

**CyberGIS and Big Data (GEOG6282/8282; INES 8090)**

**Title: Lab 1**

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## Question -1:

### 1.1 Shell script for creating 500 folders:

```
#!/bin/bash

## create a loop for 1 to 500
## after the loop, mkdir $i for creating folders with name 1 to 500.
## pwd > $i/text.txt for printing every folder directory.

for i in {1..500}
do
    mkdir $i
    pwd > $i/text.txt
done
```

"shellscript.sh" 11L, 229C 11.4 All

Figure 1. Shell script for creating 500 folders.

To create this script, firstly a shellscript.sh was created using vi command then it was executable using chmod +x shellscript.sh.

### 1.2 Output of running this shell script:

1	134	17	204	24	275	31	345	380	415	450	486	70
10	135	170	205	240	276	310	346	381	416	451	487	71
100	136	171	206	241	277	311	347	382	417	452	488	72
101	137	172	207	242	278	312	348	383	418	453	489	73
102	138	173	208	243	279	313	349	384	419	454	49	74
103	139	174	209	244	28	314	35	385	42	455	490	75
104	14	175	21	245	280	315	350	386	420	456	491	76
105	140	176	210	246	281	316	351	387	421	457	492	77
106	141	177	211	247	282	317	352	388	422	458	493	78
107	142	178	212	248	283	318	353	389	423	459	494	79
108	143	179	213	249	284	319	354	39	424	46	495	8
109	144	18	214	25	285	32	355	390	425	460	496	80
11	145	180	215	250	286	320	356	391	426	461	497	81
110	146	181	216	251	287	321	357	392	427	462	498	82
111	147	182	217	252	288	322	358	393	428	463	499	83
112	148	183	218	253	289	323	359	394	429	464	5	84
113	149	184	219	254	29	324	36	395	43	465	50	85
114	15	185	22	255	290	325	360	396	430	466	500	86
115	150	186	220	256	291	326	361	397	431	467	51	87
116	151	187	221	257	292	327	362	398	432	468	52	88
117	152	188	222	258	293	328	363	399	433	469	53	89
118	153	189	223	259	294	329	364	4	434	47	54	9
119	154	19	224	26	295	33	365	40	435	470	55	90
12	155	190	225	260	296	330	366	400	436	471	56	91
120	156	191	226	261	297	331	367	401	437	472	57	92
121	157	192	227	262	298	332	368	402	438	473	58	93

Figure 2. 500 folders by the shell script code



Figure 3. text file in each of the 500 folders having their directory.

## Question 2:

### 2.1 Creating a shell script to submit the job of previous shell script:

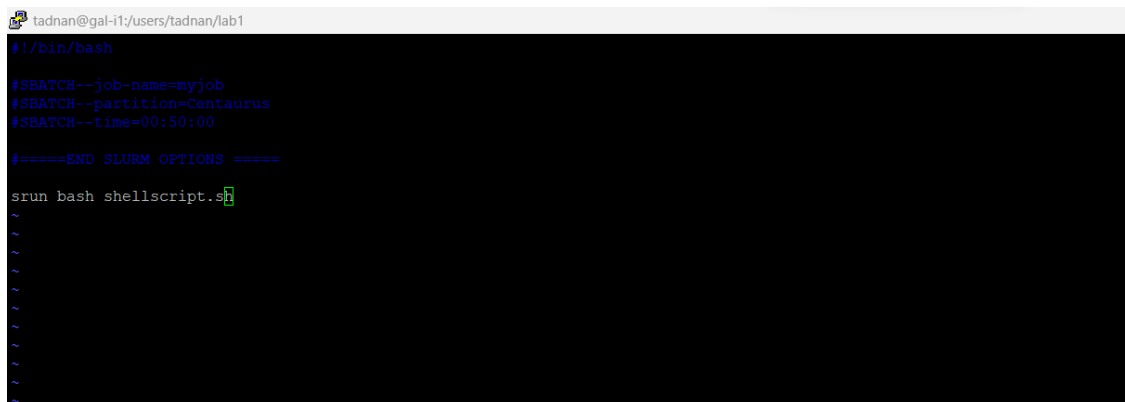


Figure 4: shell script for submitting the file.

To create this submission script, firstly, submit.sh was created using vi command then it was executable using chmod +x submit.sh. then this slurm file was called for running the previous shell script.

