

Lab2 Docker

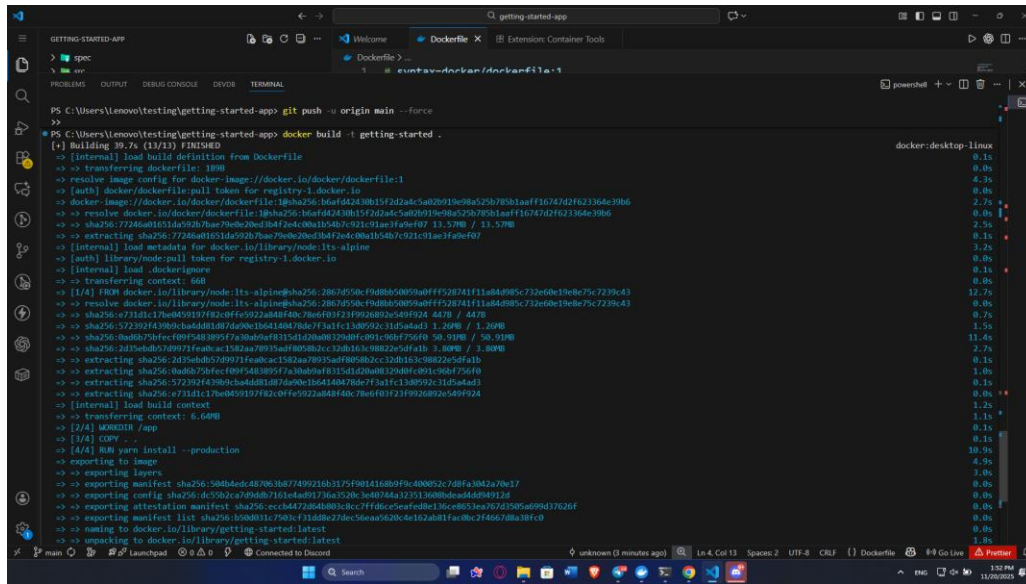
Name: Kheng Chamnan

1.Container Applicatons

In this section I learn how to create a container with node:Its-alpine base image how to set working directory inside the container within the existng repository ,copy my local file into WORKDIR

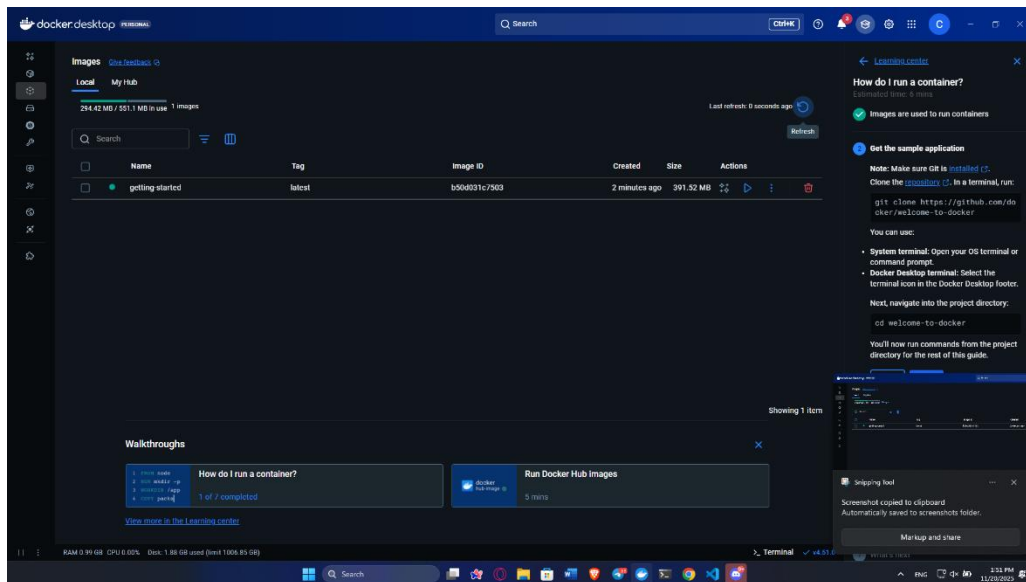
Using yarn command to install image specifiy index.js as the start application then host it on my localhost

Docker Build Screenshoot



```
PS C:\Users\lenovo\testing\getting-started-app> git push --origin main --force
PS C:\Users\lenovo\testing\getting-started-app> docker build -t getting-started .
[+] Building 39.7s (13/13) FINISHED
=> [internal] load build definition from Dockerfile
=> [internal] load .dockerignore
=> [internal] resolve image config for docker.io/docker/dockerfile:1
=> [auth] docker.io/docker/pull token for registry-1.docker.io
=> [internal] load image metadata for docker.io/docker/dockerfile:1
=> [internal] load image metadata for docker.io/library/node:its-alpine
=> [auth] library/node:pull token for registry-1.docker.io
=> [internal] load build context
=> [internal] load build context
=> [1/4] FROM docker.io/library/node:its-alpine@sha256:2867f55bc9d8b5089a0ff528741f1a84d95c732e6be19e875c7239c43
=> resolve docker.io/library/node:its-alpine@sha256:2867f55bc9d8b5089a0ff528741f1a84d95c732e6be19e875c7239c43
=> sha256:47181c17a0e09191f2c0f6c92a0d0f4b7e0e0f2f902080b548f928 4.00B / 4.00B
=> sha256:572392f4390b0ba4d81d87d90b1b0414047de7f3a1c1380959231d5ad41 1.20B / 1.20B
=> sha256:8a0b79f5ecf09f5483895f7a3b0a8f8115d1d2a0832d0f0c91c9b7f56f0 50.91MB / 50.91MB
=> sha256:24f6bd5749971f6a8c1182a78935a0f00580c33db163e98822650fab 3.80MB / 3.80MB
=> extracting sha256:24f6bd5749971f6a8c1182a78935a0f00580c33db163e98822650fab 0.15s
=> extracting sha256:8a0b79f5ecf09f5483895f7a3b0a8f8115d1d2a0832d0f0c91c9b7f56f0 1.06s
=> extracting sha256:572392f4390b0ba4d81d87d90b1b0414047de7f3a1c1380959231d5ad41 0.15s
=> extracting sha256:47181c17a0e09191f2c0f6c92a0d0f4b7e0e0f2f902080b548f928 0.08s
=> [internal] load build context
=> [internal] load build context
=> transferring context: 6.64MB
=> [2/4] WORKDIR /app
=> [3/4] COPY . .
=> [4/4] RUN yarn install --production
=> exporting to image
=> exporting layers
=> exporting manifest sha256:50d4dc487063687749921681175f90141689f9c400652c7d8fa3042a7be17
=> exporting config sha256:dc55b2ca7d9db7161e4a91736a352b3c40784a32351368b0d4d4894912d
=> exporting attestation manifest sha256:ec443726d0803b3c7ff186c5eafed0e1d0c853ea767350e0a09d17626f
=> exporting manifest list sha256:19d8031c790bf11d88c2f0c50ea552b3c4e12a811fac0b2446678ba18fcd
=> naming to docker.io/library/getting-started:latest
=> unpacking to docker.io/library/getting-started:latest
```

Docker Image In Docker Hub



Listing all Image

```
f8c30826f9f4cad7b6451282a7ffbdad7bda9eb23b04e9e86fa9997b6e71b7ca
PS C:\Users\Lenovo\testing\getting-started-app> docker images -a
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
getting-started      latest             b50d031c7503       15 minutes ago     392MB
PS C:\Users\Lenovo\testing\getting-started-app> |
```

