

For UART upgrading, make sure the STM32 is in program mode.

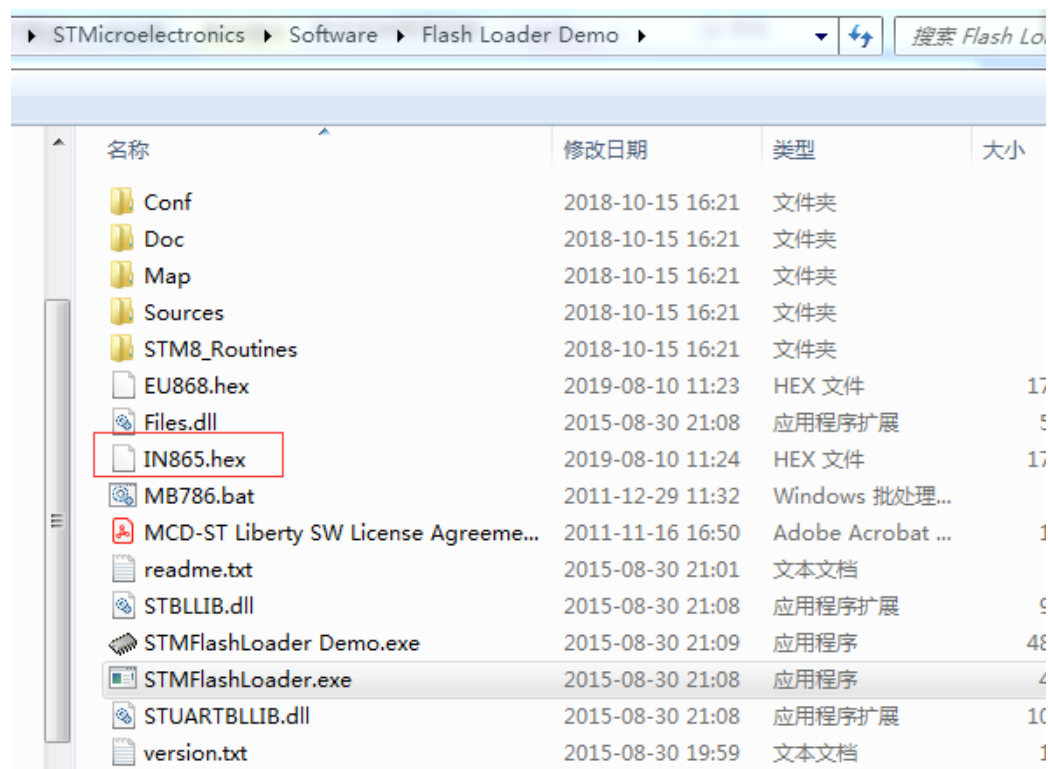
In LSN50, put the jumper to ISP position, this is the program mode. In normal running, the LSN50 should be in flash mode.

Method1: Flash use command line tool:

If there is problem to flash the device via ST Flash Loader, please try to use the command line.

1/ Find the command line tool: STMFlashLoader.exe.

2/ Put the hex file under the same directory of this command line



3/ Open Command line and use this command to erase the stm32 first, note, the image include several hundred sectors in the flash, and we can't do a simple erase all to the flash to avoid the erase of keys. So have the specify the sectors in the command (crazy for hundreds of parameters), we have put the command for below to erase 600 sectors, just copy it to your command line:

```
####start of command####  
STMFlashLoader.exe -c --pn 9 --br 115200 --ec OFF --to 10000 --pr EVEN -i  
STM32L0_x3_x2_x1_192K -e --sec 600 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22  
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54  
55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 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  
####End of command####
```

