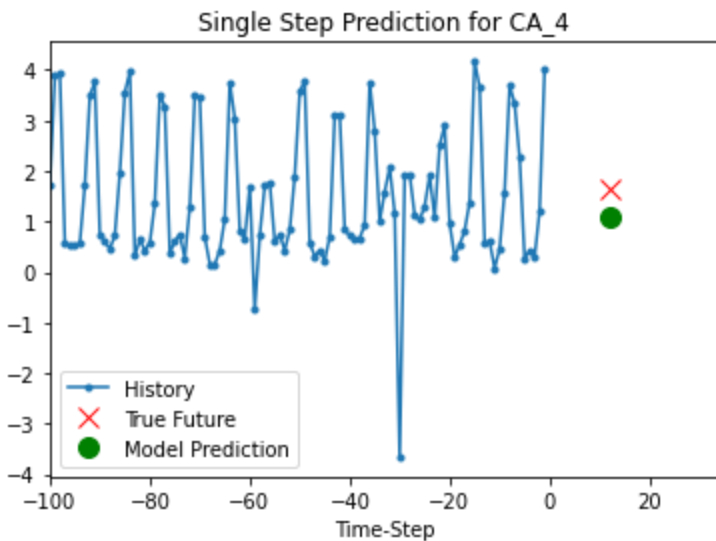
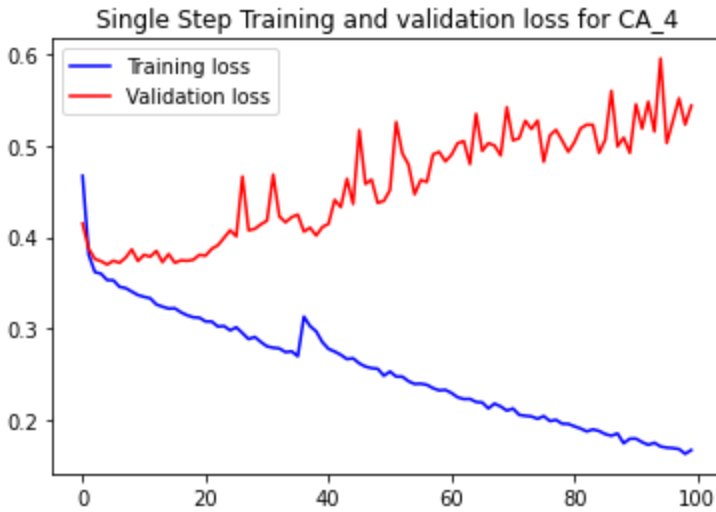
Epoch 12/100  
50/50 [=====] - 3s 52ms/step - loss: 0.3330 - val\_loss: 0.3786  
Epoch 13/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3262 - val\_loss: 0.3849  
Epoch 14/100  
50/50 [=====] - 3s 52ms/step - loss: 0.3238 - val\_loss: 0.3726  
Epoch 15/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3216 - val\_loss: 0.3815  
Epoch 16/100  
50/50 [=====] - 3s 52ms/step - loss: 0.3220 - val\_loss: 0.3720  
Epoch 17/100  
50/50 [=====] - 3s 52ms/step - loss: 0.3176 - val\_loss: 0.3746  
Epoch 18/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3144 - val\_loss: 0.3741  
Epoch 19/100  
50/50 [=====] - 3s 52ms/step - loss: 0.3121 - val\_loss: 0.3752  
Epoch 20/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3117 - val\_loss: 0.3807  
Epoch 21/100  
50/50 [=====] - 3s 52ms/step - loss: 0.3076 - val\_loss: 0.3797  
Epoch 22/100  
50/50 [=====] - 3s 52ms/step - loss: 0.3075 - val\_loss: 0.3872  
Epoch 23/100  
50/50 [=====] - 3s 52ms/step - loss: 0.3020 - val\_loss: 0.3911  
Epoch 24/100  
50/50 [=====] - 3s 52ms/step - loss: 0.3025 - val\_loss: 0.3992  
Epoch 25/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2978 - val\_loss: 0.4076  
Epoch 26/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3011 - val\_loss: 0.4009  
Epoch 27/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2949 - val\_loss: 0.4666  
Epoch 28/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2882 - val\_loss: 0.4075  
Epoch 29/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2906 - val\_loss: 0.4091  
Epoch 30/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2850 - val\_loss: 0.4141  
Epoch 31/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2802 - val\_loss: 0.4182  
Epoch 32/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2787 - val\_loss: 0.4687  
Epoch 33/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2780 - val\_loss: 0.4229  
Epoch 34/100

50/50 [=====] - 3s 52ms/step - loss: 0.2739 - val\_loss: 0.4163  
Epoch 35/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2748 - val\_loss: 0.4220  
Epoch 36/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2693 - val\_loss: 0.4248  
Epoch 37/100  
50/50 [=====] - 4s 80ms/step - loss: 0.3128 - val\_loss: 0.4061  
Epoch 38/100  
50/50 [=====] - 3s 67ms/step - loss: 0.3024 - val\_loss: 0.4104  
Epoch 39/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2966 - val\_loss: 0.4018  
Epoch 40/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2848 - val\_loss: 0.4112  
Epoch 41/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2775 - val\_loss: 0.4146  
Epoch 42/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2745 - val\_loss: 0.4410  
Epoch 43/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2709 - val\_loss: 0.4330  
Epoch 44/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2663 - val\_loss: 0.4641  
Epoch 45/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2671 - val\_loss: 0.4365  
Epoch 46/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2616 - val\_loss: 0.5175  
Epoch 47/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2581 - val\_loss: 0.4584  
Epoch 48/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2563 - val\_loss: 0.4632  
Epoch 49/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2557 - val\_loss: 0.4376  
Epoch 50/100  
50/50 [=====] - 3s 53ms/step - loss: 0.2480 - val\_loss: 0.4398  
Epoch 51/100  
50/50 [=====] - 3s 53ms/step - loss: 0.2526 - val\_loss: 0.4518  
Epoch 52/100  
50/50 [=====] - 3s 53ms/step - loss: 0.2471 - val\_loss: 0.5264  
Epoch 53/100  
50/50 [=====] - 3s 53ms/step - loss: 0.2470 - val\_loss: 0.4920  
Epoch 54/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2420 - val\_loss: 0.4798  
Epoch 55/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2390 - val\_loss: 0.4471  
Epoch 56/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2393 - val\_loss: 0.4627



Epoch 57/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2380 - val\_loss: 0.4607  
Epoch 58/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2343 - val\_loss: 0.4908  
Epoch 59/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2319 - val\_loss: 0.4936  
Epoch 60/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2325 - val\_loss: 0.4831  
Epoch 61/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2291 - val\_loss: 0.4904  
Epoch 62/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2244 - val\_loss: 0.5031  
Epoch 63/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2224 - val\_loss: 0.5054  
Epoch 64/100  
50/50 [=====] - 3s 53ms/step - loss: 0.2226 - val\_loss: 0.4802  
Epoch 65/100  
50/50 [=====] - 3s 53ms/step - loss: 0.2192 - val\_loss: 0.5354  
Epoch 66/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2187 - val\_loss: 0.4947  
Epoch 67/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2121 - val\_loss: 0.5032  
Epoch 68/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2174 - val\_loss: 0.5006  
Epoch 69/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2143 - val\_loss: 0.4897  
Epoch 70/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2097 - val\_loss: 0.5425  
Epoch 71/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2120 - val\_loss: 0.5062  
Epoch 72/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2051 - val\_loss: 0.5085  
Epoch 73/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2040 - val\_loss: 0.5277  
Epoch 74/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2034 - val\_loss: 0.5187  
Epoch 75/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2007 - val\_loss: 0.5280  
Epoch 76/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2037 - val\_loss: 0.4828  
Epoch 77/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1983 - val\_loss: 0.5116  
Epoch 78/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1996 - val\_loss: 0.5178  
Epoch 79/100

50/50 [=====] - 3s 51ms/step - loss: 0.1953 - val\_loss: 0.5060  
Epoch 80/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1951 - val\_loss: 0.4936  
Epoch 81/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1925 - val\_loss: 0.5043  
Epoch 82/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1901 - val\_loss: 0.5194  
Epoch 83/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1869 - val\_loss: 0.5235  
Epoch 84/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1891 - val\_loss: 0.5232  
Epoch 85/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1874 - val\_loss: 0.4926  
Epoch 86/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1840 - val\_loss: 0.5068  
Epoch 87/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1822 - val\_loss: 0.5605  
Epoch 88/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1846 - val\_loss: 0.4996  
Epoch 89/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1739 - val\_loss: 0.5093  
Epoch 90/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1789 - val\_loss: 0.4925  
Epoch 91/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1790 - val\_loss: 0.5459  
Epoch 92/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1751 - val\_loss: 0.5193  
Epoch 93/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1721 - val\_loss: 0.5487  
Epoch 94/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1744 - val\_loss: 0.5159  
Epoch 95/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1704 - val\_loss: 0.5961  
Epoch 96/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1691 - val\_loss: 0.5033  
Epoch 97/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1686 - val\_loss: 0.5273  
Epoch 98/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1676 - val\_loss: 0.5524  
Epoch 99/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1623 - val\_loss: 0.5236  
Epoch 100/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1665 - val\_loss: 0.5443



CA\_4 - True Future: 2799

CA\_4 - Model Prediction: 2561

CA\_4 - Model Percentage Error: 8.50%

=====

Training for CA\_1

Single window of past history : (100, 4)

(72, 1)

Epoch 1/100

50/50 [=====] - 3s 55ms/step - loss: 0.5242 - val\_loss: 0.4304

Epoch 2/100

50/50 [=====] - 2s 49ms/step - loss: 0.3755 - val\_loss: 0.4521

Epoch 3/100

50/50 [=====] - 2s 49ms/step - loss: 0.3479 - val\_loss: 0.4779

Epoch 4/100

50/50 [=====] - 2s 50ms/step - loss: 0.3375 - val\_loss: 0.4437

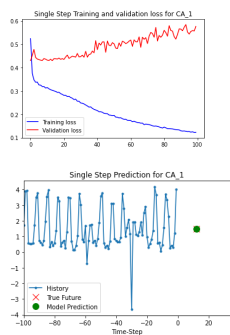
Epoch 5/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3383 - val\_loss: 0.4369  
Epoch 6/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3259 - val\_loss: 0.4344  
Epoch 7/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3253 - val\_loss: 0.4321  
Epoch 8/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3191 - val\_loss: 0.4307  
Epoch 9/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3191 - val\_loss: 0.4389  
Epoch 10/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3127 - val\_loss: 0.4363  
Epoch 11/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3148 - val\_loss: 0.4321  
Epoch 12/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3094 - val\_loss: 0.4310  
Epoch 13/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3055 - val\_loss: 0.4358  
Epoch 14/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3031 - val\_loss: 0.4300  
Epoch 15/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3004 - val\_loss: 0.4386  
Epoch 16/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2984 - val\_loss: 0.4382  
Epoch 17/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2942 - val\_loss: 0.4369  
Epoch 18/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2946 - val\_loss: 0.4407  
Epoch 19/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2887 - val\_loss: 0.4358  
Epoch 20/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2854 - val\_loss: 0.4385  
Epoch 21/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2814 - val\_loss: 0.4354  
Epoch 22/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2814 - val\_loss: 0.4455  
Epoch 23/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2764 - val\_loss: 0.4539  
Epoch 24/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2771 - val\_loss: 0.4395  
Epoch 25/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2723 - val\_loss: 0.4443  
Epoch 26/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2690 - val\_loss: 0.4491  
Epoch 27/100