2.Update Application

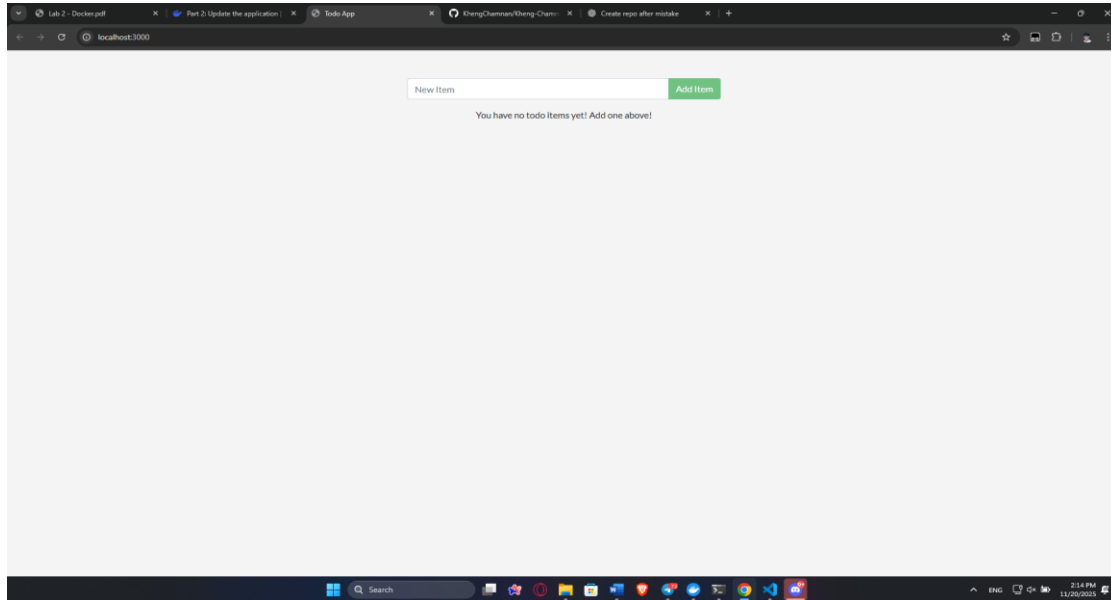
In This section I learn how to update applications in my source code and rebuild my update images

And learn that in order to build new cotainer need to stop the old one by removing it since it host on the same port .