Screen shot as below:

```
C:\Windows\system32\cmd.exe
verifying      page/sector 521          @0x 8010480    size 0.13(KB) [OK]
verifying      page/sector 522          @0x 8010500    size 0.09(KB) [OK]

D:\Flash Loader Demo>STMFlashLoader.exe -c --pn 9 --br 115200 --ec OFF --to 1000
0 --pr EUEN -i STM32L0_x3_x2_x1_192K -e --sec 600 0 1 2 3 4 5 6 7 8 9 10 11 12 1
3 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66
67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 9
3 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
```

```
C:\Windows\system32\cmd.exe
erasing 600 sectors : <0><1><2><3><4><5><6><7><8><9><10><11><12><13><14><15><16>
<17><18><19><20><21><22><23><24><25><26><27><28><29><30><31><32><33><34><35><36>
<37><38><39><40><41><42><43><44><45><46><47><48><49><50><51><52><53><54><55><56>
<57><58><59><60><61><62><63><64><65><66><67><68><69><70><71><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><11
3><114><115><116><117><118><119><120><121><122><123><124><125><126><127><128><12
9><130><131><132><133><134><135><136><137><138><139><140><141><142><143><144><14
5><146><147><148><149><150><151><152><153><154><155><156><157><158><159><160><16
1><162><163><164><165><166><167><168><169><170><171><172><173><174><175><176><17
7><178><179><180><181><182><183><184><185><186><187><188><189><190><191><192><19
3><194><195><196><197><198><199><200><201><202><203><204><205><206><207><208><20
9><210><211><212><213><214><215><216><217><218><219><220><221><222><223><224><22
5><226><227><228><229><230><231><232><233><234><235><236><237><238><239><240><24
1><242><243><244><245><246><247><248><249><250><251><252><253><254><255><256><25
7><258><259><260><261><262><263><264><265><266><267><268><269><270><271><272><27
3><274><275><276><277><278><279><280><281><282><283><284><285><286><287><288><28
9><290><291><292><293><294><295><296><297><298><299><300><301><302><303><304><30
5><306><307><308><309><310><311><312><313><314><315><316><317><318><319><320><32
1><322><323><324><325><326><327><328><329><330><331><332><333><334><335><336><33
7><338><339><340><341><342><343><344><345><346><347><348><349><350><351><352><35
3><354><355><356><357><358><359><360><361><362><363><364><365><366><367><368><36
9><370><371><372><373><374><375><376><377><378><379><380><381><382><383><384><38
5><386><387><388><389><390><391><392><393><394><395><396><397><398><399><400><40
1><402><403><404><405><406><407><408><409><410><411><412><413><414><415><416><41
7><418><419><420><421><422><423><424><425><426><427><428><429><430><431><432><43
3><434><435><436><437><438><439><440><441><442><443><444><445><446><447><448><44
9><450><451><452><453><454><455><456><457><458><459><460><461><462><463><464><46
5><466><467><468><469><470><471><472><473><474><475><476><477><478><479><480><48
1><482><483><484><485><486><487><488><489><490><491><492><493><494><495><496><49
7><498><499><500><501><502><503><504><505><506><507><508><509><510><511><512><51
3><514><515><516><517><518><519><520><521><522><523><524><525><526><527><528><52
9><530><531><532><533><534><535><536><537><538><539><540><541><542><543><544><54
5><546><547><548><549><550><551><552><553><554><555><556><557><558><559><560><56
1><562><563><564><565><566><567><568><569><570><571><572><573><574><575><576><57
7><578><579><580><581><582><583><584><585><586><587><588><589><590><591><592><59
3><594><595><596><597><598><599>
erasing [OK]
```

4/ After erase . use below command to upload the hex file.

```
STMFlashLoader.exe -c --pn 9 --br 115200 --ec OFF --to 10000 --pr EVEN -i STM32L0_x3_x2_x1_192K -d --fn EU868.hex --a 08000000 --v
```

Note: --pn is the com port of the UART console, input the correct com port in your PC
--fn is the hex file name. please put the correct one here.

4/ You will see below error if device is not in Boot mode.

```
C:\Program Files (x86)\STMicroelectronics\Software\FIash Loader Demo>STMFlashLoader.exe -c --pn 9 --br 115200 --ec OFF --to 10000 --pr EVEN -i STM32L0_x3_x2_x1_192K -d --fn IN865.hex --a 08000000 --v --o -p --dwp
Opening Port [OK]
Activating device [KO]
Unrecognized device... Please, reset your device then try again
Please, reset your device then press any key to continue

Press any key to continue ...
半:
```

Operate the device to boot mode (program mode). Then press any key to continue.