50/50 [=====] - 3s 50ms/step - loss: 0.2633 - val\_loss: 0.4473  
Epoch 28/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2650 - val\_loss: 0.4451  
Epoch 29/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2564 - val\_loss: 0.4607  
Epoch 30/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2563 - val\_loss: 0.4459  
Epoch 31/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2486 - val\_loss: 0.4471  
Epoch 32/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2479 - val\_loss: 0.4532  
Epoch 33/100  
50/50 [=====] - 3s 53ms/step - loss: 0.2445 - val\_loss: 0.4448  
Epoch 34/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2401 - val\_loss: 0.4698  
Epoch 35/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2360 - val\_loss: 0.4450  
Epoch 36/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2312 - val\_loss: 0.4563  
Epoch 37/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2321 - val\_loss: 0.4584  
Epoch 38/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2256 - val\_loss: 0.4711  
Epoch 39/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2216 - val\_loss: 0.4638  
Epoch 40/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2187 - val\_loss: 0.5154  
Epoch 41/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2161 - val\_loss: 0.4772  
Epoch 42/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2113 - val\_loss: 0.5050  
Epoch 43/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2113 - val\_loss: 0.4967  
Epoch 44/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2089 - val\_loss: 0.5102  
Epoch 45/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2044 - val\_loss: 0.5103  
Epoch 46/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2031 - val\_loss: 0.4659  
Epoch 47/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2029 - val\_loss: 0.5139  
Epoch 48/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1971 - val\_loss: 0.4958  
Epoch 49/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1965 - val\_loss: 0.4941

Epoch 50/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1948 - val\_loss: 0.5070  
Epoch 51/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1958 - val\_loss: 0.5020  
Epoch 52/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1881 - val\_loss: 0.4839  
Epoch 53/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1875 - val\_loss: 0.4816  
Epoch 54/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1850 - val\_loss: 0.5058  
Epoch 55/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1855 - val\_loss: 0.4916  
Epoch 56/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1814 - val\_loss: 0.5133  
Epoch 57/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1788 - val\_loss: 0.5095  
Epoch 58/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1791 - val\_loss: 0.5031  
Epoch 59/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1747 - val\_loss: 0.5065  
Epoch 60/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1744 - val\_loss: 0.5136  
Epoch 61/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1732 - val\_loss: 0.5181  
Epoch 62/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1687 - val\_loss: 0.4912  
Epoch 63/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1709 - val\_loss: 0.5189  
Epoch 64/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1673 - val\_loss: 0.5107  
Epoch 65/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1653 - val\_loss: 0.5106  
Epoch 66/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1645 - val\_loss: 0.5317  
Epoch 67/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1623 - val\_loss: 0.4872  
Epoch 68/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1625 - val\_loss: 0.5302  
Epoch 69/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1559 - val\_loss: 0.5215  
Epoch 70/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1583 - val\_loss: 0.5284  
Epoch 71/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1569 - val\_loss: 0.5032  
Epoch 72/100

50/50 [=====] - 3s 51ms/step - loss: 0.1563 - val\_loss: 0.5352  
Epoch 73/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1540 - val\_loss: 0.5508  
Epoch 74/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1511 - val\_loss: 0.5461  
Epoch 75/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1496 - val\_loss: 0.5303  
Epoch 76/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1502 - val\_loss: 0.5719  
Epoch 77/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1487 - val\_loss: 0.5141  
Epoch 78/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1462 - val\_loss: 0.5380  
Epoch 79/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1436 - val\_loss: 0.5300  
Epoch 80/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1414 - val\_loss: 0.5388  
Epoch 81/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1457 - val\_loss: 0.5598  
Epoch 82/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1422 - val\_loss: 0.5501  
Epoch 83/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1391 - val\_loss: 0.5347  
Epoch 84/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1388 - val\_loss: 0.5796  
Epoch 85/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1382 - val\_loss: 0.5590  
Epoch 86/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1377 - val\_loss: 0.5565  
Epoch 87/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1358 - val\_loss: 0.5328  
Epoch 88/100  
50/50 [=====] - 3s 54ms/step - loss: 0.1349 - val\_loss: 0.5223  
Epoch 89/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1345 - val\_loss: 0.5420  
Epoch 90/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1334 - val\_loss: 0.5659  
Epoch 91/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1297 - val\_loss: 0.5650  
Epoch 92/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1284 - val\_loss: 0.5579  
Epoch 93/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1290 - val\_loss: 0.5727  
Epoch 94/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1275 - val\_loss: 0.5843

Epoch 95/100  
 50/50 [=====] - 3s 51ms/step - loss: 0.1260 - val\_loss: 0.5522  
 Epoch 96/100  
 50/50 [=====] - 3s 51ms/step - loss: 0.1265 - val\_loss: 0.5437  
 Epoch 97/100  
 50/50 [=====] - 3s 51ms/step - loss: 0.1240 - val\_loss: 0.5551  
 Epoch 98/100  
 50/50 [=====] - 3s 53ms/step - loss: 0.1255 - val\_loss: 0.5585  
 Epoch 99/100  
 50/50 [=====] - 3s 52ms/step - loss: 0.1227 - val\_loss: 0.5569  
 Epoch 100/100  
 50/50 [=====] - 3s 52ms/step - loss: 0.1233 - val\_loss: 0.5764



CA\_1 - True Future: 5483  
 CA\_1 - Model Prediction: 5477  
 CA\_1 - Model Percentage Error: 0.11%  
 =====  
 =====

## Training for CA\_2

Single window of past history : (100, 4)  
 (72, 1)

Epoch 1/100  
 50/50 [=====] - 3s 57ms/step - loss: 0.5000 - val\_loss: 0.6598  
 Epoch 2/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.3370 - val\_loss: 0.6232  
 Epoch 3/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.3273 - val\_loss: 0.6151  
 Epoch 4/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.3269 - val\_loss: 0.6073  
 Epoch 5/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.3197 - val\_loss: 0.6088  
 Epoch 6/100  
 50/50 [=====] - 2s 50ms/step - loss: 0.3176 - val\_loss: 0.5925  
 Epoch 7/100  
 50/50 [=====] - 2s 50ms/step - loss: 0.3129 - val\_loss: 0.5742  
 Epoch 8/100



50/50 [=====] - 2s 50ms/step - loss: 0.3092 - val\_loss: 0.5814  
Epoch 9/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3045 - val\_loss: 0.5989  
Epoch 10/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3025 - val\_loss: 0.5708  
Epoch 11/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2997 - val\_loss: 0.5676  
Epoch 12/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2988 - val\_loss: 0.5788  
Epoch 13/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2934 - val\_loss: 0.5750  
Epoch 14/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2912 - val\_loss: 0.5802  
Epoch 15/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2905 - val\_loss: 0.5812  
Epoch 16/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2839 - val\_loss: 0.6049  
Epoch 17/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2787 - val\_loss: 0.5818  
Epoch 18/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2749 - val\_loss: 0.5928  
Epoch 19/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2688 - val\_loss: 0.5945  
Epoch 20/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2682 - val\_loss: 0.5882  
Epoch 21/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2659 - val\_loss: 0.6171  
Epoch 22/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2614 - val\_loss: 0.6010  
Epoch 23/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2612 - val\_loss: 0.6423  
Epoch 24/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2607 - val\_loss: 0.6457  
Epoch 25/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2561 - val\_loss: 0.6067  
Epoch 26/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2517 - val\_loss: 0.6128  
Epoch 27/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2505 - val\_loss: 0.6797  
Epoch 28/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2448 - val\_loss: 0.6409  
Epoch 29/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2468 - val\_loss: 0.6351  
Epoch 30/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2443 - val\_loss: 0.6488

Epoch 31/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2395 - val\_loss: 0.6160  
Epoch 32/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2365 - val\_loss: 0.6616  
Epoch 33/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2360 - val\_loss: 0.6506  
Epoch 34/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2337 - val\_loss: 0.6869  
Epoch 35/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2283 - val\_loss: 0.6832  
Epoch 36/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2296 - val\_loss: 0.6577  
Epoch 37/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2261 - val\_loss: 0.6359  
Epoch 38/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2248 - val\_loss: 0.6459  
Epoch 39/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2205 - val\_loss: 0.6331  
Epoch 40/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2186 - val\_loss: 0.6366  
Epoch 41/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2183 - val\_loss: 0.6340  
Epoch 42/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2130 - val\_loss: 0.6914  
Epoch 43/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2115 - val\_loss: 0.6348  
Epoch 44/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2103 - val\_loss: 0.6771  
Epoch 45/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2091 - val\_loss: 0.7105  
Epoch 46/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2059 - val\_loss: 0.6296  
Epoch 47/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2055 - val\_loss: 0.6993  
Epoch 48/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2035 - val\_loss: 0.7268  
Epoch 49/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2009 - val\_loss: 0.6488  
Epoch 50/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1978 - val\_loss: 0.7012  
Epoch 51/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1949 - val\_loss: 0.6746  
Epoch 52/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1967 - val\_loss: 0.7166  
Epoch 53/100

50/50 [=====] - 2s 50ms/step - loss: 0.1944 - val\_loss: 0.6572  
Epoch 54/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1934 - val\_loss: 0.6306  
Epoch 55/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1885 - val\_loss: 0.7628  
Epoch 56/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1876 - val\_loss: 0.6579  
Epoch 57/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1856 - val\_loss: 0.6607  
Epoch 58/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1850 - val\_loss: 0.7405  
Epoch 59/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1846 - val\_loss: 0.7013  
Epoch 60/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1834 - val\_loss: 0.7023  
Epoch 61/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1786 - val\_loss: 0.7843  
Epoch 62/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1768 - val\_loss: 0.7193  
Epoch 63/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1751 - val\_loss: 0.7214  
Epoch 64/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1742 - val\_loss: 0.7253  
Epoch 65/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1727 - val\_loss: 0.7781  
Epoch 66/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1686 - val\_loss: 0.7455  
Epoch 67/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1675 - val\_loss: 0.6916  
Epoch 68/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1682 - val\_loss: 0.7611  
Epoch 69/100  
50/50 [=====] - 4s 75ms/step - loss: 0.1655 - val\_loss: 0.7227  
Epoch 70/100  
50/50 [=====] - 3s 68ms/step - loss: 0.1655 - val\_loss: 0.7462  
Epoch 71/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1626 - val\_loss: 0.7752  
Epoch 72/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1625 - val\_loss: 0.7434  
Epoch 73/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1602 - val\_loss: 0.7337  
Epoch 74/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1604 - val\_loss: 0.7218  
Epoch 75/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1563 - val\_loss: 0.7570