Change Source Code

```
49
50     if (items === null) return 'Loading...';
51
52     return (
53       <React.Fragment>
54         <AddItemForm onNewItem={onNewItem} />
55         {items.length === 0 && (
56           <p className="text-center">You have no todo items yet! Add one above!</p>
57         )}
58         {items.map(item => (
59           <ItemDisplay
60             item={item}
61             key={item.id}
62             onItemUpdate={onItemUpdate}
63             onItemRemoval={onItemRemoval}
64           />
65         )}
66       </React.Fragment>
67     );
68   }
69 }
70
71 export default App;
72
73 // ...
74
75 // ...
76
77 // ...
78
79 // ...
80
81 // ...
82
83 // ...
84
85 // ...
86
87 // ...
88
89 // ...
90
91 // ...
92
93 // ...
94
95 // ...
96
97 // ...
98
99 // ...
100
101 // ...
102
103 // ...
104
105 // ...
106
107 // ...
108
109 // ...
110
111 // ...
112
113 // ...
114
115 // ...
116
117 // ...
118
119 // ...
120
121 // ...
122
123 // ...
124
125 // ...
126
127 // ...
128
129 // ...
130
131 // ...
132
133 // ...
134
135 // ...
136
137 // ...
138
139 // ...
140
141 // ...
142
143 // ...
144
145 // ...
146
147 // ...
148
149 // ...
150
151 // ...
152
153 // ...
154
155 // ...
156
157 // ...
158
159 // ...
160
161 // ...
162
163 // ...
164
165 // ...
166
167 // ...
168
169 // ...
170
171 // ...
172
173 // ...
174
175 // ...
176
177 // ...
178
179 // ...
180
181 // ...
182
183 // ...
184
185 // ...
186
187 // ...
188
189 // ...
190
191 // ...
192
193 // ...
194
195 // ...
196
197 // ...
198
199 // ...
200
201 // ...
202
203 // ...
204
205 // ...
206
207 // ...
208
209 // ...
210
211 // ...
212
213 // ...
214
215 // ...
216
217 // ...
218
219 // ...
220
221 // ...
222
223 // ...
224
225 // ...
226
227 // ...
228
229 // ...
230
231 // ...
232
233 // ...
234
235 // ...
236
237 // ...
238
239 // ...
240
241 // ...
242
243 // ...
244
245 // ...
246
247 // ...
248
249 // ...
250
251 // ...
252
253 // ...
254
255 // ...
256
257 // ...
258
259 // ...
260
261 // ...
262
263 // ...
264
265 // ...
266
267 // ...
268
269 // ...
270
271 // ...
272
273 // ...
274
275 // ...
276
277 // ...
278
279 // ...
280
281 // ...
282
283 // ...
284
285 // ...
286
287 // ...
288
289 // ...
290
291 // ...
292
293 // ...
294
295 // ...
296
297 // ...
298
299 // ...
300
301 // ...
302
303 // ...
304
305 // ...
306
307 // ...
308
309 // ...
310
311 // ...
312
313 // ...
314
315 // ...
316
317 // ...
318
319 // ...
320
321 // ...
322
323 // ...
324
325 // ...
326
327 // ...
328
329 // ...
330
331 // ...
332
333 // ...
334
335 // ...
336
337 // ...
338
339 // ...
340
341 // ...
342
343 // ...
344
345 // ...
346
347 // ...
348
349 // ...
350
351 // ...
352
353 // ...
354
355 // ...
356
357 // ...
358
359 // ...
360
361 // ...
362
363 // ...
364
365 // ...
366
367 // ...
368
369 // ...
370
371 // ...
372
373 // ...
374
375 // ...
376
377 // ...
378
379 // ...
380
381 // ...
382
383 // ...
384
385 // ...
386
387 // ...
388
389 // ...
390
391 // ...
392
393 // ...
394
395 // ...
396
397 // ...
398
399 // ...
400
401 // ...
402
403 // ...
404
405 // ...
406
407 // ...
408
409 // ...
410
411 // ...
412
413 // ...
414
415 // ...
416
417 // ...
418
419 // ...
420
421 // ...
422
423 // ...
424
425 // ...
426
427 // ...
428
429 // ...
430
431 // ...
432
433 // ...
434
435 // ...
436
437 // ...
438
439 // ...
440
441 // ...
442
443 // ...
444
445 // ...
446
447 // ...
448
449 // ...
450
451 // ...
452
453 // ...
454
455 // ...
456
457 // ...
458
459 // ...
460
461 // ...
462
463 // ...
464
465 // ...
466
467 // ...
468
469 // ...
470
471 // ...
472
473 // ...
474
475 // ...
476
477 // ...
478
479 // ...
480
481 // ...
482
483 // ...
484
485 // ...
486
487 // ...
488
489 // ...
490
491 // ...
492
493 // ...
494
495 // ...
496
497 // ...
498
499 // ...
500
501 // ...
502
503 // ...
504
505 // ...
506
507 // ...
508
509 // ...
510
511 // ...
512
513 // ...
514
515 // ...
516
517 // ...
518
519 // ...
520
521 // ...
522
523 // ...
524
525 // ...
526
527 // ...
528
529 // ...
530
531 // ...
532
533 // ...
534
535 // ...
536
537 // ...
538
539 // ...
540
541 // ...
542
543 // ...
544
545 // ...
546
547 // ...
548
549 // ...
550
551 // ...
552
553 // ...
554
555 // ...
556
557 // ...
558
559 // ...
560
561 // ...
562
563 // ...
564
565 // ...
566
567 // ...
568
569 // ...
570
571 // ...
572
573 // ...
574
575 // ...
576
577 // ...
578
579 // ...
580
581 // ...
582
583 // ...
584
585 // ...
586
587 // ...
588
589 // ...
590
591 // ...
592
593 // ...
594
595 // ...
596
597 // ...
598
599 // ...
600
601 // ...
602
603 // ...
604
605 // ...
606
607 // ...
608
609 // ...
610
611 // ...
612
613 // ...
614
615 // ...
616
617 // ...
618
619 // ...
620
621 // ...
622
623 // ...
624
625 // ...
626
627 // ...
628
629 // ...
630
631 // ...
632
633 // ...
634
635 // ...
636
637 // ...
638
639 // ...
640
641 // ...
642
643 // ...
644
645 // ...
646
647 // ...
648
649 // ...
650
651 // ...
652
653 // ...
654
655 // ...
656
657 // ...
658
659 // ...
660
661 // ...
662
663 // ...
664
665 // ...
666
667 // ...
668
669 // ...
670
671 // ...
672
673 // ...
674
675 // ...
676
677 // ...
678
679 // ...
680
681 // ...
682
683 // ...
684
685 // ...
686
687 // ...
688
689 // ...
690
691 // ...
692
693 // ...
694
695 // ...
696
697 // ...
698
699 // ...
700
701 // ...
702
703 // ...
704
705 // ...
706
707 // ...
708
709 // ...
710
711 // ...
712
713 // ...
714
715 // ...
716
717 // ...
718
719 // ...
720
721 // ...
722
723 // ...
724
725 // ...
726
727 // ...
728
729 // ...
730
731 // ...
732
733 // ...
734
735 // ...
736
737 // ...
738
739 // ...
740
741 // ...
742
743 // ...
744
745 // ...
746
747 // ...
748
749 // ...
750
751 // ...
752
753 // ...
754
755 // ...
756
757 // ...
758
759 // ...
760
761 // ...
762
763 // ...
764
765 // ...
766
767 // ...
768
769 // ...
770
771 // ...
772
773 // ...
774
775 // ...
776
777 // ...
778
779 // ...
780
781 // ...
782
783 // ...
784
785 // ...
786
787 // ...
788
789 // ...
790
791 // ...
792
793 // ...
794
795 // ...
796
797 // ...
798
799 // ...
800
801 // ...
802
803 // ...
804
805 // ...
806
807 // ...
808
809 // ...
810
811 // ...
812
813 // ...
814
815 // ...
816
817 // ...
818
819 // ...
820
821 // ...
822
823 // ...
824
825 // ...
826
827 // ...
828
829 // ...
830
831 // ...
832
833 // ...
834
835 // ...
836
837 // ...
838
839 // ...
840
841 // ...
842
843 // ...
844
845 // ...
846
847 // ...
848
849 // ...
850
851 // ...
852
853 // ...
854
855 // ...
856
857 // ...
858
859 // ...
860
861 // ...
862
863 // ...
864
865 // ...
866
867 // ...
868
869 // ...
870
871 // ...
872
873 // ...
874
875 // ...
876
877 // ...
878
879 // ...
880
881 // ...
882
883 // ...
884
885 // ...
886
887 // ...
888
889 // ...
890
891 // ...
892
893 // ...
894
895 // ...
896
897 // ...
898
899 // ...
900
901 // ...
902
903 // ...
904
905 // ...
906
907 // ...
908
909 // ...
910
911 // ...
912
913 // ...
914
915 // ...
916
917 // ...
918
919 // ...
920
921 // ...
922
923 // ...
924
925 // ...
926
927 // ...
928
929 // ...
930
931 // ...
932
933 // ...
934
935 // ...
936
937 // ...
938
939 // ...
940
941 // ...
942
943 // ...
944
945 // ...
946
947 // ...
948
949 // ...
950
951 // ...
952
953 // ...
954
955 // ...
956
957 // ...
958
959 // ...
960
961 // ...
962
963 // ...
964
965 // ...
966
967 // ...
968
969 // ...
970
971 // ...
972
973 // ...
974
975 // ...
976
977 // ...
978
979 // ...
980
981 // ...
982
983 // ...
984
985 // ...
986
987 // ...
988
989 // ...
990
991 // ...
992
993 // ...
994
995 // ...
996
997 // ...
998
999 // ...
1000
1001 // ...
1002
1003 // ...
1004
1005 // ...
1006
1007 // ...
1008
1009 // ...
1010
1011 // ...
1012
1013 // ...
1014
1015 // ...
1016
1017 // ...
1018
1019 // ...
1020
1021 // ...
1022
1023 // ...
1024
1025 // ...
1026
1027 // ...
1028
1029 // ...
1030
1031 // ...
1032
1033 // ...
1034
1035 // ...
1036
1037 // ...
1038
1039 // ...
1040
1041 // ...
1042
1043 // ...
1044
1045 // ...
1046
1047 // ...
1048
1049 // ...
1050
1051 // ...
1052
1053 // ...
1054
1055 // ...
1056
1057 // ...
1058
1059 // ...
1060
1061 // ...
1062
1063 // ...
1064
1065 // ...
1066
1067 // ...
1068
1069 // ...
1070
1071 // ...
1072
1073 // ...
1074
1075 // ...
1076
1077 // ...
1078
1079 // ...
1080
1081 // ...
1082
1083 // ...
1084
1085 // ...
1086
1087 // ...
1088
1089 // ...
1090
1091 // ...
1092
1093 // ...
1094
1095 // ...
1096
1097 // ...
1098
1099 // ...
1100
1101 // ...
1102
1103 // ...
1104
1105 // ...
1106
1107 // ...
1108
1109 // ...
1110
1111 // ...
1112
1113 // ...
1114
1115 // ...
1116
1117 // ...
1118
1119 // ...
1120
1121 // ...
1122
1123 // ...
1124
1125 // ...
1126
1127 // ...
1128
1129 // ...
1130
1131 // ...
1132
1133 // ...
1134
1135 // ...
1136
1137 // ...
1138
1139 // ...
1140
1141 // ...
1142
1143 // ...
1144
1145 // ...
1146
1147 // ...
1148
1149 // ...