5/ If successful upgrade, You will see download and verify process as below.

```
verifying page/sector 469 00x 800EA80 size 0.13(KB) [OK]
verifying page/sector 470 00x 800EB00 size 0.13(KB) [OK]
verifying page/sector 471 00x 800EB80 size 0.13(KB) [OK]
verifying page/sector 472 00x 800EC00 size 0.13(KB) [OK]
verifying page/sector 473 00x 800EC80 size 0.13(KB) [OK]
verifying page/sector 474 00x 800ED00 size 0.13(KB) [OK]
verifying page/sector 475 00x 800ED80 size 0.13(KB) [OK]
verifying page/sector 476 00x 800EE00 size 0.13(KB) [OK]
verifying page/sector 477 00x 800EE80 size 0.13(KB) [OK]
verifying page/sector 478 00x 800EF00 size 0.13(KB) [OK]
verifying page/sector 479 00x 800EF80 size 0.13(KB) [OK]
verifying page/sector 480 00x 800F000 size 0.13(KB) [OK]
verifying page/sector 481 00x 800F080 size 0.13(KB) [OK]
verifying page/sector 482 00x 800F100 size 0.13(KB) [OK]
verifying page/sector 483 00x 800F180 size 0.13(KB) [OK]
verifying page/sector 484 00x 800F200 size 0.13(KB) [OK]
verifying page/sector 485 00x 800F280 size 0.13(KB) [OK]
verifying page/sector 486 00x 800F300 size 0.08(KB) [OK]
disabling write protection [OK]
reseting device [KO]

C:\Program Files (x86)\STMicroelectronics\Software\FIash Loader Demo>
半:
```

Method2: STM32CubeProgrammer Download

Try to use STM32CubeProgrammer

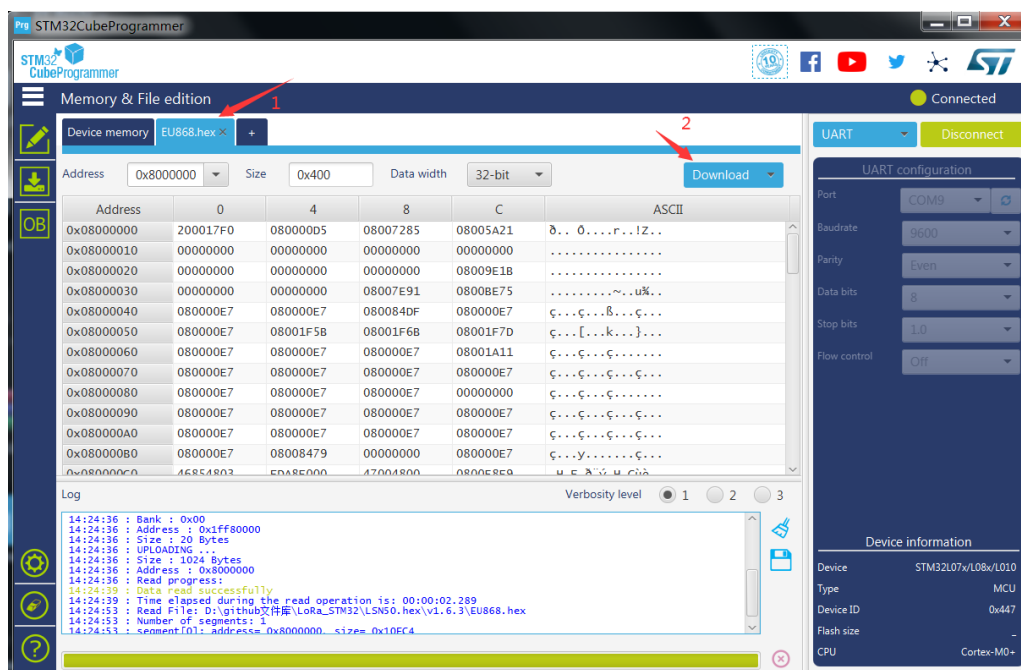
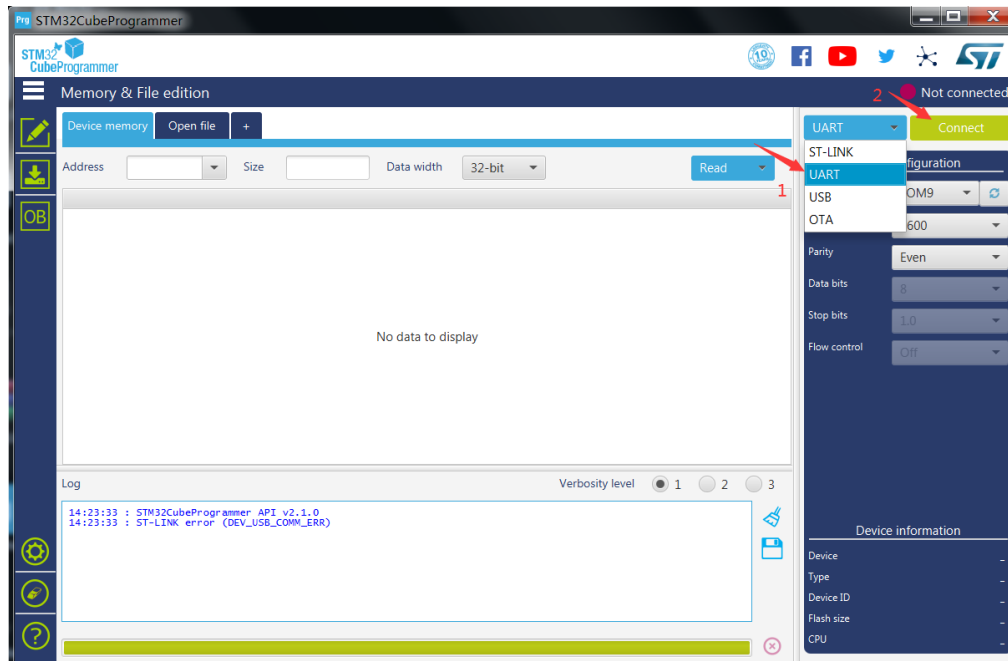
Step 1: Download the Java Runtime Environment.