Epoch 76/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1578 - val\_loss: 0.7686  
Epoch 77/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1529 - val\_loss: 0.7394  
Epoch 78/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1554 - val\_loss: 0.7194  
Epoch 79/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1513 - val\_loss: 0.6634  
Epoch 80/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1516 - val\_loss: 0.7432  
Epoch 81/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1474 - val\_loss: 0.7307  
Epoch 82/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1486 - val\_loss: 0.7125  
Epoch 83/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1481 - val\_loss: 0.8032  
Epoch 84/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1464 - val\_loss: 0.8052  
Epoch 85/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1446 - val\_loss: 0.7226  
Epoch 86/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1453 - val\_loss: 0.7460  
Epoch 87/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1430 - val\_loss: 0.7081  
Epoch 88/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1402 - val\_loss: 0.7199  
Epoch 89/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1410 - val\_loss: 0.7116  
Epoch 90/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1396 - val\_loss: 0.7792  
Epoch 91/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1401 - val\_loss: 0.7018  
Epoch 92/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1364 - val\_loss: 0.7669  
Epoch 93/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1366 - val\_loss: 0.7358  
Epoch 94/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1372 - val\_loss: 0.7329  
Epoch 95/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1338 - val\_loss: 0.7490  
Epoch 96/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1354 - val\_loss: 0.7557  
Epoch 97/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1328 - val\_loss: 0.7478  
Epoch 98/100

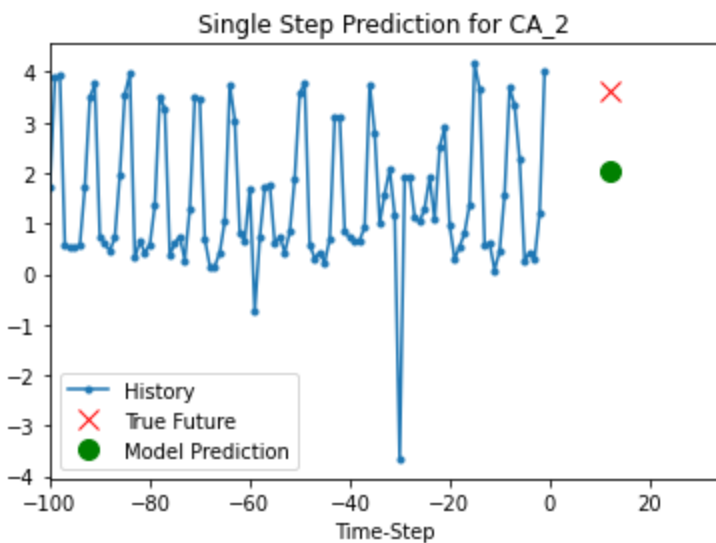
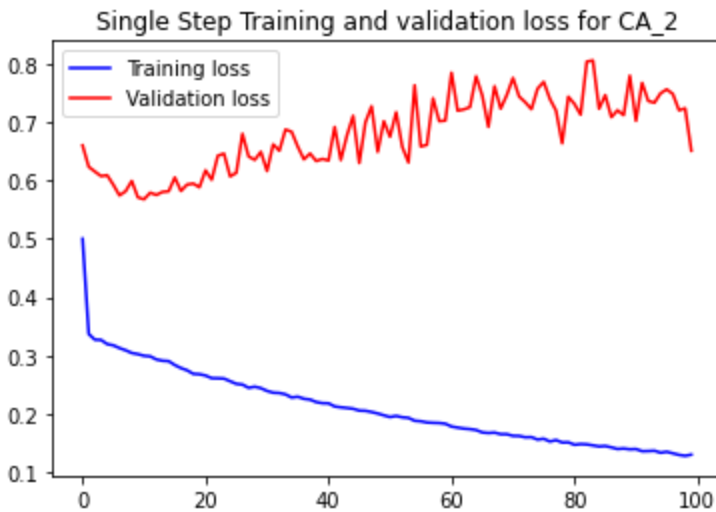
50/50 [=====] - 2s 50ms/step - loss: 0.1301 - val\_loss: 0.7200

Epoch 99/100

50/50 [=====] - 2s 50ms/step - loss: 0.1285 - val\_loss: 0.7233

Epoch 100/100

50/50 [=====] - 2s 49ms/step - loss: 0.1305 - val\_loss: 0.6508



CA\_2 - True Future: 5645

CA\_2 - Model Prediction: 4435

CA\_2 - Model Percentage Error: 21.43%

=====  
=====

Training for TX\_1

Single window of past history : (100, 3)

(72, 1)

Epoch 1/100

50/50 [=====] - 3s 57ms/step - loss: 0.5863 - val\_loss: 0.4747

Epoch 2/100  
50/50 [=====] - 2s 49ms/step - loss: 0.4650 - val\_loss: 0.3980  
Epoch 3/100  
50/50 [=====] - 3s 51ms/step - loss: 0.4400 - val\_loss: 0.4077  
Epoch 4/100  
50/50 [=====] - 3s 50ms/step - loss: 0.4258 - val\_loss: 0.4341  
Epoch 5/100  
50/50 [=====] - 3s 50ms/step - loss: 0.4217 - val\_loss: 0.4153  
Epoch 6/100  
50/50 [=====] - 2s 50ms/step - loss: 0.4117 - val\_loss: 0.4310  
Epoch 7/100  
50/50 [=====] - 2s 50ms/step - loss: 0.4093 - val\_loss: 0.4268  
Epoch 8/100  
50/50 [=====] - 2s 50ms/step - loss: 0.4008 - val\_loss: 0.4132  
Epoch 9/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3988 - val\_loss: 0.4361  
Epoch 10/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3900 - val\_loss: 0.4182  
Epoch 11/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3888 - val\_loss: 0.4708  
Epoch 12/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3815 - val\_loss: 0.4290  
Epoch 13/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3797 - val\_loss: 0.4810  
Epoch 14/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3749 - val\_loss: 0.4814  
Epoch 15/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3716 - val\_loss: 0.4468  
Epoch 16/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3627 - val\_loss: 0.4773  
Epoch 17/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3589 - val\_loss: 0.4785  
Epoch 18/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3560 - val\_loss: 0.4530  
Epoch 19/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3467 - val\_loss: 0.4167  
Epoch 20/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3449 - val\_loss: 0.4192  
Epoch 21/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3395 - val\_loss: 0.4739  
Epoch 22/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3308 - val\_loss: 0.4904  
Epoch 23/100  
50/50 [=====] - 2s 48ms/step - loss: 0.3319 - val\_loss: 0.4117  
Epoch 24/100

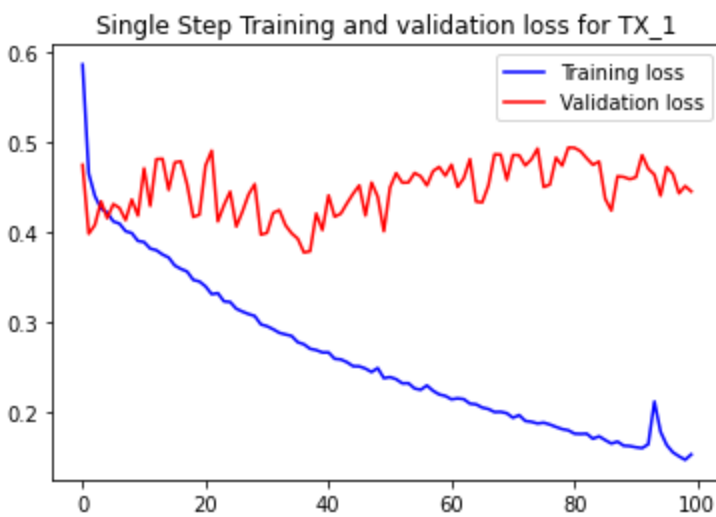
50/50 [=====] - 2s 49ms/step - loss: 0.3228 - val\_loss: 0.4299  
Epoch 25/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3221 - val\_loss: 0.4449  
Epoch 26/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3146 - val\_loss: 0.4060  
Epoch 27/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3114 - val\_loss: 0.4227  
Epoch 28/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3087 - val\_loss: 0.4417  
Epoch 29/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3065 - val\_loss: 0.4532  
Epoch 30/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2972 - val\_loss: 0.3970  
Epoch 31/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2952 - val\_loss: 0.3990  
Epoch 32/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2918 - val\_loss: 0.4212  
Epoch 33/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2878 - val\_loss: 0.4243  
Epoch 34/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2860 - val\_loss: 0.4075  
Epoch 35/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2843 - val\_loss: 0.3985  
Epoch 36/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2773 - val\_loss: 0.3925  
Epoch 37/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2750 - val\_loss: 0.3772  
Epoch 38/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2701 - val\_loss: 0.3785  
Epoch 39/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2686 - val\_loss: 0.4205  
Epoch 40/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2660 - val\_loss: 0.4021  
Epoch 41/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2660 - val\_loss: 0.4407  
Epoch 42/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2589 - val\_loss: 0.4170  
Epoch 43/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2582 - val\_loss: 0.4204  
Epoch 44/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2551 - val\_loss: 0.4319  
Epoch 45/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2507 - val\_loss: 0.4426  
Epoch 46/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2505 - val\_loss: 0.4518