1150
1151 // ...
1152
1153 // ...
1154
1155 // ...
1156
1157 // ...
1158
1159 // ...
1160
1161 // ...
1162
1163 // ...
1164
1165 // ...
1166
1167 // ...
1168
1169 // ...
1170
1171 // ...
1172
1173 // ...
1174
1175 // ...
1176
1177 // ...
1178
1179 // ...
1180
1181 // ...
1182
1183 // ...
1184
1185 // ...
1186
1187 // ...
1188
1189 // ...
1190
1191 // ...
1192
1193 // ...
1194
1195 // ...
1196
1197 // ...
1198
1199 // ...
1200
1201 // ...
1202
1203 // ...
1204
1205 // ...
1206
1207 // ...
1208
1209 // ...
1210
1211 // ...
1212
1213 // ...
1214
1215 // ...
1216
1217 // ...
1218
1219 // ...
1220
1221 // ...
1222
1223 // ...
1224
1225 // ...
1226
1227 // ...
1228
1229 // ...
1230
1231 // ...
1232
1233 // ...
1234
1235 // ...
1236
1237 // ...
1238
1239 // ...
1240
1241 // ...
1242
1243 // ...
1244
1245 // ...
1246
1247 // ...
1248
1249 // ...
1250
1251 // ...
1252
1253 // ...
1254
1255 // ...
1256
1257 // ...
1258
1259 // ...
1260
1261 // ...
1262
1263 // ...
1264
1265 // ...
1266
1267 // ...
1268
1269 // ...
1270
1271 // ...
1272
1273 // ...
1274
1275 // ...
1276
1277 // ...
1278
1279 // ...
1280
1281 // ...
1282
1283 // ...
1284
1285 // ...
1286
1287 // ...
1288
1289 // ...
1290
1291 // ...
1292
1293 // ...
1294
1295 // ...
1296
1297 // ...
1298
1299 // ...
1300
1301 // ...
1302
1303 // ...
1304
1305 // ...
1306
1307 // ...
1308
1309 // ...
1310
1311 // ...
1312
1313 // ...
1314
1315 // ...
1316
1317 // ...
1318
1319 // ...
1320
1321 // ...
1322
1323 // ...
1324
1325 // ...
1326
1327 // ...
1328
1329 // ...
1330
1331 // ...
1332
1333 // ...
1334
1335 // ...
1336
1337 // ...
1338
1339 // ...
1340
1341 // ...
1342
1343 // ...
1344
1345 // ...
1346
1347 // ...
1348
1349 // ...
1350
1351 // ...
1352
1353 // ...
1354
1355 // ...
1356
1357 // ...
1358
1359 // ...
1360
1361 // ...
1362
1363 // ...
1364
1365 // ...
1366
1367 // ...
1368
1369 // ...
1370
1371 // ...
1372
1373 // ...
1374
1375 // ...
1376
1377 // ...
1378
1379 // ...
1380
1381 // ...
1382
1383 // ...
1384
1385 // ...
1386
1387 // ...
1388
1389 // ...
1390
1391 // ...
1392
1393 // ...
1394
1395 // ...
1396
1397 // ...
1398
1399 // ...
1400
1401 // ...
1402
1403 // ...
1404
1405 // ...
1406
1407 // ...
1408
1409 // ...
1410
1411 // ...
1412
1413 // ...
1414
1415 // ...
1416
1417 // ...
1418
1419 // ...
1420
1421 // ...
1422
1423 // ...
1424
1425 // ...
1426
1427 // ...
1428
1429 // ...
1430
1431 // ...
1432
1433 // ...
1434
1435 // ...
1436
1437 // ...
1438
1439 // ...
1440
1441 // ...
1442
1443 // ...
1444
1445 // ...
1446
1447 // ...
1448
1449 // ...
1450
1451 // ...
1452
1453 // ...
1454
1455 // ...
1456
1457 // ...
1458
1459 // ...
1460
1461 // ...
1462
1463 // ...
1464
1465 // ...
1466
1467 // ...
1468
1469 // ...
1470
1471 // ...
1472
1473 // ...
1474
1475 // ...
1476
1477 // ...
1478
1479 // ...
1480
1481 // ...
1482
1483 // ...
1484
1485 // ...
1486
1487 // ...
1488
1489 // ...
1490
1491 // ...
1492
1493 // ...
1494
1495 // ...
1496
1497 // ...
1498
1499 // ...
1500
1501 // ...
1502
1503 // ...
1504
1505 // ...
1506
1507 // ...
1508
1509 // ...
1510
1511 // ...
1512
1513 // ...
1514
1515 // ...
1516
1517 // ...
1518
1519 // ...
1520
1521 // ...
1522
1523 // ...
1524
1525 // ...
1526
1527 // ...
1528
1529 // ...
1530
1531 // ...
1532
1533 // ...
1534
1535 // ...
1536
1537 // ...
1538
1539 // ...
1540
1541 // ...
1542
1543 // ...
1544
1545 // ...
1546
1547 // ...
1548
1549 // ...
1550
1551 // ...
1552
1553 // ...
1554
1555 // ...
1556
1557 // ...
1558
1559 // ...
1560
1561 // ...
1562
1563 // ...
1564
1565 // ...
1566
1567 // ...
1568
1569 // ...
1570
1571 // ...
1572
1573 // ...
1574
1575 // ...
1576
1577 // ...
1578
1579 // ...
1580
1581 // ...
1582
1583 // ...
1584
1585 // ...
1586
1587 // ...
1588
1589 // ...
1590
1591 // ...
1592
1593 // ...
1594
1595 // ...
1596
1597 // ...
1598
1599 // ...
1600
1601 // ...
1602
1603 // ...
1604
1605 // ...
1606
1607 // ...
1608
1609 // ...
1610
1611 // ...
1612
1613 // ...
1614
1615 // ...
1616
1617 // ...
1618
1619 // ...
1620
1621 // ...
1622
1623 // ...
1624
1625 // ...
1626
1627 // ...
1628
1629 // ...
1630
1631 // ...
1632
1633 // ...
1634
1635 // ...
1636
1637 // ...
1638
1639 // ...
1640
1641 // ...
1642
1643 // ...
1644
1645 // ...
1646
1647 // ...
1648
1649 // ...
1650
1651 // ...
1652
1653 // ...
1654
1655 // ...
1656
1657 // ...
1658
1659 // ...
1660
1661 // ...
1662
1663 // ...
1664
1665 // ...
1666
1667 // ...
1668
1669 // ...
1670
1671 // ...
1672
1673 // ...
1674
1675 // ...
1676
1677 // ...
1678
1679 // ...
1680
1681 // ...
1682
1683 // ...
1684
1685 // ...
1686
1687 // ...
1688
1689 // ...
1690
1691 // ...
1692
1693 // ...
1694
1695 // ...
1696
1697 // ...
1698
1699 // ...
1700
1701 // ...
1702
1703 // ...
1704
1705 // ...
1706
1707 // ...
1708
1709 // ...
1710
1711 // ...
1712
1713 // ...
1714
1715 // ...
1716
1717 // ...
1718
1719 // ...
1720
1721 // ...
1722
1723 // ...
1724
1725 // ...
1726
1727 // ...
1728
1729 // ...
1730
1731 // ...
1732
1733 // ...
1734
1735 // ...
1736
1737 // ...
1738
1739 // ...
1740
1741 // ...
1742
1743 // ...
1744
1745 // ...
1746
1747 // ...
1748
1749 // ...
1750
1751 // ...
1752
1753 // ...
1754
1755 // ...
1756
1757 // ...
1758
1759 // ...
1760
1761 // ...
1762
1763 // ...
1764
1765 // ...
1766
1767 // ...
1768
1769 // ...
1770
1771 // ...
1772
1773 // ...
1774
1775 // ...
1776
1777 // ...
1778
1779 // ...
1780
1781 // ...
1782
1783 // ...
1784
1785 // ...
1786
1787 // ...
1788
1789 // ...
1790
1791 // ...
1792
1793 // ...
1794
1795 // ...
1796
1797 // ...
1798
1799 // ...
1800
1801 // ...
1802
1803 // ...
1804
1805 // ...
1806
1807 // ...
1808
1809 // ...
1810
1811 // ...
1812
1813 // ...
1814
1815 // ...
1816
1817 // ...
1818
1819 // ...
1820
1821 // ...
1822
1823 // ...
1824
1825 // ...
1826
1827 // ...
1828
1829 // ...
1830
1831 // ...
1832
1833 // ...
1834
1835 // ...
1836
1837 // ...
1838
1839 // ...
1840
1841 // ...
1842
1843 // ...
1844
1845 // ...
1846
1847 // ...
1848
1849 // ...
1850
1851 // ...
1852
1853 // ...
1854
1855 // ...
1856
1857 // ...
1858
1859 // ...
1860
1861 // ...
1862
1863 // ...
1864
1865 // ...
1866
1867 // ...
1868
1869 // ...
1870
1871 // ...
1872
1873 // ...
1874
1875 // ...
1876
1877 // ...
1878
1879 // ...
1880
1881 // ...
1882
1883 // ...
1884
1885 // ...
1886
1887 // ...
1888
1889 // ...
1890
1891 // ...
1892
1893 // ...
1894
1895 // ...
1896
1897 // ...
1898
1899 // ...
1900
1901 // ...
1902
1903 // ...
1904
1905 // ...
1906
1907 // ...
1908
1909 // ...
1910
1911 // ...
1912
1913 // ...
1914
1915 // ...
1916
1917 // ...
1918
1919 // ...
1920
1921 // ...
1922
1923 // ...
1924
1925 // ...
1926
1927 // ...
1928
1929 // ...
1930
1931 // ...
1932
1933 // ...
1934
1935 // ...
1936
1937 // ...
1938
1939 // ...
1940
1941 // ...
1942
1943 // ...
1944
1945 // ...
1946
1947 // ...
1948
1949 // ...
1950
1951 // ...
1952
1953 // ...
1954
1955 // ...
1956
1957 // ...
1958
1959 // ...
1960
1961 // ...
1962
1963 // ...
1964
1965 // ...
1966
1967 // ...
1968
1969 // ...
1970
1971 // ...
1972
1973 // ...
1974
1975 // ...
1976
1977 // ...
1978
1979 // ...
1980
1981 // ...
1982
1983 // ...
1984
1985 // ...
1986
1987 // ...
1988
1989 // ...
1990
1991 // ...
1992
1993 // ...
1994
1995 // ...
1996
1997 // ...
1998
1999 // ...
2000
2001 // ...
2002
2003 // ...
2004
2005 // ...
2006
2007 // ...
2008
2009 // ...
2010
2011 // ...
2012
2013 // ...
2014
2015 // ...
2016
2017 // ...
2018
2019 // ...
2020
2021 // ...
2022
2023 // ...
2024
2025 // ...
2026
2027 // ...
2028
2029 // ...
2030
2031 // ...
2032
2033 // ...
2034
2035 // ...
2036
2037 // ...
2038
2039 // ...
2040
2041 // ...
2042
2043 // ...
2044
2045 // ...
2046
2047 // ...
2048
2049 // ...
2050
2051 // ...
2052
2053 // ...
2054
2055 // ...
2056
2057 // ...
2058
2059 // ...
2060
2061 // ...
2062
2063 // ...
2064
2065 // ...
2066
2067 // ...
2068
2069 // ...
2070
2071 // ...
2072
2073 // ...
2074
2075 // ...
2076
2077 // ...
2078
2079 // ...
2080
2081 // ...
2082
2083 // ...
2084
2085 // ...
2086
2087 // ...
2088
2089 // ...
2090
2091 // ...
2092
2093 // ...
2094
2095 // ...
2096
2097 // ...
2098
2099 // ...
2100
2101 // ...
2102
2103 // ...
2104
2105 // ...
2106
2107 // ...
2108
2109 // ...
2110
2111 // ...
2112
2113 // ...
2114
2115 // ...
2116
2117 // ...
2118
2119 // ...
2120
2121 // ...
2122
2123 // ...
2124
2125 // ...
2126
2127 // ...
2128
2129 // ...
2130
2131 // ...
2132
2133 // ...
2134
2135 // ...
2136
2137 // ...
2138
2139 // ...
2140
2141 // ...
2142
2143 // ...
2144
2145 // ...
2146
2147 // ...
2148
2149 // ...
2150
2151 // ...
2152
2153 // ...
2154
2155 // ...
2156
2157 // ...
2158
2159 // ...
2160
2161 // ...
2162
2163 // ...
2164
2165 // ...
2166
2167 // ...
2168
2169 // ...
2170
2171 // ...
2172
2173 // ...
2174
2175 // ...
2176
2177 // ...
2178
2179 // ...
2180
2181 // ...
2182
2183 // ...
2184
2185 // ...
2186
2187 //
```

