


# X2Go Server & Client

Remote Desktop for PCs &

62  
4

Conservation ...  
Carbon  
12.011

<https://ptable.com>

Temperature  0 °C 32 °F 273 K

62  
4

C  
Carbon  
12.011

Series: Reactive nonmetals

Write-up: [Carbon Wikipedia](#)

State at 0 °C: Solid

Weight: 12.011 u

Energy levels: 2, 4

Electronegativity: 2.55

Melting point: 3,642 °C

Boiling point: 3,642 °C

Electron affinity: 153.9 kJ/mol

Ionization, 1st: 1,086.5 kJ/mol

Radius, calculated: 67 pm

Hardness, Brinell: N/A (N/A)

Modulus, bulk: 33 GPa

Density, STP: 2,260 kg/m³

Conductivity, thermal: 140 W/mK

1 H Hydrogen 1.008

2 He Helium 4.0026

3 Li Lithium 6.94

4 Be Beryllium 9.0122

5 B Boron 10.81

6 C Carbon 12.011

7 N Nitrogen 14.007

8 O Oxygen 15.999

9 F Fluorine 18.998

10 Ne Neon 20.180

11 Na Sodium 22.990

12 Mg Magnesium 24.305

13 Al Aluminum 26.982

14 Si Silicon 28.085

15 P Phosphorus 30.974

16 S Sulfur 32.06

17 Cl Chlorine 35.45

18 Ar Argon 39.948

19 K Potassium 39.098

20 Ca Calcium 40.078

21 Sc Scandium 44.956

22 Ti Titanium 47.887

23 V Vanadium 50.942

24 Cr Chromium 51.996

25 Mn Manganese 54.938

26 Fe Iron 55.845

27 Co Cobalt 58.933

28 Ni Nickel 58.693

29 Cu Copper 63.546

30 Zn Zinc 65.38

31 Ga Gallium 69.723

32 Ge Germanium 72.630

33 As Arsenic 74.922

34 Se Selenium 78.971

35 Br Bromine 79.904

36 Kr Krypton 83.798

37 Rb Rubidium 85.468

38 Sr Strontium 87.62

39 Y Yttrium 88.906

40 Zr Zirconium 91.224

41 Nb Niobium 92.906

42 Mo Molybdenum 95.95

43 Tc Technetium 98.906

44 Ru Ruthenium 101.07

45 Rh Rhodium 102.91

46 Pd Palladium 106.42

47 Ag Silver 107.87

48 Cd Cadmium 112.41

49 In Indium 114.82

50 Sn Tin 118.71

51 Sb Antimony 121.76

52 Te Tellurium 127.60

53 I Iodine 126.90

54 Xe Xenon 131.29

55 Cs Cesium 132.91

56 Ba Barium 137.33

57-71 Lanthanoids

72 Hf Hafnium 178.49

73 Ta Tantalum 180.95

74 W Tungsten 183.84

75 Re Rhenium 186.21

76 Os Osmium 190.23

77 Ir Iridium 192.22

78 Pt Platinum 195.08

79 Au Gold 196.97

80 Hg Mercury 200.59

81 Tl Thallium 204.38

82 Pb Lead 207.2

83 Bi Bismuth 208.98

84 Po Polonium 209

85 At Astatine 210

86 Rn Radon 222

87-103 Actinoids

104 Rf Rutherfordium 261

105 Db Dubnium 262

106 Sg Seaborgium 266

107 Bh Bohrium 264

108 Hs Hassium 277

109 Mt Meitnerium 268

110 Ds Darmstadtium 271

111 Rg Roentgenium 272

112 Cn Copernicium 285

113 Nh Nihonium 284

114 Fl Flerovium 289

115 Mc Moscovium 288

116 Lv Livermorium 293

117 Ts Tennessine 294

118 Og Oganesson 294

119 Uu Ununennium 288

120 Uu Unbinilium 289

121 Uu Untrium 288

122 Uu Unquadrium 289

123 Uu Unquadium 288

124 Uu Unpentium 289