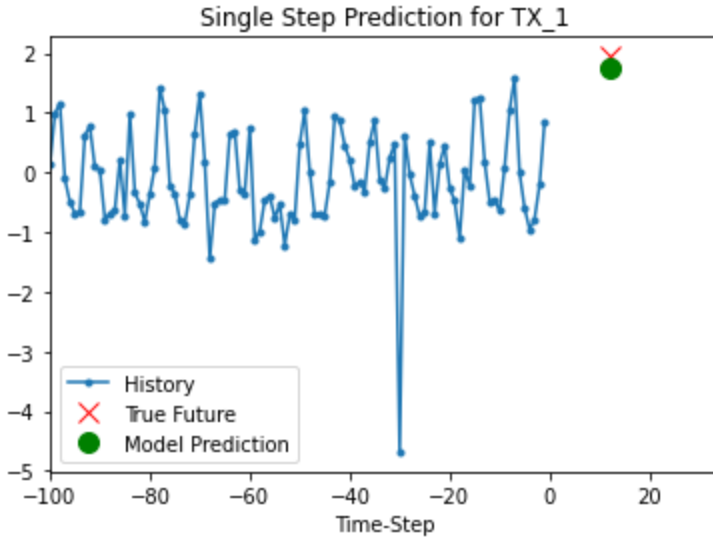
Epoch 47/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2480 - val\_loss: 0.4183  
Epoch 48/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2442 - val\_loss: 0.4550  
Epoch 49/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2486 - val\_loss: 0.4392  
Epoch 50/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2374 - val\_loss: 0.4008  
Epoch 51/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2385 - val\_loss: 0.4494  
Epoch 52/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2362 - val\_loss: 0.4654  
Epoch 53/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2316 - val\_loss: 0.4548  
Epoch 54/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2318 - val\_loss: 0.4551  
Epoch 55/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2259 - val\_loss: 0.4656  
Epoch 56/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2244 - val\_loss: 0.4619  
Epoch 57/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2292 - val\_loss: 0.4517  
Epoch 58/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2233 - val\_loss: 0.4677  
Epoch 59/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2193 - val\_loss: 0.4723  
Epoch 60/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2176 - val\_loss: 0.4625  
Epoch 61/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2138 - val\_loss: 0.4749  
Epoch 62/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2149 - val\_loss: 0.4501  
Epoch 63/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2140 - val\_loss: 0.4599  
Epoch 64/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2090 - val\_loss: 0.4811  
Epoch 65/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2082 - val\_loss: 0.4337  
Epoch 66/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2046 - val\_loss: 0.4330  
Epoch 67/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2031 - val\_loss: 0.4517  
Epoch 68/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1997 - val\_loss: 0.4863  
Epoch 69/100



50/50 [=====] - 2s 49ms/step - loss: 0.1999 - val\_loss: 0.4861  
Epoch 70/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1984 - val\_loss: 0.4579  
Epoch 71/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1932 - val\_loss: 0.4856  
Epoch 72/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1963 - val\_loss: 0.4854  
Epoch 73/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1897 - val\_loss: 0.4739  
Epoch 74/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1888 - val\_loss: 0.4808  
Epoch 75/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1869 - val\_loss: 0.4928  
Epoch 76/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1878 - val\_loss: 0.4500  
Epoch 77/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1858 - val\_loss: 0.4527  
Epoch 78/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1831 - val\_loss: 0.4827  
Epoch 79/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1807 - val\_loss: 0.4737  
Epoch 80/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1794 - val\_loss: 0.4939  
Epoch 81/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1756 - val\_loss: 0.4936  
Epoch 82/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1753 - val\_loss: 0.4898  
Epoch 83/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1756 - val\_loss: 0.4819  
Epoch 84/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1700 - val\_loss: 0.4747  
Epoch 85/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1727 - val\_loss: 0.4783  
Epoch 86/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1685 - val\_loss: 0.4369  
Epoch 87/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1646 - val\_loss: 0.4238  
Epoch 88/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1668 - val\_loss: 0.4620  
Epoch 89/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1622 - val\_loss: 0.4612  
Epoch 90/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1618 - val\_loss: 0.4587  
Epoch 91/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1604 - val\_loss: 0.4609

Epoch 92/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1595 - val\_loss: 0.4855  
Epoch 93/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1638 - val\_loss: 0.4703  
Epoch 94/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2114 - val\_loss: 0.4638  
Epoch 95/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1777 - val\_loss: 0.4404  
Epoch 96/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1630 - val\_loss: 0.4722  
Epoch 97/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1549 - val\_loss: 0.4646  
Epoch 98/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1504 - val\_loss: 0.4429  
Epoch 99/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1465 - val\_loss: 0.4510  
Epoch 100/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1525 - val\_loss: 0.4451





TX\_1 - True Future: 4107

TX\_1 - Model Prediction: 3988

TX\_1 - Model Percentage Error: 2.90%

=====

Training for TX\_3

Single window of past history : (100, 3)

(72, 1)

Epoch 1/100

50/50 [=====] - 3s 63ms/step - loss: 0.5521 - val\_loss: 0.4531

Epoch 2/100

50/50 [=====] - 2s 49ms/step - loss: 0.4472 - val\_loss: 0.4204

Epoch 3/100

50/50 [=====] - 2s 48ms/step - loss: 0.4138 - val\_loss: 0.4096

Epoch 4/100

50/50 [=====] - 2s 48ms/step - loss: 0.4084 - val\_loss: 0.4187

Epoch 5/100

50/50 [=====] - 2s 49ms/step - loss: 0.4043 - val\_loss: 0.4073

Epoch 6/100

50/50 [=====] - 2s 48ms/step - loss: 0.3951 - val\_loss: 0.4714

Epoch 7/100

50/50 [=====] - 2s 49ms/step - loss: 0.3941 - val\_loss: 0.4053

Epoch 8/100

50/50 [=====] - 2s 49ms/step - loss: 0.3888 - val\_loss: 0.4066

Epoch 9/100

50/50 [=====] - 2s 50ms/step - loss: 0.3853 - val\_loss: 0.3919

Epoch 10/100

50/50 [=====] - 3s 51ms/step - loss: 0.3795 - val\_loss: 0.3844

Epoch 11/100

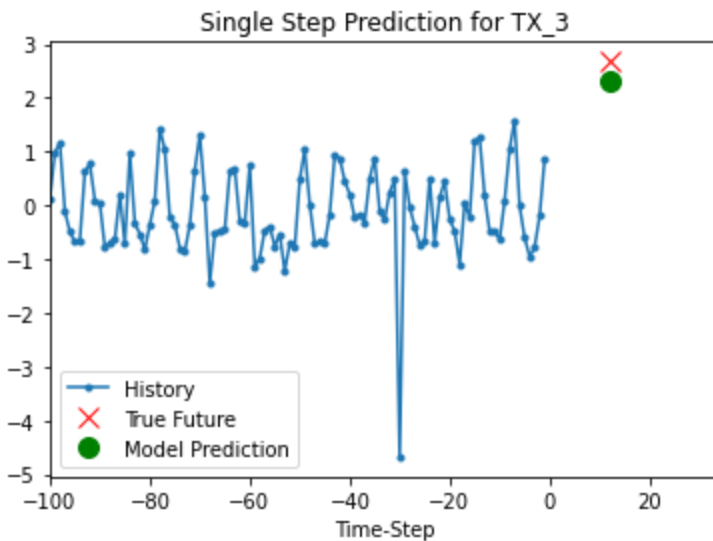
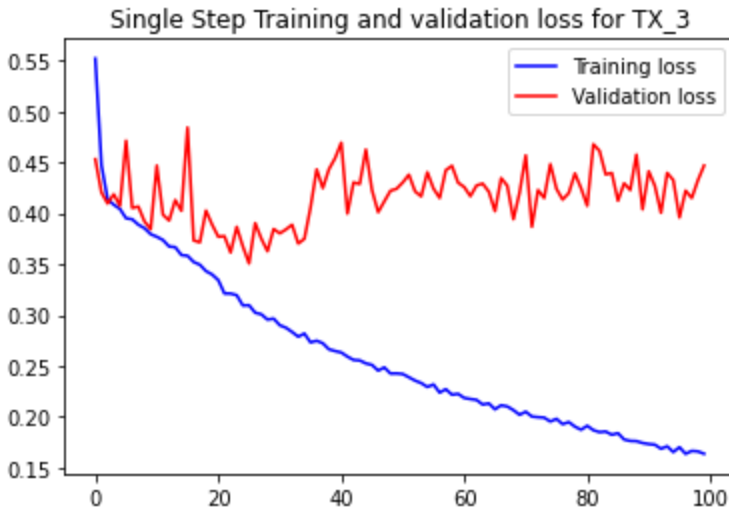
50/50 [=====] - 3s 52ms/step - loss: 0.3769 - val\_loss: 0.4469

Epoch 12/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3737 - val\_loss: 0.3986  
Epoch 13/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3674 - val\_loss: 0.3929  
Epoch 14/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3667 - val\_loss: 0.4130  
Epoch 15/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3590 - val\_loss: 0.4024  
Epoch 16/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3583 - val\_loss: 0.4843  
Epoch 17/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3521 - val\_loss: 0.3733  
Epoch 18/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3495 - val\_loss: 0.3715  
Epoch 19/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3432 - val\_loss: 0.4026  
Epoch 20/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3399 - val\_loss: 0.3888  
Epoch 21/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3344 - val\_loss: 0.3770  
Epoch 22/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3213 - val\_loss: 0.3775  
Epoch 23/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3211 - val\_loss: 0.3615  
Epoch 24/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3195 - val\_loss: 0.3867  
Epoch 25/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3094 - val\_loss: 0.3674  
Epoch 26/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3097 - val\_loss: 0.3507  
Epoch 27/100  
50/50 [=====] - 3s 51ms/step - loss: 0.3023 - val\_loss: 0.3903  
Epoch 28/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3008 - val\_loss: 0.3751  
Epoch 29/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2956 - val\_loss: 0.3627  
Epoch 30/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2965 - val\_loss: 0.3846  
Epoch 31/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2900 - val\_loss: 0.3803  
Epoch 32/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2876 - val\_loss: 0.3841  
Epoch 33/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2834 - val\_loss: 0.3888  
Epoch 34/100

50/50 [=====] - 3s 51ms/step - loss: 0.2788 - val\_loss: 0.3703  
Epoch 35/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2819 - val\_loss: 0.3749  
Epoch 36/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2732 - val\_loss: 0.4057  
Epoch 37/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2748 - val\_loss: 0.4431  
Epoch 38/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2723 - val\_loss: 0.4247  
Epoch 39/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2664 - val\_loss: 0.4434  
Epoch 40/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2647 - val\_loss: 0.4542  
Epoch 41/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2633 - val\_loss: 0.4694  
Epoch 42/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2592 - val\_loss: 0.3997  
Epoch 43/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2559 - val\_loss: 0.4303  
Epoch 44/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2555 - val\_loss: 0.4288  
Epoch 45/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2525 - val\_loss: 0.4626  
Epoch 46/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2510 - val\_loss: 0.4227  
Epoch 47/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2455 - val\_loss: 0.4011  
Epoch 48/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2486 - val\_loss: 0.4117  
Epoch 49/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2426 - val\_loss: 0.4221  
Epoch 50/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2427 - val\_loss: 0.4241  
Epoch 51/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2421 - val\_loss: 0.4303  
Epoch 52/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2389 - val\_loss: 0.4380  
Epoch 53/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2357 - val\_loss: 0.4215  
Epoch 54/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2332 - val\_loss: 0.4166  
Epoch 55/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2294 - val\_loss: 0.4403  
Epoch 56/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2319 - val\_loss: 0.4242