New Updated Application



3.Share The application

In this section I learning how to push my local docker to docker repo and can be share anyone for example we can share it on dockerplay

Docker push erro with wrong DockerID

```
PS C:\Users\Lenovo\testing\getting-started-app> docker push docker/getting-started
>>
Using default tag: latest
The push refers to repository [docker.io/docker/getting-started]
tag does not exist: docker/getting-started:latest
```

Login and set a right docker tag base on my created Repo

```
up chamnann1: no such host
• PS C:\Users\Lenovo\testing\getting-started-app> docker login
Authenticating with existing credentials... [Username: chamnann1]

Info → To login with a different account, run 'docker logout' followed by 'docker login'

Login Succeeded
• PS C:\Users\Lenovo\testing\getting-started-app> docker tag getting-started chamnann1/getting-started
○ PS C:\Users\Lenovo\testing\getting-started-app>
```

Push image to repo

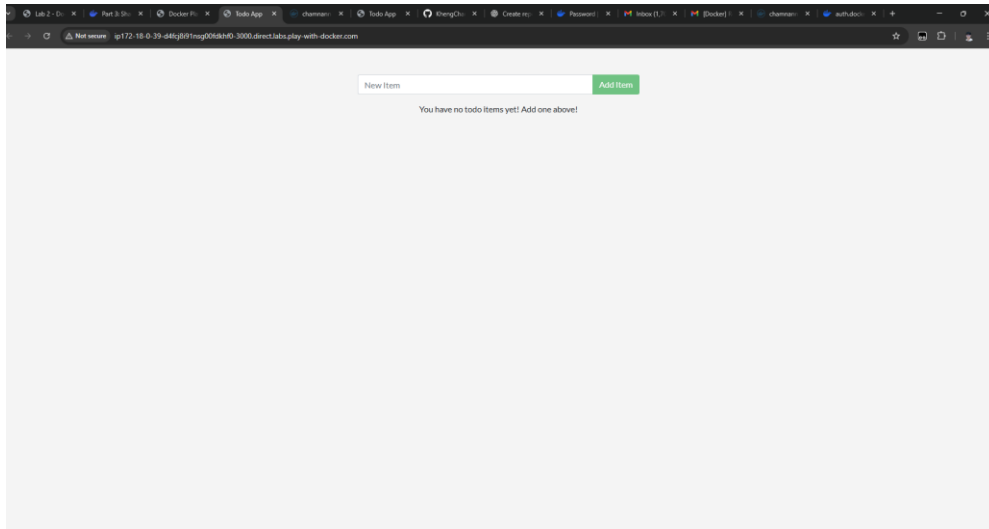
```
Info → To login with a different account, run 'docker logout' followed by 'docker login'

Login Succeeded
PS C:\Users\Lenovo\testing\getting-started-app>
• PS C:\Users\Lenovo\testing\getting-started-app> docker push chamnann1/getting-started:latest
The push refers to repository [docker.io/chamnann1/getting-started]
2d35ebdb57d9: Pushed
e731d1c17be0: Pushed
b5c085f6a80a: Pushed
0ad6b75bfecf: Pushed
28b3fff5fc34: Pushed
1cf8ffe47b87: Pushed
c381d9bdb5ee: Pushed
572392f439b9: Pushed
latest: digest: sha256:3b91ba959384a952851f1444dbbf088281874a7c2c382b7870e85ffcb5a8b54e size: 856
○ PS C:\Users\Lenovo\testing\getting-started-app>
```

Push image to dockerplay

```
#####
# WARNING!!!!                                     #
# This is a sandbox environment. Using personal credentials #
# is HIGHLY discouraged. Any consequences of doing so are  #
# completely the user's responsibilities.                  #
#                                                         #
# The FWD team.                                           #
#####
[node1] (local) root@192.168.0.29 ~
$ docker run -dp 0.0.0.0:3000 chamnann1/getting-started
docker: invalid hostPort: 0.0.0.0.
See 'docker run --help'.
[node1] (local) root@192.168.0.29 ~
$ docker run -dp 0.0.0.0:3000:000 chamnann1/getting-started
Unable to find image 'chamnann1/getting-started:latest' locally
latest: Pulling from chamnann1/getting-started
2d35ebdb57d9: Pull complete
0ad6b75bfecf: Pull complete
572392f439b9: Pull complete
e731d1c17be0: Pull complete
b5c085f6a80a: Pull complete
28b3fff5fc34: Pull complete
c381d9bdb5ee: Pull complete
Digest: sha256:3b91ba959384a952851f1444dbbf088281874a7c2c382b7870e85ffcb5a8b54e
Status: Downloaded newer image for chamnann1/getting-started:latest
93fa1cd5f453711996d702d463a205d42a4a3497449ff3cf13b4645546f4f68b5
[node1] (local) root@192.168.0.29 ~
$
```

Application Run on dockerplay



4.Persist the DB

In this section I learn that data are not persist if we run new container using same image unless we mount it to our volume