## 2.2 output of the submitting file:

```
[tadnan@gal-il lab1]$ sbatch submit.sh
Submitted batch job 61411
[tadnan@gal-il lab1]$ ls
1 111 124 137 15 162 175 188 20 212 225 238 250 263 276 289 300 313 326 339 351 364 377 39 401 414 427 44 452 465 478 490 52 65 78 90
10 112 125 138 150 163 176 189 200 213 226 239 251 264 277 29 301 314 327 34 352 365 378 390 402 415 428 440 453 466 479 491 53 66 79 91
100 113 126 139 151 164 177 19 201 214 227 24 252 265 278 290 302 315 328 340 353 366 379 391 403 416 429 441 454 467 48 492 54 67 8 92
101 114 127 14 152 165 178 190 202 215 228 240 253 266 279 291 303 316 329 341 354 367 38 392 404 417 43 442 455 468 480 493 55 68 80 93
102 115 128 140 153 166 179 191 203 216 229 241 254 267 28 292 304 317 33 342 355 368 380 393 405 418 430 443 456 469 481 494 56 69 81 94
103 116 129 141 154 167 18 192 204 217 23 242 255 268 280 293 305 318 330 343 356 369 381 394 406 419 431 444 457 47 482 495 57 7 82 95
104 117 13 142 155 168 180 193 205 218 230 243 256 269 281 294 306 319 331 344 357 37 382 395 407 42 432 445 458 470 483 496 58 70 83 96
105 118 130 143 156 169 181 194 206 219 231 244 257 27 282 295 307 32 332 345 358 370 383 396 408 420 433 446 459 471 484 497 59 71 84 97
106 119 131 144 157 17 182 195 207 22 232 245 258 270 283 296 308 320 333 346 359 371 384 397 409 421 434 447 46 472 485 498 6 72 85 98
107 12 132 145 158 170 183 196 208 220 233 246 259 271 284 297 309 321 334 347 36 372 385 398 41 422 435 448 460 473 486 499 60 73 86 99
108 120 133 146 159 171 184 197 209 221 234 247 26 272 285 298 31 322 335 348 360 373 386 399 410 423 436 449 461 474 487 5 61 74 87 shellscript.sh
109 121 134 147 16 172 185 198 21 222 235 248 260 273 286 299 310 323 336 349 361 374 387 4 411 424 437 45 462 475 488 50 62 75 88 slurm-61411.out
11 122 135 148 160 173 186 199 210 223 236 249 261 274 287 3 311 324 337 35 362 375 388 40 412 425 438 450 463 476 489 500 63 76 89 submit.sh
110 123 136 149 161 174 187 2 211 224 237 25 262 275 288 30 312 325 338 350 363 376 389 400 413 426 439 451 464 477 49 51 64 77 9
```

Figure 5. output of the submission file job

## 3. Screenshots of working phases:

```
[tadnan@gal-il lab1]$ cd 200
[tadnan@gal-il 200]$ ls
text.txt
[tadnan@gal-il 200]$ vi text.txt
[tadnan@gal-il 200]$ sbatch submit.sh
sbatch: error: getcwd failed: No such file or directory
[tadnan@gal-il 200]$ cd ..
-bash: cd: ..: No such file or directory
[tadnan@gal-il 200]$ ls
ls: cannot open directory '.': Stale file handle
[tadnan@gal-il 200]$ "cd"
[tadnan@gal-il ~]$ ls
assignment_lab_1 lab1 practice practice_2
[tadnan@gal-il ~]$ cd lab1
[tadnan@gal-il lab1]$ ls
shellscript.sh submit.sh
[tadnan@gal-il lab1]$ sbatch submit.sh
-bash: sbatch: command not found
[tadnan@gal-il lab1]$ sbatch submit.sh
Submitted batch job 61411
```

Figure 6. codes for the lab1 taken randomly.

#### 4. Screenshots from WinSCP:

1	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
2	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
3	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
4	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
5	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
6	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
7	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
8	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
9	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
10	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
11	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
12	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
13	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
14	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
15	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
16	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
17	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
18	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
19	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
20	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
21	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
22	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
23	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
24	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
25	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan
26	2/10/2023 11:20:44 PM	rwxf-rf-x	tadnan

Figure 7. Screenshots from WinSCP

474	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
475	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
476	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
477	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
478	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
479	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
480	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
481	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
482	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
483	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
484	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
485	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
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487	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
488	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
489	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
490	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
491	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
492	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
493	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
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499	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
500	2/10/2023 11:20:45 PM	rwxf-rf-x	tadnan
shellscrip.sh	1 KB 2/9/2023 5:18:51 AM	rwxf-rf-x	tadnan
slurm-61411.out	0 KB 2/10/2023 11:20:44 PM	rw-r--r--	tadnan
submit.sh	1 KB 2/10/2023 10:53:59 PM	rwxf-rf-x	tadnan

Figure 8. Screenshots from WinSCP