Epoch 57/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2238 - val\_loss: 0.4150  
Epoch 58/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2272 - val\_loss: 0.4423  
Epoch 59/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2218 - val\_loss: 0.4467  
Epoch 60/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2226 - val\_loss: 0.4301  
Epoch 61/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2186 - val\_loss: 0.4258  
Epoch 62/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2175 - val\_loss: 0.4168  
Epoch 63/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2167 - val\_loss: 0.4273  
Epoch 64/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2121 - val\_loss: 0.4291  
Epoch 65/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2132 - val\_loss: 0.4212  
Epoch 66/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2074 - val\_loss: 0.4021  
Epoch 67/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2114 - val\_loss: 0.4345  
Epoch 68/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2102 - val\_loss: 0.4271  
Epoch 69/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2066 - val\_loss: 0.3942  
Epoch 70/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2021 - val\_loss: 0.4204  
Epoch 71/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2051 - val\_loss: 0.4569  
Epoch 72/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2004 - val\_loss: 0.3867  
Epoch 73/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1997 - val\_loss: 0.4229  
Epoch 74/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1993 - val\_loss: 0.4150  
Epoch 75/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1954 - val\_loss: 0.4483  
Epoch 76/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1981 - val\_loss: 0.4241  
Epoch 77/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1928 - val\_loss: 0.4135  
Epoch 78/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1949 - val\_loss: 0.4198  
Epoch 79/100

50/50 [=====] - 3s 51ms/step - loss: 0.1904 - val\_loss: 0.4392  
Epoch 80/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1873 - val\_loss: 0.4246  
Epoch 81/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1913 - val\_loss: 0.4074  
Epoch 82/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1869 - val\_loss: 0.4678  
Epoch 83/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1850 - val\_loss: 0.4613  
Epoch 84/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1856 - val\_loss: 0.4382  
Epoch 85/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1824 - val\_loss: 0.4396  
Epoch 86/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1840 - val\_loss: 0.4124  
Epoch 87/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1778 - val\_loss: 0.4295  
Epoch 88/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1764 - val\_loss: 0.4228  
Epoch 89/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1762 - val\_loss: 0.4576  
Epoch 90/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1743 - val\_loss: 0.4039  
Epoch 91/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1733 - val\_loss: 0.4412  
Epoch 92/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1727 - val\_loss: 0.4270  
Epoch 93/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1687 - val\_loss: 0.4005  
Epoch 94/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1711 - val\_loss: 0.4396  
Epoch 95/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1654 - val\_loss: 0.4326  
Epoch 96/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1702 - val\_loss: 0.3958  
Epoch 97/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1637 - val\_loss: 0.4222  
Epoch 98/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1666 - val\_loss: 0.4150  
Epoch 99/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1661 - val\_loss: 0.4324  
Epoch 100/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1638 - val\_loss: 0.4469



TX\_3 - True Future: 4929

TX\_3 - Model Prediction: 4682

TX\_3 - Model Percentage Error: 5.01%

=====

Training for TX\_2

Single window of past history : (100, 3)

(72, 1)

Epoch 1/100

50/50 [=====] - 3s 56ms/step - loss: 0.5657 - val\_loss: 0.4376

Epoch 2/100

50/50 [=====] - 2s 49ms/step - loss: 0.4493 - val\_loss: 0.4150

Epoch 3/100

50/50 [=====] - 3s 62ms/step - loss: 0.4246 - val\_loss: 0.4472

Epoch 4/100

50/50 [=====] - 4s 78ms/step - loss: 0.4144 - val\_loss: 0.4298



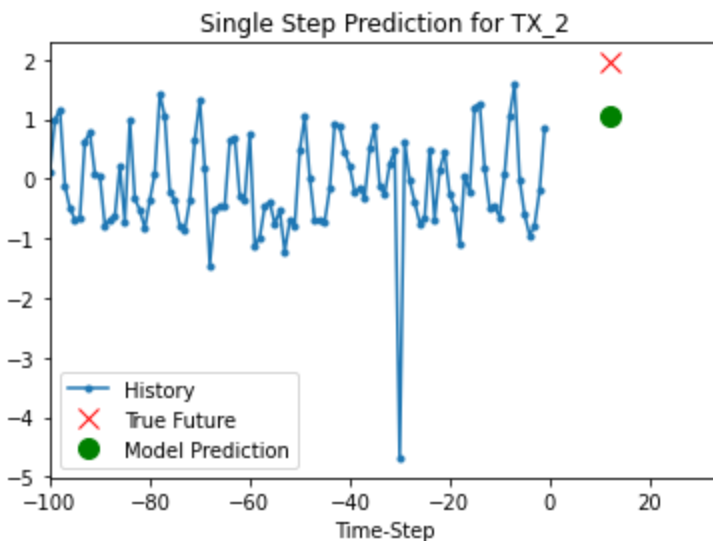
Epoch 5/100  
50/50 [=====] - 3s 50ms/step - loss: 0.4129 - val\_loss: 0.4199  
Epoch 6/100  
50/50 [=====] - 2s 50ms/step - loss: 0.4055 - val\_loss: 0.4109  
Epoch 7/100  
50/50 [=====] - 2s 48ms/step - loss: 0.4034 - val\_loss: 0.4325  
Epoch 8/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3982 - val\_loss: 0.4241  
Epoch 9/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3906 - val\_loss: 0.3865  
Epoch 10/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3860 - val\_loss: 0.4070  
Epoch 11/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3858 - val\_loss: 0.4310  
Epoch 12/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3816 - val\_loss: 0.4334  
Epoch 13/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3743 - val\_loss: 0.4088  
Epoch 14/100  
50/50 [=====] - 2s 48ms/step - loss: 0.3720 - val\_loss: 0.4208  
Epoch 15/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3680 - val\_loss: 0.4094  
Epoch 16/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3625 - val\_loss: 0.4808  
Epoch 17/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3584 - val\_loss: 0.4348  
Epoch 18/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3507 - val\_loss: 0.4884  
Epoch 19/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3497 - val\_loss: 0.4944  
Epoch 20/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3461 - val\_loss: 0.4619  
Epoch 21/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3414 - val\_loss: 0.4740  
Epoch 22/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3375 - val\_loss: 0.5165  
Epoch 23/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3344 - val\_loss: 0.4259  
Epoch 24/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3314 - val\_loss: 0.4811  
Epoch 25/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3270 - val\_loss: 0.4689  
Epoch 26/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3279 - val\_loss: 0.4723  
Epoch 27/100

50/50 [=====] - 3s 50ms/step - loss: 0.3217 - val\_loss: 0.4475  
Epoch 28/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3159 - val\_loss: 0.4874  
Epoch 29/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3165 - val\_loss: 0.4990  
Epoch 30/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3100 - val\_loss: 0.4554  
Epoch 31/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3073 - val\_loss: 0.5131  
Epoch 32/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3037 - val\_loss: 0.5091  
Epoch 33/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2962 - val\_loss: 0.5565  
Epoch 34/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2955 - val\_loss: 0.5073  
Epoch 35/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2846 - val\_loss: 0.4680  
Epoch 36/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2878 - val\_loss: 0.5046  
Epoch 37/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2808 - val\_loss: 0.5648  
Epoch 38/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2805 - val\_loss: 0.5669  
Epoch 39/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2763 - val\_loss: 0.4610  
Epoch 40/100  
50/50 [=====] - 3s 60ms/step - loss: 0.2724 - val\_loss: 0.5471  
Epoch 41/100  
50/50 [=====] - 3s 57ms/step - loss: 0.2693 - val\_loss: 0.5223  
Epoch 42/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2648 - val\_loss: 0.5481  
Epoch 43/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2661 - val\_loss: 0.5484  
Epoch 44/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2592 - val\_loss: 0.5684  
Epoch 45/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2566 - val\_loss: 0.5490  
Epoch 46/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2546 - val\_loss: 0.5204  
Epoch 47/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2553 - val\_loss: 0.5319  
Epoch 48/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2497 - val\_loss: 0.5630  
Epoch 49/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2441 - val\_loss: 0.5600

Epoch 50/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2423 - val\_loss: 0.4975  
Epoch 51/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2371 - val\_loss: 0.5038  
Epoch 52/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2406 - val\_loss: 0.4849  
Epoch 53/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2367 - val\_loss: 0.5081  
Epoch 54/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2334 - val\_loss: 0.5545  
Epoch 55/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2301 - val\_loss: 0.5502  
Epoch 56/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2319 - val\_loss: 0.5175  
Epoch 57/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2290 - val\_loss: 0.4745  
Epoch 58/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2253 - val\_loss: 0.5323  
Epoch 59/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2250 - val\_loss: 0.5183  
Epoch 60/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2186 - val\_loss: 0.5180  
Epoch 61/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2185 - val\_loss: 0.5576  
Epoch 62/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2233 - val\_loss: 0.5375  
Epoch 63/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2152 - val\_loss: 0.5375  
Epoch 64/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2148 - val\_loss: 0.5286  
Epoch 65/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2104 - val\_loss: 0.5488  
Epoch 66/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2098 - val\_loss: 0.5565  
Epoch 67/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2095 - val\_loss: 0.5145  
Epoch 68/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2103 - val\_loss: 0.5296  
Epoch 69/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2008 - val\_loss: 0.5351  
Epoch 70/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2058 - val\_loss: 0.5643  
Epoch 71/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1993 - val\_loss: 0.5199  
Epoch 72/100

50/50 [=====] - 2s 50ms/step - loss: 0.1995 - val\_loss: 0.5307  
Epoch 73/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1931 - val\_loss: 0.5459  
Epoch 74/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1949 - val\_loss: 0.5345  
Epoch 75/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1931 - val\_loss: 0.5512  
Epoch 76/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1941 - val\_loss: 0.5651  
Epoch 77/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1935 - val\_loss: 0.5165  
Epoch 78/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1893 - val\_loss: 0.5462  
Epoch 79/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1882 - val\_loss: 0.5290  
Epoch 80/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1854 - val\_loss: 0.5130  
Epoch 81/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1874 - val\_loss: 0.5491  
Epoch 82/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1832 - val\_loss: 0.5242  
Epoch 83/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1814 - val\_loss: 0.5208  
Epoch 84/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1804 - val\_loss: 0.5211  
Epoch 85/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1782 - val\_loss: 0.5588  
Epoch 86/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1733 - val\_loss: 0.5223  
Epoch 87/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1739 - val\_loss: 0.5573  
Epoch 88/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1929 - val\_loss: 0.5048  
Epoch 89/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2060 - val\_loss: 0.5553  
Epoch 90/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1827 - val\_loss: 0.5438  
Epoch 91/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1916 - val\_loss: 0.5894  
Epoch 92/100  
50/50 [=====] - 2s 48ms/step - loss: 0.1907 - val\_loss: 0.5433  
Epoch 93/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1768 - val\_loss: 0.5597  
Epoch 94/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1713 - val\_loss: 0.5596