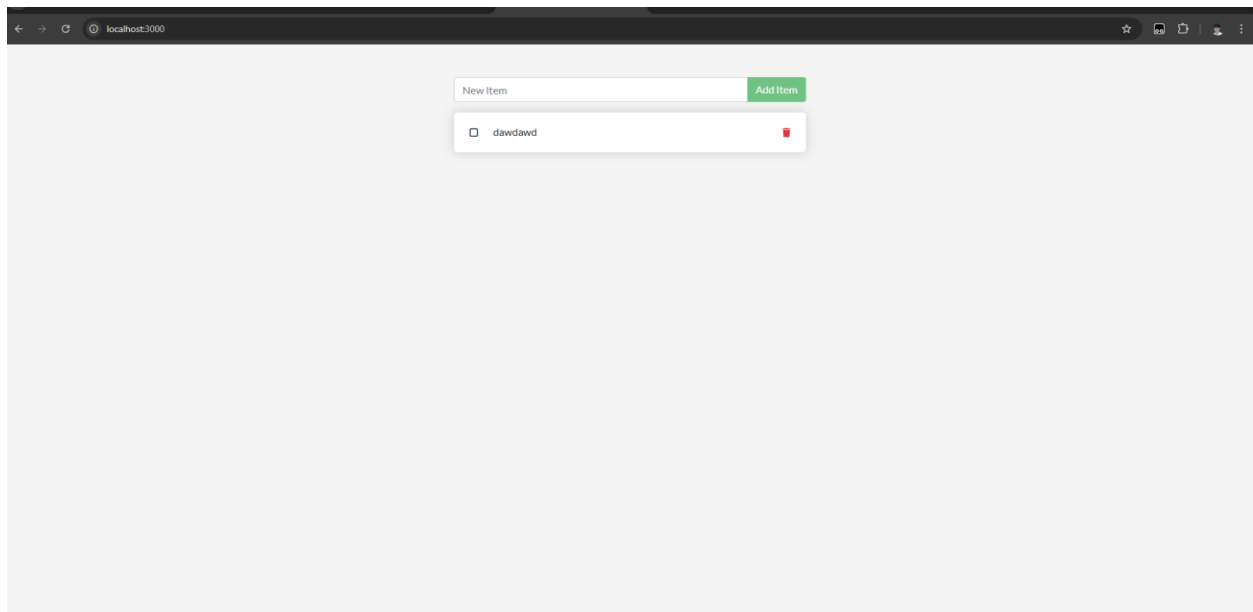
Data is not persist

```
>> C:\Users\Lenovo\testing\getting-started-app>
stat: can't stat 'greeting.txt': No such file or directory
PS C:\Users\Lenovo\testing\getting-started-app> docker run --rm alpine stat greeting.txt
>>
stat: can't stat 'greeting.txt': No such file or directory
❖ PS C:\Users\Lenovo\testing\getting-started-app> docker run --rm alpine touch greeting.txt
```

Create volume and mount to todos on my host machine

```
todo-db
PS C:\Users\Lenovo\testing\getting-started-app> docker rm -f 66efcd40e5cd
66efcd40e5cd
PS C:\Users\Lenovo\testing\getting-started-app> docker run -dp 127.0.0.1:3000:3000 --mount type=volume,src=todo-db,target=/etc/todos getting-started
02222b5752f0e7590f683754a8ff8460530edd95f3d2c688947d4322b33d4101
PS C:\Users\Lenovo\testing\getting-started-app>
```

Data still exist when we run our container mount to todo volume



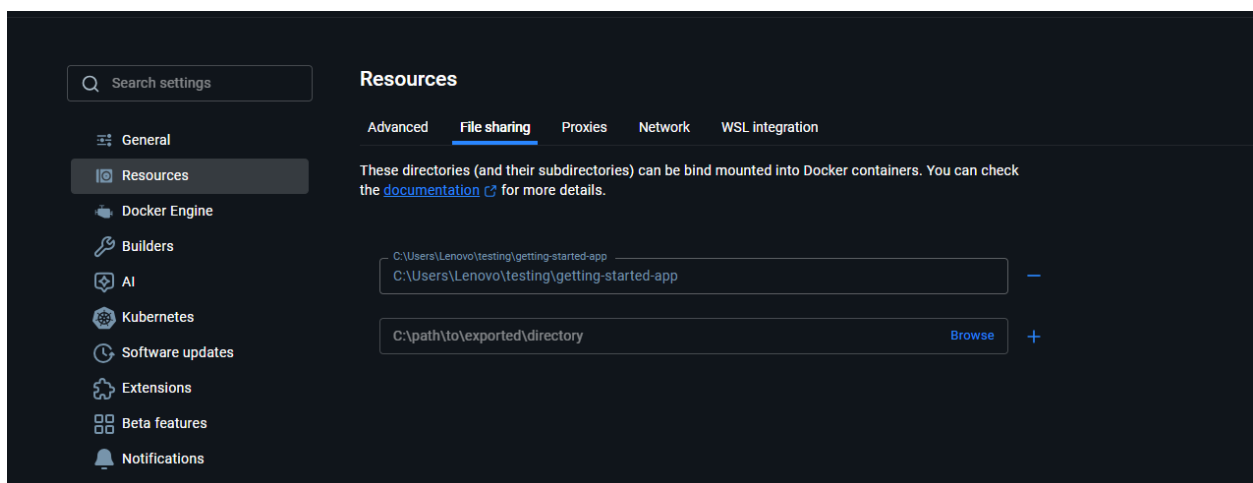
Proof of mount to local machine

```
]
PS C:\Users\Lenovo\testing\getting-started-app> docker volume ls
DRIVER      VOLUME NAME
local      todo-db
PS C:\Users\Lenovo\testing\getting-started-app> |
```