<https://java-runtime-environment.en.softonic.com/>

Step 2: Download and install STM32CubeProgrammer:

<https://www.st.com/en/development-tools/stm32cubeprog.html>

Step3: Run the software.



STM32CubeProgrammer

Memory & File edition

Device memory EU868.hex

Address: 0x8000000 Size: 0x400 Data width: 32-bit Download

Address	0	4	8	C	ASCII
0x08000000	200017F0	08000005	08007285	08005A21	0..0...r...Iz..
0x08000010	00000000	00000000	00000000	00000000
0x08000020	00000000	00000000	00000000	08009E18
0x08000030	00000000	00000000			
0x08000040	080000E7	080000E7			
0x08000050	080000E7	08001F58			
0x08000060	080000E7	080000E7			
0x08000070	080000E7	080000E7			
0x08000080	080000E7	080000E7			
0x08000090	080000E7	080000E7			
0x080000A0	080000E7	080000E7	080000E7	080000E7	ç...ç...ç...ç...
0x080000B0	080000E7	08008479	00000000	080000E7	ç...Y...ç...
0x080000C0	46854803	5D485000	47004800	0800E800	u.F.A.Y.u.c.c.A

Log

```
14:28:13 : Erasing memory corresponding to segment 0:
14:28:13 : Erasing internal memory sectors [0 543]
14:28:16 : Download in Progress:
14:29:45 : File download complete
14:29:45 : Time elapsed during download operation: 00:01:32.022
14:29:45 : UPLOADING...
14:29:45 : Size : 1024 Bytes
14:29:45 : Address : 0x8000000
14:29:45 : Read progress:
14:29:47 : Data read successfully
14:29:47 : Time elapsed during the read operation is: 00:00:02.283
```

UART configuration

Port: COM9

Baudrate: 9600

Parity: Even

Data bits: 8

Stop bits: 1.0

Flow control: OFF

Device information

Device: STM32L07x/L08x/L010

Type: MCU

Device ID: 0x447

Flash size: -

CPU: Cortex-M0+