Epoch 95/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1636 - val\_loss: 0.5616  
 Epoch 96/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1633 - val\_loss: 0.5288  
 Epoch 97/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1620 - val\_loss: 0.5642  
 Epoch 98/100  
 50/50 [=====] - 2s 48ms/step - loss: 0.1617 - val\_loss: 0.5307  
 Epoch 99/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1600 - val\_loss: 0.5600  
 Epoch 100/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1806 - val\_loss: 0.5523



TX\_2 - True Future: 5327  
 TX\_2 - Model Prediction: 4601  
 TX\_2 - Model Percentage Error: 13.63%  
 =====  
 =====

Training for WI\_1

Single window of past history : (100, 3)  
 (72, 1)

Epoch 1/100  
 50/50 [=====] - 3s 56ms/step - loss: 0.4481 - val\_loss: 0.4925  
 Epoch 2/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.3271 - val\_loss: 0.4894  
 Epoch 3/100

50/50 [=====] - 2s 49ms/step - loss: 0.3145 - val\_loss: 0.4453  
Epoch 4/100  
50/50 [=====] - 2s 48ms/step - loss: 0.3056 - val\_loss: 0.4209  
Epoch 5/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2979 - val\_loss: 0.3913  
Epoch 6/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2941 - val\_loss: 0.3918  
Epoch 7/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2877 - val\_loss: 0.4018  
Epoch 8/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2881 - val\_loss: 0.4162  
Epoch 9/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2819 - val\_loss: 0.3821  
Epoch 10/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2797 - val\_loss: 0.3882  
Epoch 11/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2759 - val\_loss: 0.3716  
Epoch 12/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2745 - val\_loss: 0.3841  
Epoch 13/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2696 - val\_loss: 0.3664  
Epoch 14/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2698 - val\_loss: 0.4074  
Epoch 15/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2640 - val\_loss: 0.3731  
Epoch 16/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2630 - val\_loss: 0.3832  
Epoch 17/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2612 - val\_loss: 0.3797  
Epoch 18/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2583 - val\_loss: 0.3736  
Epoch 19/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2522 - val\_loss: 0.3640  
Epoch 20/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2543 - val\_loss: 0.3973  
Epoch 21/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2473 - val\_loss: 0.4090  
Epoch 22/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2439 - val\_loss: 0.3893  
Epoch 23/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2435 - val\_loss: 0.3911  
Epoch 24/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2407 - val\_loss: 0.4287  
Epoch 25/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2387 - val\_loss: 0.4583

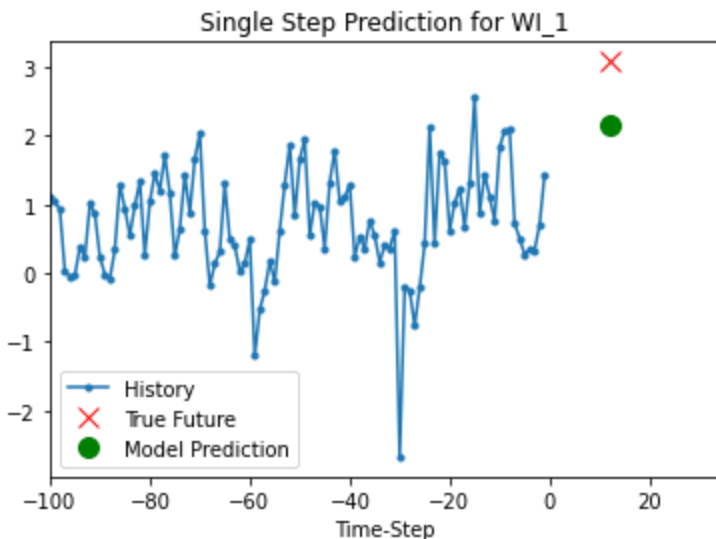
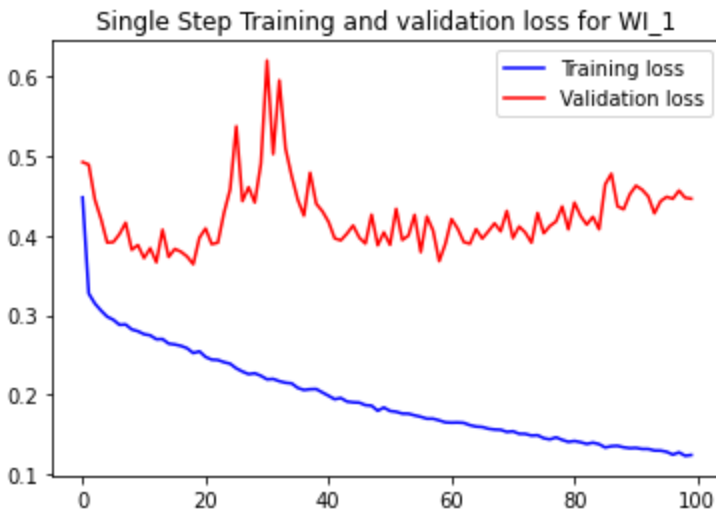
Epoch 26/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2329 - val\_loss: 0.5376  
Epoch 27/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2289 - val\_loss: 0.4434  
Epoch 28/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2256 - val\_loss: 0.4610  
Epoch 29/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2267 - val\_loss: 0.4417  
Epoch 30/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2236 - val\_loss: 0.4905  
Epoch 31/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2191 - val\_loss: 0.6204  
Epoch 32/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2196 - val\_loss: 0.5026  
Epoch 33/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2167 - val\_loss: 0.5955  
Epoch 34/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2148 - val\_loss: 0.5099  
Epoch 35/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2140 - val\_loss: 0.4752  
Epoch 36/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2083 - val\_loss: 0.4452  
Epoch 37/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2057 - val\_loss: 0.4251  
Epoch 38/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2066 - val\_loss: 0.4792  
Epoch 39/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2069 - val\_loss: 0.4401  
Epoch 40/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2026 - val\_loss: 0.4307  
Epoch 41/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1984 - val\_loss: 0.4174  
Epoch 42/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1940 - val\_loss: 0.3966  
Epoch 43/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1956 - val\_loss: 0.3940  
Epoch 44/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1911 - val\_loss: 0.4025  
Epoch 45/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1901 - val\_loss: 0.4127  
Epoch 46/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1898 - val\_loss: 0.3975  
Epoch 47/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1866 - val\_loss: 0.3900  
Epoch 48/100

50/50 [=====] - 2s 49ms/step - loss: 0.1859 - val\_loss: 0.4264  
Epoch 49/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1795 - val\_loss: 0.3877  
Epoch 50/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1837 - val\_loss: 0.4042  
Epoch 51/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1792 - val\_loss: 0.3883  
Epoch 52/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1783 - val\_loss: 0.4337  
Epoch 53/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1759 - val\_loss: 0.3944  
Epoch 54/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1758 - val\_loss: 0.4000  
Epoch 55/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1737 - val\_loss: 0.4261  
Epoch 56/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1719 - val\_loss: 0.3792  
Epoch 57/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1696 - val\_loss: 0.4240  
Epoch 58/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1695 - val\_loss: 0.4064  
Epoch 59/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1674 - val\_loss: 0.3679  
Epoch 60/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1650 - val\_loss: 0.3895  
Epoch 61/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1646 - val\_loss: 0.4208  
Epoch 62/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1648 - val\_loss: 0.4089  
Epoch 63/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1643 - val\_loss: 0.3919  
Epoch 64/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1614 - val\_loss: 0.3898  
Epoch 65/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1596 - val\_loss: 0.4082  
Epoch 66/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1591 - val\_loss: 0.3963  
Epoch 67/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1569 - val\_loss: 0.4054  
Epoch 68/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1559 - val\_loss: 0.4155  
Epoch 69/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1556 - val\_loss: 0.4054  
Epoch 70/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1529 - val\_loss: 0.4310



Epoch 71/100  
50/50 [=====] - 2s 48ms/step - loss: 0.1537 - val\_loss: 0.3969  
Epoch 72/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1505 - val\_loss: 0.4115  
Epoch 73/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1504 - val\_loss: 0.4039  
Epoch 74/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1483 - val\_loss: 0.3911  
Epoch 75/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1487 - val\_loss: 0.4285  
Epoch 76/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1450 - val\_loss: 0.4029  
Epoch 77/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1435 - val\_loss: 0.4121  
Epoch 78/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1460 - val\_loss: 0.4178  
Epoch 79/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1429 - val\_loss: 0.4366  
Epoch 80/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1403 - val\_loss: 0.4079  
Epoch 81/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1414 - val\_loss: 0.4416  
Epoch 82/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1399 - val\_loss: 0.4247  
Epoch 83/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1378 - val\_loss: 0.4138  
Epoch 84/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1394 - val\_loss: 0.4237  
Epoch 85/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1375 - val\_loss: 0.4080  
Epoch 86/100  
50/50 [=====] - 2s 48ms/step - loss: 0.1333 - val\_loss: 0.4646  
Epoch 87/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1350 - val\_loss: 0.4778  
Epoch 88/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1354 - val\_loss: 0.4369  
Epoch 89/100  
50/50 [=====] - 2s 48ms/step - loss: 0.1335 - val\_loss: 0.4331  
Epoch 90/100  
50/50 [=====] - 2s 48ms/step - loss: 0.1324 - val\_loss: 0.4519  
Epoch 91/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1328 - val\_loss: 0.4628  
Epoch 92/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1314 - val\_loss: 0.4578  
Epoch 93/100

50/50 [=====] - 2s 49ms/step - loss: 0.1314 - val\_loss: 0.4493  
 Epoch 94/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1295 - val\_loss: 0.4280  
 Epoch 95/100  
 50/50 [=====] - 2s 48ms/step - loss: 0.1294 - val\_loss: 0.4434  
 Epoch 96/100  
 50/50 [=====] - 2s 48ms/step - loss: 0.1278 - val\_loss: 0.4488  
 Epoch 97/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1242 - val\_loss: 0.4464  
 Epoch 98/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1272 - val\_loss: 0.4567  
 Epoch 99/100  
 50/50 [=====] - 2s 50ms/step - loss: 0.1228 - val\_loss: 0.4476  
 Epoch 100/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1238 - val\_loss: 0.4465



WI\_1 - True Future: 5490

WI\_1 - Model Prediction: 4629

WI\_1 - Model Percentage Error: 15.68%

=====

Training for WI\_3

Single window of past history : (100, 3)

(72, 1)