5. Use Bind mount

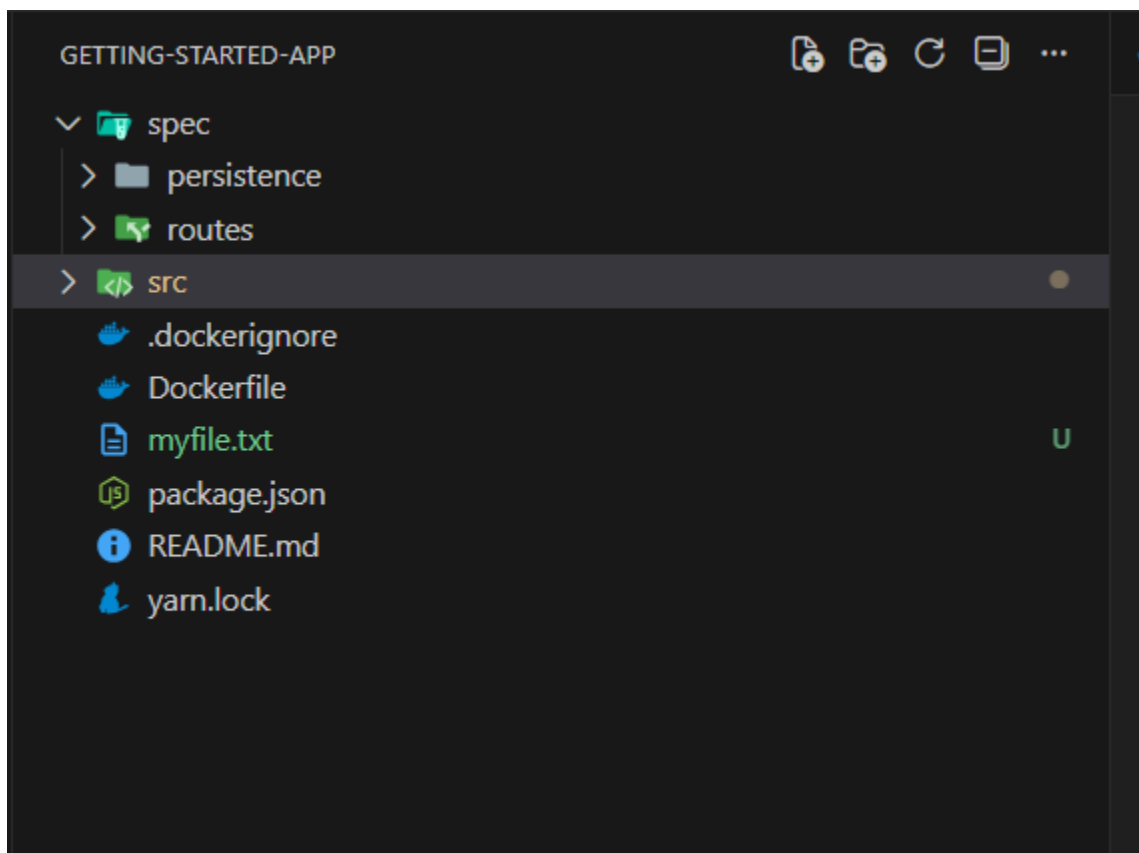
In this section

Define directory



Mount to my local machine and verify

```
Terminal
PS C:\Users\Lenovo\testing\getting-started-app> docker run -it --mount "type=bind,src=$(pwd),target=/src" ubuntu bash
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
20043066d3d5: Pull complete
Digest: sha256:c35e29c9450151419d9448b0fd75374fec4fff364a27f176fb458d472dfc9e54
Status: Downloaded newer image for ubuntu:latest
root@b2a503a98a76:/# pwd
/
root@b2a503a98a76:/# ls
bin boot dev etc home lib lib64 media mnt opt proc root run sbin src srv sys tmp usr var
root@b2a503a98a76:/# cd src
root@b2a503a98a76:/src# ls
Dockerfile README.md package.json spec src yarn.lock
root@b2a503a98a76:/src# touch myfile.txt
root@b2a503a98a76:/src#
```



Verify delete in host and check in the container session

```
root@b2a503a98a76:/src# ls
Dockerfile README.md package.json spec src yarn.lock
root@b2a503a98a76:/src# touch myfile.txt
root@b2a503a98a76:/src# ls
Dockerfile README.md myfile.txt package.json spec src yarn.lock
root@b2a503a98a76:/src# ls
Dockerfile README.md package.json spec src yarn.lock
root@b2a503a98a76:/src#
```

6. Mutiple container

In this section I learn how to run other container such as mysql and know how to let each container talk to each other by staying in the same network by mount the volume to the mysql our data now are store in mysql

Mysql container

```
>> docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                    NAMES
fba3bec33b87   mysql:8.0      "docker-entrypoint.s..." 7 seconds ago  Up 4 seconds  3306/tcp, 33060/tcp      romantic_mcclintock

PS C:\Users\lenovo\testing\getting-started-app> docker exec -it fba3bec33b87 mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.44 MySQL Community Server - GPL

Copyright (c) 2000, 2025, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| todos |
+-----+
5 rows in set (0.01 sec)

mysql>
```

Connect app to mysql

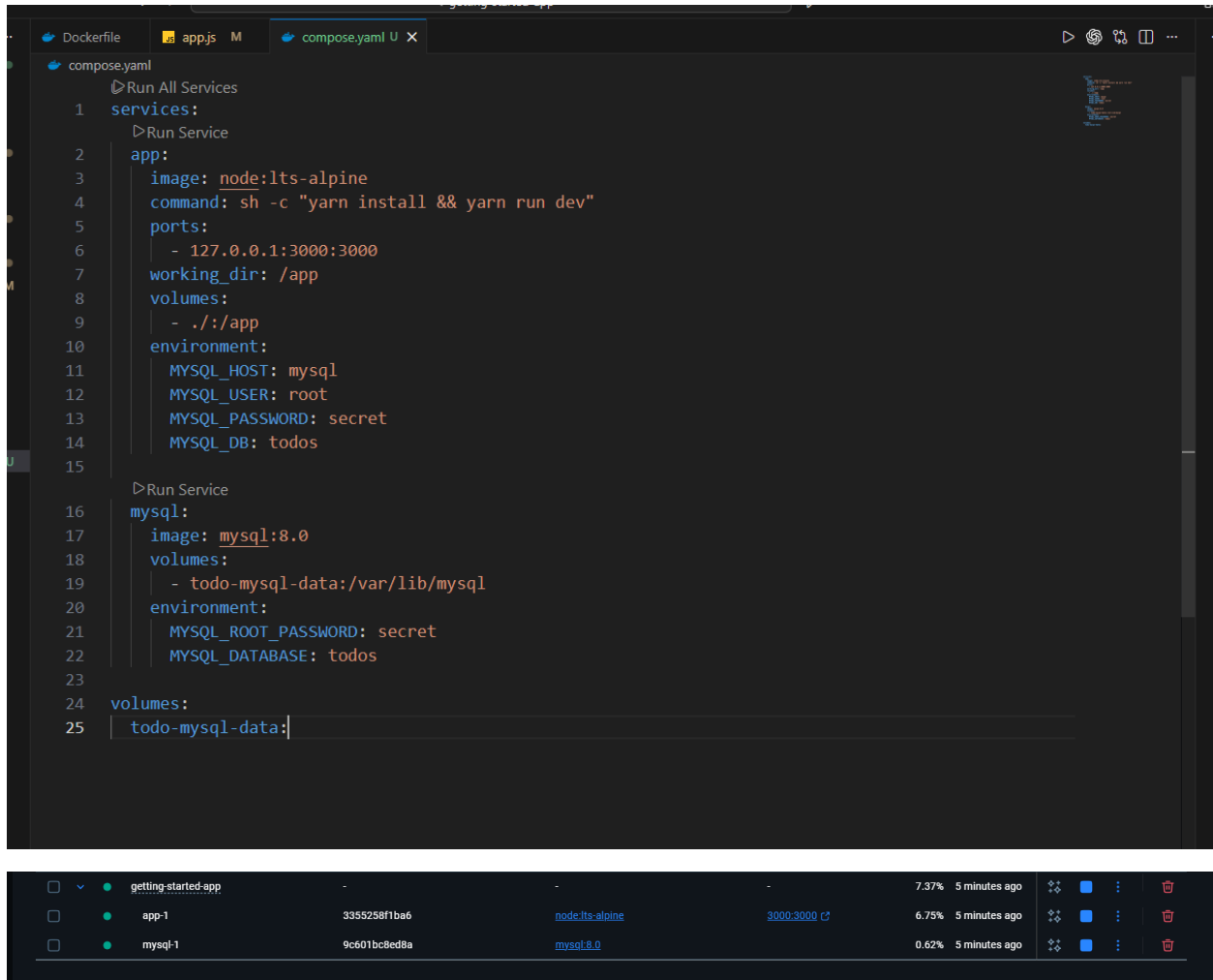
```
PS C:\Users\lenovo\testing\getting-started-app> docker run --network todo-app nicolaka/netshoot
4681145ec300 exit
PS C:\Users\lenovo\testing\getting-started-app> docker run -d 127.8.8.1:3000:3000
>> /app -v $(pwd)/app
>> --network todo-app
>> -e MYSQL_HOST=mysql
>> -e MYSQL_USER=root
>> -e MYSQL_PASSWORD=secret
>> -e MYSQL_DB=todos
>> node:its-alpine
>> sh -c "yarn install && yarn run dev"
Unable to find image 'node:its-alpine' locally
It's alpine! Pulling from library/node
Digest: sha256:28675058cf6d8bb989a0ff52874f11a94d985c732e60e19e675c7239c43
Status: Downloaded newer image for node:its-alpine
3c8975268e75ae38f8ac2c2d8ca35c37e3d818739f7ec96813b394a18d7ed10
PS C:\Users\lenovo\testing\getting-started-app> docker logs -f 3c8975268e75ae38f8ac2c2d8ca35c37e3d818739f7ec96813b394a18d7ed10
unknown shorthand flag: 'f' in -f

Usage: docker [OPTIONS] COMMAND [ARG...]

Run 'docker --help' for more information
PS C:\Users\lenovo\testing\getting-started-app> docker logs -f 3c8975268e75ae38f8ac2c2d8ca35c37e3d818739f7ec96813b394a18d7ed10
yarn install v1.22.22
[1/4] Resolving packages...
(node:8) [DEP0169] DeprecationWarning: 'url.parse()' behavior is not standardized and prone to errors that have security implications. Use the WHATWG URL API instead.
GMS are not issued for 'url.parse()' vulnerabilities.
(Use 'node --trace-deprecation ...' to show where the warning was created)
[2/4] Fetching packages...
[3/4] Linking dependencies...
[4/4] Building fresh packages...
Done in 118.21s.
yarn run v1.22.22
$ nodeemon -i src/index.js
[monemon] 2.0.20
[monemon] to restart at any time, enter 'rs'
[monemon] watching path(s): *.*
[monemon] watching extensions: js,wjs,json
[monemon] starting node src/index.js
Waiting for mysql:3306.
Connected!
Connected to mysql db at host mysql
listening on port 3000
```


7. Docker Compose

in this section I learn how to define all container using compose yaml which is easy instead of typing and run each container and benefit from compose yaml is that when we run stack of application it create a network for us automatically too.