125 Uu Unsextium 288

126 Uu Unseptium 289

127 Uu Unoctium 288

128 Uu Unennium 289

129 Uu Unbinilium 288

130 Uu Untrium 289

131 Uu Unquadrium 288

132 Uu Unquadium 289

133 Uu Unpentium 288

134 Uu Unsextium 289

135 Uu Unseptium 288

136 Uu Unoctium 289

137 Uu Unennium 288

138 Uu Unbinilium 289

139 Uu Untrium 288

140 Uu Unquadrium 289

141 Uu Unquadium 288

142 Uu Unpentium 289

143 Uu Unsextium 288

144 Uu Unseptium 289

145 Uu Unoctium 288

146 Uu Unennium 289

147 Uu Unbinilium 288

148 Uu Untrium 289

149 Uu Unquadrium 288

150 Uu Unquadium 289

151 Uu Unpentium 288

152 Uu Unsextium 289

153 Uu Unseptium 288

154 Uu Unoctium 289

155 Uu Unennium 288

156 Uu Unbinilium 289

157 Uu Untrium 288

158 Uu Unquadrium 289

159 Uu Unquadium 288

160 Uu Unpentium 289

161 Uu Unsextium 288

162 Uu Unseptium 289

163 Uu Unoctium 288

164 Uu Unennium 289

165 Uu Unbinilium 288

166 Uu Untrium 289

167 Uu Unquadrium 288

168 Uu Unquadium 289

169 Uu Unpentium 288

170 Uu Unsextium 289

171 Uu Unseptium 288

172 Uu Unoctium 289

173 Uu Unennium 288

174 Uu Unbinilium 289

175 Uu Untrium 288

176 Uu Unquadrium 289

177 Uu Unquadium 288

178 Uu Unpentium 289

179 Uu Unsextium 288

180 Uu Unseptium 289

181 Uu Unoctium 288

182 Uu Unennium 289

183 Uu Unbinilium 288

184 Uu Untrium 289

185 Uu Unquadrium 288

186 Uu Unquadium 289

187 Uu Unpentium 288

188 Uu Unsextium 289

189 Uu Unseptium 288

190 Uu Unoctium 289

191 Uu Unennium 288

192 Uu Unbinilium 289

193 Uu Untrium 288

194 Uu Unquadrium 289

195 Uu Unquadium 288

196 Uu Unpentium 289

197 Uu Unsextium 288

198 Uu Unseptium 289

199 Uu Unoctium 288

200 Uu Unennium 289

201 Uu Unbinilium 288

202 Uu Untrium 289

203 Uu Unquadrium 288

204 Uu Unquadium 289

205 Uu Unpentium 288

206 Uu Unsextium 289

207 Uu Unseptium 288

208 Uu Unoctium 289

209 Uu Unennium 288

210 Uu Unbinilium 289

211 Uu Untrium 288

212 Uu Unquadrium 289

213 Uu Unquadium 288

214 Uu Unpentium 289

215 Uu Unsextium 288

216 Uu Unseptium 289

217 Uu Unoctium 288

218 Uu Unennium 289

219 Uu Unbinilium 288

220 Uu Untrium 289

221 Uu Unquadrium 288

222 Uu Unquadium 289

223 Uu Unpentium 288

224 Uu Unsextium 289

225 Uu Unseptium 288

226 Uu Unoctium 289

227 Uu Unennium 288

228 Uu Unbinilium 289

229 Uu Untrium 288

230 Uu Unquadrium 289

231 Uu Unquadium 288

232 Uu Unpentium 289

233 Uu Unsextium 288

234 Uu Unseptium 289

235 Uu Unoctium 288

236 Uu Unennium 289

237 Uu Unbinilium 288

238 Uu Untrium 289

239 Uu Unquadrium 288

240 Uu Unquadium 289

241 Uu Unpentium 288

242 Uu Unsextium 289

243 Uu Unseptium 288

244 Uu Unoctium 289