Epoch 1/100

50/50 [=====] - 3s 56ms/step - loss: 0.6439 - val\_loss: 0.5686

Epoch 2/100

50/50 [=====] - 2s 49ms/step - loss: 0.4796 - val\_loss: 0.6112

Epoch 3/100

50/50 [=====] - 2s 49ms/step - loss: 0.4400 - val\_loss: 0.5111

Epoch 4/100

50/50 [=====] - 2s 49ms/step - loss: 0.4259 - val\_loss: 0.6408

Epoch 5/100

50/50 [=====] - 2s 49ms/step - loss: 0.4246 - val\_loss: 0.6854

Epoch 6/100

50/50 [=====] - 3s 50ms/step - loss: 0.4157 - val\_loss: 0.6773

Epoch 7/100

50/50 [=====] - 3s 50ms/step - loss: 0.4088 - val\_loss: 0.7728

Epoch 8/100

50/50 [=====] - 3s 50ms/step - loss: 0.4043 - val\_loss: 0.7080

Epoch 9/100

50/50 [=====] - 3s 50ms/step - loss: 0.3996 - val\_loss: 0.6468

Epoch 10/100

50/50 [=====] - 3s 50ms/step - loss: 0.3953 - val\_loss: 0.7108

Epoch 11/100

50/50 [=====] - 2s 49ms/step - loss: 0.3917 - val\_loss: 0.7212

Epoch 12/100

50/50 [=====] - 3s 50ms/step - loss: 0.3871 - val\_loss: 0.7003

Epoch 13/100

50/50 [=====] - 2s 49ms/step - loss: 0.3854 - val\_loss: 0.7355

Epoch 14/100

50/50 [=====] - 2s 50ms/step - loss: 0.3800 - val\_loss: 0.6958

Epoch 15/100

50/50 [=====] - 2s 49ms/step - loss: 0.3783 - val\_loss: 0.7201

Epoch 16/100

50/50 [=====] - 3s 50ms/step - loss: 0.3759 - val\_loss: 0.6852

Epoch 17/100

50/50 [=====] - 2s 49ms/step - loss: 0.3704 - val\_loss: 0.7634

Epoch 18/100

50/50 [=====] - 2s 50ms/step - loss: 0.3684 - val\_loss: 0.7018

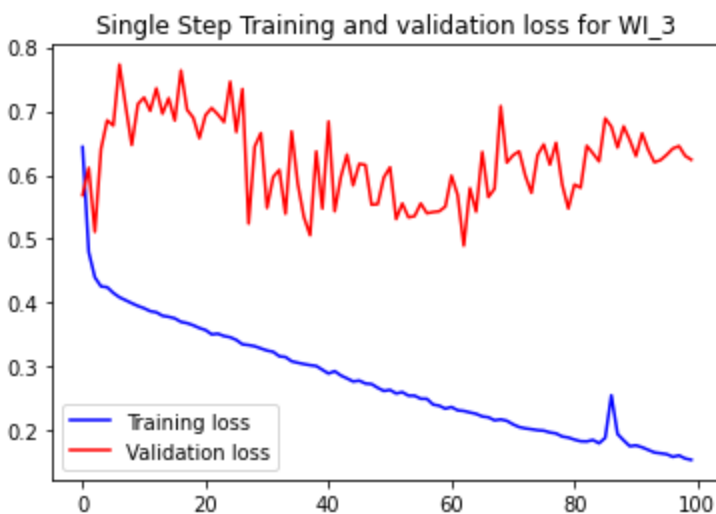
Epoch 19/100

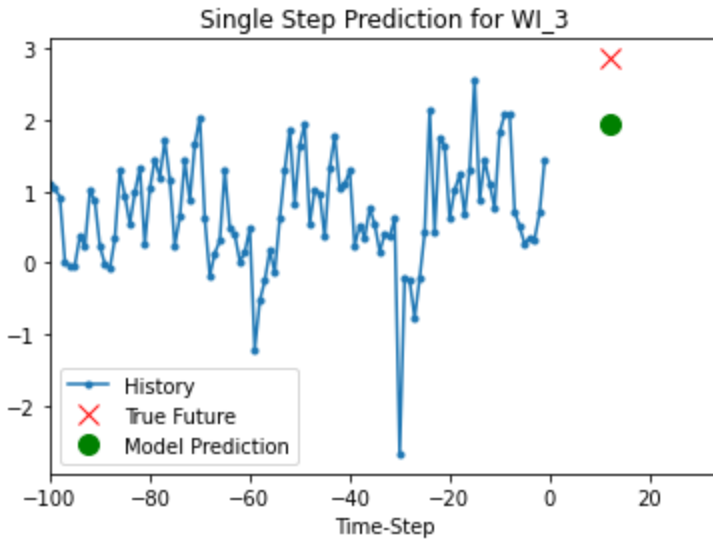
50/50 [=====] - 2s 50ms/step - loss: 0.3651 - val\_loss: 0.6896  
Epoch 20/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3608 - val\_loss: 0.6576  
Epoch 21/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3576 - val\_loss: 0.6937  
Epoch 22/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3509 - val\_loss: 0.7047  
Epoch 23/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3519 - val\_loss: 0.6947  
Epoch 24/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3483 - val\_loss: 0.6826  
Epoch 25/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3464 - val\_loss: 0.7459  
Epoch 26/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3422 - val\_loss: 0.6672  
Epoch 27/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3353 - val\_loss: 0.7345  
Epoch 28/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3342 - val\_loss: 0.5240  
Epoch 29/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3323 - val\_loss: 0.6446  
Epoch 30/100  
50/50 [=====] - 2s 49ms/step - loss: 0.3289 - val\_loss: 0.6655  
Epoch 31/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3256 - val\_loss: 0.5485  
Epoch 32/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3236 - val\_loss: 0.5969  
Epoch 33/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3166 - val\_loss: 0.6080  
Epoch 34/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3155 - val\_loss: 0.5394  
Epoch 35/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3088 - val\_loss: 0.6681  
Epoch 36/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3065 - val\_loss: 0.5864  
Epoch 37/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3045 - val\_loss: 0.5342  
Epoch 38/100  
50/50 [=====] - 3s 50ms/step - loss: 0.3028 - val\_loss: 0.5058  
Epoch 39/100  
50/50 [=====] - 2s 50ms/step - loss: 0.3015 - val\_loss: 0.6369  
Epoch 40/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2956 - val\_loss: 0.5475  
Epoch 41/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2897 - val\_loss: 0.6837

Epoch 42/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2934 - val\_loss: 0.5433  
Epoch 43/100  
50/50 [=====] - 4s 75ms/step - loss: 0.2867 - val\_loss: 0.5968  
Epoch 44/100  
50/50 [=====] - 3s 67ms/step - loss: 0.2821 - val\_loss: 0.6319  
Epoch 45/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2773 - val\_loss: 0.5838  
Epoch 46/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2786 - val\_loss: 0.6174  
Epoch 47/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2741 - val\_loss: 0.6158  
Epoch 48/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2732 - val\_loss: 0.5537  
Epoch 49/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2674 - val\_loss: 0.5545  
Epoch 50/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2625 - val\_loss: 0.5963  
Epoch 51/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2641 - val\_loss: 0.6120  
Epoch 52/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2585 - val\_loss: 0.5311  
Epoch 53/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2606 - val\_loss: 0.5555  
Epoch 54/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2551 - val\_loss: 0.5338  
Epoch 55/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2550 - val\_loss: 0.5357  
Epoch 56/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2503 - val\_loss: 0.5556  
Epoch 57/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2501 - val\_loss: 0.5403  
Epoch 58/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2412 - val\_loss: 0.5421  
Epoch 59/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2394 - val\_loss: 0.5432  
Epoch 60/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2347 - val\_loss: 0.5506  
Epoch 61/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2373 - val\_loss: 0.5989  
Epoch 62/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2322 - val\_loss: 0.5688  
Epoch 63/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2312 - val\_loss: 0.4895  
Epoch 64/100

50/50 [=====] - 2s 50ms/step - loss: 0.2288 - val\_loss: 0.5794  
Epoch 65/100  
50/50 [=====] - 3s 52ms/step - loss: 0.2267 - val\_loss: 0.5426  
Epoch 66/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2226 - val\_loss: 0.6361  
Epoch 67/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2213 - val\_loss: 0.5655  
Epoch 68/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2166 - val\_loss: 0.5785  
Epoch 69/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2179 - val\_loss: 0.7077  
Epoch 70/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2158 - val\_loss: 0.6194  
Epoch 71/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2103 - val\_loss: 0.6308  
Epoch 72/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2060 - val\_loss: 0.6370  
Epoch 73/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2039 - val\_loss: 0.5991  
Epoch 74/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2026 - val\_loss: 0.5721  
Epoch 75/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2011 - val\_loss: 0.6312  
Epoch 76/100  
50/50 [=====] - 3s 51ms/step - loss: 0.2004 - val\_loss: 0.6478  
Epoch 77/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1976 - val\_loss: 0.6162  
Epoch 78/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1961 - val\_loss: 0.6504  
Epoch 79/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1912 - val\_loss: 0.5853  
Epoch 80/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1896 - val\_loss: 0.5476  
Epoch 81/100  
50/50 [=====] - 3s 50ms/step - loss: 0.1864 - val\_loss: 0.5851  
Epoch 82/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1838 - val\_loss: 0.5800  
Epoch 83/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1835 - val\_loss: 0.6456  
Epoch 84/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1858 - val\_loss: 0.6339  
Epoch 85/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1807 - val\_loss: 0.6213  
Epoch 86/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1892 - val\_loss: 0.6886

Epoch 87/100  
 50/50 [=====] - 2s 50ms/step - loss: 0.2557 - val\_loss: 0.6756  
 Epoch 88/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1952 - val\_loss: 0.6430  
 Epoch 89/100  
 50/50 [=====] - 2s 50ms/step - loss: 0.1853 - val\_loss: 0.6760  
 Epoch 90/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1761 - val\_loss: 0.6544  
 Epoch 91/100  
 50/50 [=====] - 2s 50ms/step - loss: 0.1774 - val\_loss: 0.6297  
 Epoch 92/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1743 - val\_loss: 0.6651  
 Epoch 93/100  
 50/50 [=====] - 3s 50ms/step - loss: 0.1703 - val\_loss: 0.6392  
 Epoch 94/100  
 50/50 [=====] - 3s 51ms/step - loss: 0.1663 - val\_loss: 0.6199  
 Epoch 95/100  
 50/50 [=====] - 3s 51ms/step - loss: 0.1650 - val\_loss: 0.6233  
 Epoch 96/100  
 50/50 [=====] - 3s 50ms/step - loss: 0.1636 - val\_loss: 0.6316  
 Epoch 97/100  
 50/50 [=====] - 2s 49ms/step - loss: 0.1595 - val\_loss: 0.6414  
 Epoch 98/100  
 50/50 [=====] - 2s 50ms/step - loss: 0.1617 - val\_loss: 0.6452  
 Epoch 99/100  
 50/50 [=====] - 2s 50ms/step - loss: 0.1568 - val\_loss: 0.6300  
 Epoch 100/100  
 50/50 [=====] - 2s 50ms/step - loss: 0.1548 - val\_loss: 0.6239