The image shows a VS Code editor with a Docker Compose YAML file open. The file defines two services: 'app' and 'mysql'. The 'app' service uses the 'node:lts-alpine' image and runs 'yarn install && yarn run dev' on port 3000. The 'mysql' service uses the 'mysql:8.0' image and runs on port 3306. Both services share a 'todo-mysql-data' volume. The 'app' service also has environment variables for MySQL connection details.

```
1 services:
2   app:
3     image: node:lts-alpine
4     command: sh -c "yarn install && yarn run dev"
5     ports:
6       - 127.0.0.1:3000:3000
7     working_dir: /app
8     volumes:
9       - ./app
10    environment:
11      MYSQL_HOST: mysql
12      MYSQL_USER: root
13      MYSQL_PASSWORD: secret
14      MYSQL_DB: todos
15
16  mysql:
17    image: mysql:8.0
18    volumes:
19      - todo-mysql-data:/var/lib/mysql
20    environment:
21      MYSQL_ROOT_PASSWORD: secret
22      MYSQL_DATABASE: todos
23
24  volumes:
25    todo-mysql-data:
```

Below the editor, a Docker container list is shown. It includes a 'getting-started-app' container (7.37% CPU, 5 minutes ago) and two 'app-1' containers (6.75% CPU, 5 minutes ago). The 'mysql-1' container is also listed (0.62% CPU, 5 minutes ago).

Container Name	ID	Image	Ports	CPU	Memory	Uptime	Actions
getting-started-app	-	-	-	7.37%	5 minutes ago		[Stop] [Restart] [Logs] [Delete]
app-1	3355258f1ba6	node:lts-alpine	3000:3000	6.75%	5 minutes ago		[Stop] [Restart] [Logs] [Delete]
mysql-1	9c601bc8ed8a	mysql:8.0		0.62%	5 minutes ago		[Stop] [Restart] [Logs] [Delete]

8. Image Building best practice

In this section, I learned about caching layers in Docker image building, which decreases the build time because unchanged layers (like dependencies) don't need to be rebuilt every time I make changes to my code. By copying package.json and yarn.lock first and installing dependencies before copying the rest of the code, I can reuse the cached layers for faster builds

Build image with cache

```
PS C:\Users\Lenovo\testing\getting-started-app> docker build -t getting-started .
[+] Building 27.4s (13/13) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 211B
=> resolve image config for docker-image://docker.io/docker/dockerfile:1
=> [auth] docker/dockerfile:pull token for registry-1.docker.io
=> CACHED docker-image://docker.io/docker/dockerfile:1@sha256:b6afd42430b15f2d2a4c5a02b919e98a525b785b1aaff16747d2f623364e39b6
=> => resolve docker.io/docker/dockerfile:1@sha256:b6afd42430b15f2d2a4c5a02b919e98a525b785b1aaff16747d2f623364e39b6
=> [internal] load metadata for docker.io/library/node:lts-alpine
=> [auth] library/node:pull token for registry-1.docker.io
=> [internal] load .dockerignore
=> => transferring context: 66B
=> [1/4] FROM docker.io/library/node:lts-alpine@sha256:2867d550cf9d8bb50059a0fff528741f11a84d985c732e60e19e8e75c7239c43
=> => resolve docker.io/library/node:lts-alpine@sha256:2867d550cf9d8bb50059a0fff528741f11a84d985c732e60e19e8e75c7239c43
=> [internal] load build context
=> => transferring context: 64B
=> CACHED [2/4] WORKDIR /app
=> [3/4] COPY package.json yarn.lock ./
=> [4/4] RUN yarn install --production
=> exporting to image
=> => exporting layers
=> => exporting manifest sha256:2beaf5fdef9ac752bff56d12bbfc94dd5bfa0e23656e775f79333d84b12fa626
=> => exporting config sha256:6354c322b1306ed2d15217b688cbae9955aa96474e5fa0515fcb8bf2a92ccf3e
=> => exporting attestation manifest sha256:64248f12ce1649c8bf8a3143c16ab30981d481d54eac1a14fd4106d8807346c
=> => exporting manifest list sha256:2a993c7cdc3477c9ca5b374308a755ec2973003348818f470b1d356124e14440
=> => naming to docker.io/library/getting-started:latest
=> => unpacking to docker.io/library/getting-started:latest

View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/wx2u902zsystrc98zfcnp0iq5
PS C:\Users\Lenovo\testing\getting-started-app>
```

With no change dependencies

```
PS C:\Users\Lenovo\testing\getting-started-app> docker build -t getting-started .
[+] Building 2.5s (11/11) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 211B
=> resolve image config for docker-image://docker.io/docker/dockerfile:1
=> CACHED docker-image://docker.io/docker/dockerfile:1@sha256:b6afd42430b15f2d2a4c5a02b919e98a525b785b1aaff16747d2f623364e39b6
=> => resolve docker.io/docker/dockerfile:1@sha256:b6afd42430b15f2d2a4c5a02b919e98a525b785b1aaff16747d2f623364e39b6
=> [internal] load metadata for docker.io/library/node:lts-alpine
=> [internal] load .dockerignore
=> => transferring context: 66B
=> [1/4] FROM docker.io/library/node:lts-alpine@sha256:2867d550cf9d8bb50059a0fff528741f11a84d985c732e60e19e8e75c7239c43
=> => resolve docker.io/library/node:lts-alpine@sha256:2867d550cf9d8bb50059a0fff528741f11a84d985c732e60e19e8e75c7239c43
=> [internal] load build context
=> => transferring context: 64B
=> CACHED [2/4] WORKDIR /app
=> CACHED [3/4] COPY package.json yarn.lock ./
=> CACHED [4/4] RUN yarn install --production
=> exporting to image
=> => exporting layers
=> => exporting manifest sha256:2beaf5fdef9ac752bff56d12bbfc94dd5bfa0e23656e775f79333d84b12fa626
=> => exporting config sha256:6354c322b1306ed2d15217b688cbae9955aa96474e5fa0515fcb8bf2a92ccf3e
=> => exporting attestation manifest sha256:ec0f69b09566eadf3a7fa47c62cb5848ed693a2f434ee0d65fc56fbb63642756d
=> => exporting manifest list sha256:0f0cd23411f16d6914bbb8ca9af38e65c63056a7c658eb8899dc94305674dc07
=> => naming to docker.io/library/getting-started:latest
=> => unpacking to docker.io/library/getting-started:latest

View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/crrcxpg194jz74hfljissbg
PS C:\Users\Lenovo\testing\getting-started-app>
```

Check to see if data are add to the database

```
mysql> select *from todo_items
-> ;
ERROR 1046 (3D000): No database selected
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| todos |
+-----+
5 rows in set (0.00 sec)

mysql> use todos;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> select * from todo_items;
+-----+-----+-----+
| id | name | completed |
+-----+-----+-----+
| 272efa7f-68e3-4633-87c4-b739ab3ded43 | hi | 0 |
| df2fb5c8-7dd8-4810-b1e4-89f1e60ebfff | hello | 0 |
+-----+-----+-----+
2 rows in set (0.01 sec)

mysql>
```

App running on compose