245 Uu Unennium 288

246 Uu Unbinilium 289

247 Uu Untrium 288

248 Uu Unquadrium 289

249 Uu Unquadium 288

250 Uu Unpentium 289

251 Uu Unsextium 288

252 Uu Unseptium 289

253 Uu Unoctium 288

254 Uu Unennium 289

255 Uu Unbinilium 288

256 Uu Untrium 289

257 Uu Unquadrium 288

258 Uu Unquadium 289

259 Uu Unpentium 288

260 Uu Unsextium 289

261 Uu Unseptium 288

262 Uu Unoctium 289

263 Uu Unennium 288

264 Uu Unbinilium 289

265 Uu Untrium 288

266 Uu Unquadrium 289

267 Uu Unquadium 288

268 Uu Unpentium 289

269 Uu Unsextium 288

270 Uu Unseptium 289

271 Uu Unoctium 288

272 Uu Unennium 289

273 Uu Unbinilium 288

274 Uu Untrium 289

275 Uu Unquadrium 288

276 Uu Unquadium 289

277 Uu Unpentium 288

278 Uu Unsextium 289

279 Uu Unseptium 288

280 Uu Unoctium 289

281 Uu Unennium 288

282 Uu Unbinilium 289

283 Uu Untrium 288

284 Uu Unquadrium 289

285 Uu Unquadium 288

286 Uu Unpentium 289

287 Uu Unsextium 288

288 Uu Unseptium 289

289 Uu Unoctium 288

290 Uu Unennium 289

291 Uu Unbinilium 288

292 Uu Untrium 289

293 Uu Unquadrium 288

294 Uu Unquadium 289

295 Uu Unpentium 288

296 Uu Unsextium 289

297 Uu Unseptium 288

298 Uu Unoctium 289

299 Uu Unennium 288

300 Uu Unbinilium 289

301 Uu Untrium 288

302 Uu Unquadrium 289

303 Uu Unquadium 288

304 Uu Unpentium 289

305 Uu Unsextium 288

306 Uu Unseptium 289

307 Uu Unoctium 288

308 Uu Unennium 289

309 Uu Unbinilium 288

310 Uu Untrium 289

311 Uu Unquadrium 288

312 Uu Unquadium 289

313 Uu Unpentium 288

314 Uu Unsextium 289

315 Uu Unseptium 288

316 Uu Unoctium 289

317 Uu Unennium 288

318 Uu Unbinilium 289

319 Uu Untrium 288

320 Uu Unquadrium 289

321 Uu Unquadium 288

322 Uu Unpentium 289

323 Uu Unsextium 288

324 Uu Unseptium 289

325 Uu Unoctium 288

326 Uu Unennium 289

327 Uu Unbinilium 288

328 Uu Untrium 289

329 Uu Unquadrium 288

330 Uu Unquadium 289

331 Uu Unpentium 288

332 Uu Unsextium 289

333 Uu Unseptium 288

334 Uu Unoctium 289

335 Uu Unennium 288

336 Uu Unbinilium 289

337 Uu Untrium 288

338 Uu Unquadrium 289

339 Uu Unquadium 288

340 Uu Unpentium 289

341 Uu Unsextium 288

342 Uu Unseptium 289

343 Uu Unoctium 288

344 Uu Unennium 289

345 Uu Unbinilium 288

346 Uu Untrium 289

347 Uu Unquadrium 288

348 Uu Unquadium 289

349 Uu Unpentium 288

350 Uu Unsextium 289

351 Uu Unseptium 288

352 Uu Unoctium 289

353 Uu Unennium 288

354 Uu Unbinilium 289

355 Uu Untrium 288

356 Uu Unquadrium 289

357 Uu Unquadium 288

358 Uu Unpentium 289

359 Uu Unsextium 288

360 Uu Unseptium 289

361 Uu Unoctium 288

362 Uu Unennium 289

363 Uu Unbinilium 288

364 Uu Untrium 289