WI\_3 - True Future: 5666

WI\_3 - Model Prediction: 4910

WI\_3 - Model Percentage Error: 13.34%

=====

Training for WI\_2

Single window of past history : (100, 3)

(72, 1)

Epoch 1/100

50/50 [=====] - 3s 56ms/step - loss: 0.4558 - val\_loss: 0.6947

Epoch 2/100

50/50 [=====] - 2s 49ms/step - loss: 0.3627 - val\_loss: 0.7433

Epoch 3/100

50/50 [=====] - 2s 49ms/step - loss: 0.3308 - val\_loss: 0.7727

Epoch 4/100

50/50 [=====] - 2s 50ms/step - loss: 0.3303 - val\_loss: 0.7624

Epoch 5/100

50/50 [=====] - 2s 49ms/step - loss: 0.3203 - val\_loss: 0.7590

Epoch 6/100

50/50 [=====] - 2s 49ms/step - loss: 0.3166 - val\_loss: 0.8070

Epoch 7/100

50/50 [=====] - 2s 49ms/step - loss: 0.3115 - val\_loss: 0.8857

Epoch 8/100

50/50 [=====] - 3s 50ms/step - loss: 0.3086 - val\_loss: 0.8000

Epoch 9/100

50/50 [=====] - 2s 49ms/step - loss: 0.3028 - val\_loss: 0.9364

Epoch 10/100

50/50 [=====] - 2s 49ms/step - loss: 0.2991 - val\_loss: 0.8757

Epoch 11/100

50/50 [=====] - 2s 49ms/step - loss: 0.2949 - val\_loss: 0.8771

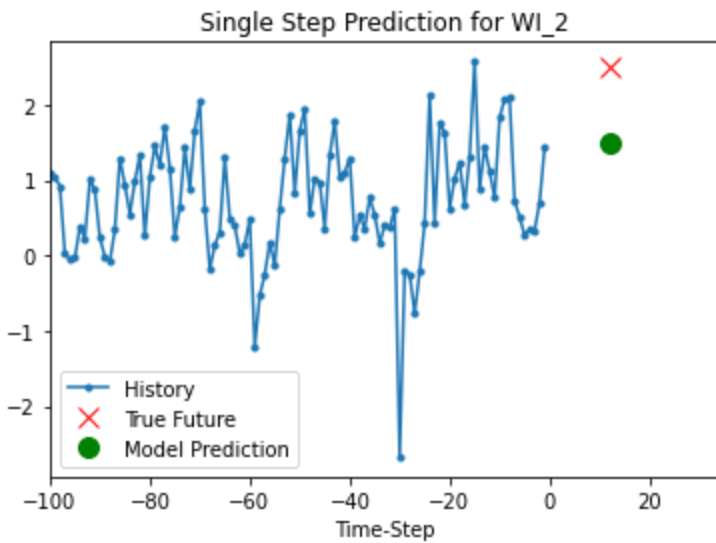
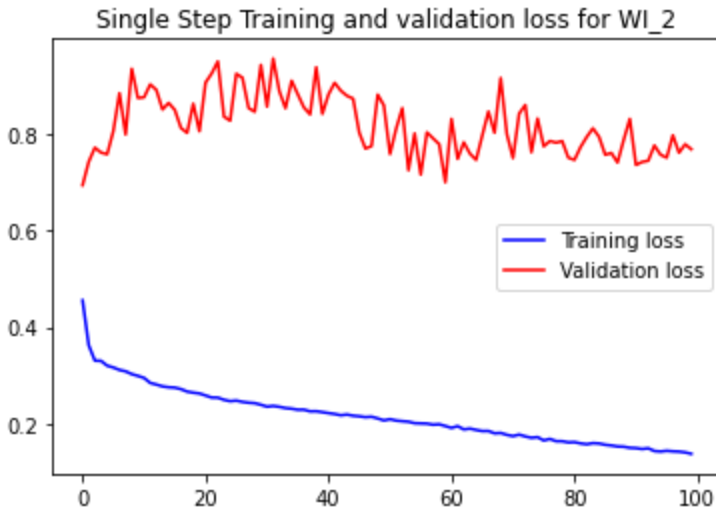


Epoch 12/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2845 - val\_loss: 0.9039  
Epoch 13/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2812 - val\_loss: 0.8925  
Epoch 14/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2773 - val\_loss: 0.8518  
Epoch 15/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2755 - val\_loss: 0.8655  
Epoch 16/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2747 - val\_loss: 0.8510  
Epoch 17/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2717 - val\_loss: 0.8136  
Epoch 18/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2665 - val\_loss: 0.8033  
Epoch 19/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2643 - val\_loss: 0.8638  
Epoch 20/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2627 - val\_loss: 0.8067  
Epoch 21/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2585 - val\_loss: 0.9077  
Epoch 22/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2541 - val\_loss: 0.9266  
Epoch 23/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2539 - val\_loss: 0.9516  
Epoch 24/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2495 - val\_loss: 0.8370  
Epoch 25/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2467 - val\_loss: 0.8286  
Epoch 26/100  
50/50 [=====] - 2s 48ms/step - loss: 0.2478 - val\_loss: 0.9259  
Epoch 27/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2451 - val\_loss: 0.9177  
Epoch 28/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2435 - val\_loss: 0.8549  
Epoch 29/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2425 - val\_loss: 0.8471  
Epoch 30/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2392 - val\_loss: 0.9444  
Epoch 31/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2353 - val\_loss: 0.8578  
Epoch 32/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2367 - val\_loss: 0.9577  
Epoch 33/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2349 - val\_loss: 0.8899  
Epoch 34/100

50/50 [=====] - 2s 50ms/step - loss: 0.2323 - val\_loss: 0.8545  
Epoch 35/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2311 - val\_loss: 0.9114  
Epoch 36/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2289 - val\_loss: 0.8834  
Epoch 37/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2290 - val\_loss: 0.8560  
Epoch 38/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2255 - val\_loss: 0.8416  
Epoch 39/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2258 - val\_loss: 0.9395  
Epoch 40/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2239 - val\_loss: 0.8428  
Epoch 41/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2219 - val\_loss: 0.8833  
Epoch 42/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2200 - val\_loss: 0.9073  
Epoch 43/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2174 - val\_loss: 0.8908  
Epoch 44/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2189 - val\_loss: 0.8803  
Epoch 45/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2164 - val\_loss: 0.8743  
Epoch 46/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2153 - val\_loss: 0.8038  
Epoch 47/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2135 - val\_loss: 0.7708  
Epoch 48/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2144 - val\_loss: 0.7759  
Epoch 49/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2108 - val\_loss: 0.8827  
Epoch 50/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2067 - val\_loss: 0.8604  
Epoch 51/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2093 - val\_loss: 0.7594  
Epoch 52/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2064 - val\_loss: 0.8122  
Epoch 53/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2051 - val\_loss: 0.8547  
Epoch 54/100  
50/50 [=====] - 3s 50ms/step - loss: 0.2040 - val\_loss: 0.7257  
Epoch 55/100  
50/50 [=====] - 2s 50ms/step - loss: 0.2010 - val\_loss: 0.8022  
Epoch 56/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2005 - val\_loss: 0.7168

Epoch 57/100  
50/50 [=====] - 2s 49ms/step - loss: 0.2001 - val\_loss: 0.8043  
Epoch 58/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1979 - val\_loss: 0.7920  
Epoch 59/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1987 - val\_loss: 0.7798  
Epoch 60/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1951 - val\_loss: 0.7008  
Epoch 61/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1911 - val\_loss: 0.8324  
Epoch 62/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1949 - val\_loss: 0.7494  
Epoch 63/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1881 - val\_loss: 0.7837  
Epoch 64/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1898 - val\_loss: 0.7602  
Epoch 65/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1870 - val\_loss: 0.7472  
Epoch 66/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1846 - val\_loss: 0.7977  
Epoch 67/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1848 - val\_loss: 0.8477  
Epoch 68/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1800 - val\_loss: 0.8037  
Epoch 69/100  
50/50 [=====] - 2s 49ms/step - loss: 0.1807 - val\_loss: 0.9172  
Epoch 70/100  
50/50 [=====] - 2s 50ms/step - loss: 0.1768 - val\_loss: 0.8011  
Epoch 71/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1742 - val\_loss: 0.7510  
Epoch 72/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1773 - val\_loss: 0.8433  
Epoch 73/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1735 - val\_loss: 0.8612  
Epoch 74/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1706 - val\_loss: 0.7632  
Epoch 75/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1720 - val\_loss: 0.8332  
Epoch 76/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1651 - val\_loss: 0.7754  
Epoch 77/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1683 - val\_loss: 0.7865  
Epoch 78/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1636 - val\_loss: 0.7830  
Epoch 79/100

50/50 [=====] - 3s 52ms/step - loss: 0.1635 - val\_loss: 0.7863  
Epoch 80/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1612 - val\_loss: 0.7519  
Epoch 81/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1617 - val\_loss: 0.7472  
Epoch 82/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1590 - val\_loss: 0.7742  
Epoch 83/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1573 - val\_loss: 0.7950  
Epoch 84/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1596 - val\_loss: 0.8128  
Epoch 85/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1588 - val\_loss: 0.7950  
Epoch 86/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1562 - val\_loss: 0.7579  
Epoch 87/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1547 - val\_loss: 0.7616  
Epoch 88/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1527 - val\_loss: 0.7418  
Epoch 89/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1522 - val\_loss: 0.7885  
Epoch 90/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1498 - val\_loss: 0.8324  
Epoch 91/100  
50/50 [=====] - 3s 51ms/step - loss: 0.1493 - val\_loss: 0.7368  
Epoch 92/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1474 - val\_loss: 0.7430  
Epoch 93/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1489 - val\_loss: 0.7455  
Epoch 94/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1432 - val\_loss: 0.7772  
Epoch 95/100  
50/50 [=====] - 3s 53ms/step - loss: 0.1422 - val\_loss: 0.7580  
Epoch 96/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1437 - val\_loss: 0.7519  
Epoch 97/100  
50/50 [=====] - 3s 56ms/step - loss: 0.1426 - val\_loss: 0.7983  
Epoch 98/100  
50/50 [=====] - 3s 60ms/step - loss: 0.1420 - val\_loss: 0.7621  
Epoch 99/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1404 - val\_loss: 0.7797  
Epoch 100/100  
50/50 [=====] - 3s 52ms/step - loss: 0.1374 - val\_loss: 0.7695



WI\_2 - True Future: 6348

WI\_2 - Model Prediction: 5110

WI\_2 - Model Percentage Error: 19.50%

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