365 Uu Unquadrium 288

366 Uu Unquadium 289

367 Uu Unpentium 288

368 Uu Unsextium 289

369 Uu Unseptium 288

370 Uu Unoctium 289

371 Uu Unennium 288

372 Uu Unbinilium 289

373 Uu Untrium 288

374 Uu Unquadrium 289

375 Uu Unquadium 288

376 Uu Unpentium 289

377 Uu Unsextium 288

378 Uu Unseptium 289

379 Uu Unoctium 288

380 Uu Unennium 289

381 Uu Unbinilium 288

382 Uu Untrium 289

383 Uu Unquadrium 288

384 Uu Unquadium 289

385 Uu Unpentium 288

386 Uu Unsextium 289

387 Uu Unseptium 288

388 Uu Unoctium 289

389 Uu Unennium 288

390 Uu Unbinilium 289

391 Uu Untrium 288

392 Uu Unquadrium 289

393 Uu Unquadium 288

394 Uu Unpentium 289

395 Uu Unsextium 288

396 Uu Unseptium 289

397 Uu Unoctium 288

398 Uu Unennium 289

399 Uu Unbinilium 288

400 Uu Untrium 289

401 Uu Unquadrium 288

402 Uu Unquadium 289

403 Uu Unpentium 288

404 Uu Unsextium 289

405 Uu Unseptium 288

406 Uu Unoctium 289

407 Uu Unennium 288

408 Uu Unbinilium 289

409 Uu Untrium 288

410 Uu Unquadrium 289

411 Uu Unquadium 288

412 Uu Unpentium 289

413 Uu Unsextium 288

414 Uu Unseptium 289

415 Uu Unoctium 288

416 Uu Unennium 289

417 Uu Unbinilium 288

418 Uu Untrium 289

419 Uu Unquadrium 288

420 Uu Unquadium 289

421 Uu Unpentium 288

422 Uu Unsextium 289

423 Uu Unseptium 288

424 Uu Unoctium 289

425 Uu Unennium 288

426 Uu Unbinilium 289

427 Uu Untrium 288

428 Uu Unquadrium 289

429 Uu Unquadium 288

430 Uu Unpentium 289

431 Uu Unsextium 288

432 Uu Unseptium 289

433 Uu Unoctium 288

434 Uu Unennium 289

435 Uu Unbinilium 288

436 Uu Untrium 289

437 Uu Unquadrium 288

438 Uu Unquadium 289

439 Uu Unpentium 288

440 Uu Unsextium 289

441 Uu Unseptium 288

442 Uu Unoctium 289

443 Uu Unennium 288

444 Uu Unbinilium 289

445 Uu Untrium 288

446 Uu Unquadrium 289

447 Uu Unquadium 288

448 Uu Unpentium 289

449 Uu Unsextium 288

450 Uu Unseptium 289

451 Uu Unoctium 288

452 Uu Unennium 289

453 Uu Unbinilium 288

454 Uu Untrium 289

455 Uu Unquadrium 288

456 Uu Unquadium 289

457 Uu Unpentium 288

458 Uu Unsextium 289

459 Uu Unseptium 288

460 Uu Unoctium 289

461 Uu Unennium 288

462 Uu Unbinilium 289

463 Uu Untrium 288

464 Uu Unquadrium 289

465 Uu Unquadium 288

466 Uu Unpentium 289

467 Uu Unsextium 288

468 Uu Unseptium 289

469 Uu Unoctium 288

470 Uu Unennium 289

471 Uu Unbinilium 288

472 Uu Untrium 289

473 Uu Unquadrium 288

474 Uu Unquadium 289

475 Uu Unpentium 288

476 Uu Unsextium 289

477 Uu Unseptium 288

478 Uu Unoctium 289

479 Uu Unennium 288

480 Uu Unbinilium 289

481 Uu Untrium 288

482 Uu Unquadrium 289

483 Uu Unquadium 288

484 Uu Unpentium 289

485 Uu Unsextium 288

486 Uu Unseptium 289

487 Uu Unoctium 288

488 Uu Unennium 289

489 Uu Unbinilium 288

490 Uu Untrium 289

491 Uu Unquadrium 288

492 Uu Unquadium 289

493 Uu Unpentium 288

494 Uu Unsextium 289

495 Uu Unseptium 288

496 Uu Unoctium 289

497 Uu Unennium 288

498 Uu Unbinilium 289

499 Uu Untrium 288

500 Uu Unquadrium 289

501 Uu Unquadium 288

502 Uu Unpentium 289

503 Uu Unsextium 288

504 Uu Unseptium 289

505 Uu Unoctium 288

506 Uu Unennium 289

507 Uu Unbinilium 288

508 Uu Untrium 289

509 Uu Unquadrium 288

510 Uu Unquadium 289

511 Uu Unpentium 288

512 Uu Unsextium 289

513 Uu Unseptium 288

514 Uu Unoctium 289

515 Uu Unennium 288

516 Uu Unbinilium 289

517 Uu Untrium 288

518 Uu Unquadrium 289

519 Uu Unquadium 288

520 Uu Unpentium 289

521 Uu Unsextium 288

522 Uu Unseptium 289

523 Uu Unoctium 288

524 Uu Unennium 289

525 Uu Unbinilium 288

526 Uu Untrium 289

527 Uu Unquadrium 288

528 Uu Unquadium 289

529 Uu Unpentium 288

530 Uu Unsextium 289

531 Uu Unseptium 288

532 Uu Unoctium 289

533 Uu Unennium 288

534 Uu Unbinilium 289

535 Uu Untrium 288

536 Uu Unquadrium 289

537 Uu Unquadium 288

538 Uu Unpentium 289

539 Uu Unsextium 288

540 Uu Unseptium 289

541 Uu Unoctium 288

542 Uu Unennium 289

543 Uu Unbinilium 288

544 Uu Untrium 289

545 Uu Unquadrium 288

546 Uu Unquadium 289

547 Uu Unpentium 288

548 Uu Unsextium 289

549 Uu Unseptium 288

550 Uu Unoctium 289

551 Uu Unennium 288

552 Uu Unbinilium 289

553 Uu Untrium 288

554 Uu Unquadrium 289

555 Uu Unquadium 288

556 Uu Unpentium 289

557 Uu Unsextium 288

558 Uu Unseptium 289

559 Uu Unoctium 288

560 Uu Unennium 289

561 Uu Unbinilium 288

562 Uu Untrium 289

563 Uu Unquadrium 288

564 Uu Unquadium 289

565 Uu Unpentium 288

566 Uu Unsextium 289

567 Uu Unseptium 288

568 Uu Unoctium 289

569 Uu Unennium 288

570 Uu Unbinilium 289

571 Uu Untrium 288

572 Uu Unquadrium 289

573 Uu Unquadium 288

574 Uu Unpentium 289

575 Uu Unsextium 288

576 Uu Unseptium 289

577 Uu Unoctium 288

578 Uu Unennium 289

579 Uu Unbinilium 288

580 Uu Untrium 289

581 Uu Unquadrium 288

582 Uu Unquadium 289

583 Uu Unpentium 288

584 Uu Unsextium 289

585 Uu Unseptium 288

586 Uu Unoctium 289

587 Uu Unennium 288

588 Uu Unbinilium 289

589 Uu Untrium 288

590 Uu Unquadrium 289

591 Uu Unquadium 288

592 Uu Unpentium 289

593 Uu Unsextium 288

594 Uu Unseptium 289

595 Uu Unoctium 288

596 Uu Unennium 289

597 Uu Unbinilium 288

598 Uu Untrium 289

599 Uu Unquadrium 288

600 Uu Unquadium 289

601 Uu Unpentium 288

602 Uu Unsextium 289

603 Uu Unseptium 288

604 Uu Unoctium 289

605 Uu Unennium 288

606 Uu Unbinilium 289

607 Uu Untrium 288

608 Uu Unquadrium 289

609 Uu Unquadium 288

610 Uu Unpentium 289

611 Uu Unsextium 288

612 Uu Unseptium 289

613 Uu Unoctium 288

614 Uu Unennium 289

615 Uu Unbinilium 288

616 Uu Untrium 289

617 Uu Unquadrium 288

618 Uu Unquadium 289

619 Uu Unpentium 288

620 Uu Unsextium 289

621 Uu Unseptium 288

622 Uu Unoctium 289

623 Uu Unennium 288

624 Uu Unbinilium 289

625 Uu Untrium 288

626 Uu Unquadrium 289

627 Uu Unquadium 288

628 Uu Unpentium 289

629 Uu Unsextium 288

630 Uu Unseptium 289

631 Uu Unoctium 288

632 Uu Unennium 289

633 Uu Unbinilium 288

634 Uu Untrium 289

635 Uu Unquadrium 288

636 Uu Unquadium 289

637 Uu Unpentium 288

638 Uu Unsextium 289

639 Uu Unseptium 288

640 Uu Unoctium 289

641 Uu Unennium 288

642 Uu Unbinilium 289

643 Uu Untrium 288

644 Uu Unquadrium 289

645 Uu Unquadium 288

646 Uu Unpentium 289

647 Uu Unsextium 288

648 Uu Unseptium 289

649 Uu Unoctium 288

650 Uu Unennium 289

651 Uu Unbinilium 288

652 Uu Untrium 289

653 Uu Unquadrium 288

654 Uu Unquadium 289

655 Uu Unpentium 288

656 Uu Unsextium 289

657 Uu Unseptium 288

658 Uu Unoctium 289

659 Uu Unennium 288

660 Uu Unbinilium 289

661 Uu Untrium 288

662 Uu Unquadrium 289

663 Uu Unquadium 288

664 Uu Unpentium 289

665 Uu Unsextium 288

666 Uu Unseptium 289

667 Uu Unoctium 288

668 Uu Unennium 289

669 Uu Unbinilium 288

670 Uu Untrium 289

671 Uu Unquadrium 288

672 Uu Unquadium 289

673 Uu Unpentium 288

674 Uu Unsextium 289

675 Uu Unseptium 288

676 Uu Unoctium 289

677 Uu Unennium 288

678 Uu Unbinilium 289

679 Uu Untrium 288

680 Uu Unquadrium 289

681 Uu Unquadium 288

682 Uu Unpentium 289

683 Uu Unsextium 288

684 Uu Unseptium 289

685 Uu Unoctium 288

686 Uu Unennium 289

687 Uu Unbinilium 288

688 Uu Untrium 289

689 Uu Unquadrium 288

690 Uu Unquadium 289

691 Uu Unpentium 288

692 Uu Unsextium 289

693 Uu Unseptium 288

694 Uu Unoctium 289

695 Uu Unennium 288

696 Uu Unbinilium 289

697 Uu Untrium 288

698 Uu Unquadrium 289

699 Uu Unquadium 288

700 Uu Unpentium 289

701 Uu Unsextium 288

702 Uu Unseptium 289

703 Uu Unoctium 288

704 Uu Unennium 289

705 Uu Unbinilium 288

706 Uu Untrium 289

707 Uu Unquadrium 288

708 Uu Unquadium 289

709 Uu Unpentium 288

710 Uu Unsextium 289

711 Uu Unseptium 288

712 Uu Unoctium 289

713 Uu Unennium 288

714 Uu Unbinilium 289

715 Uu Untrium 288

716 Uu Unquadrium 289

717 Uu Unquadium 288

718 Uu Unpentium 289

719 Uu Unsextium 288

720 Uu

# Usual disclaimer:

---

- Knowing that **X2Go** exists came from the local OpenWebUI AI machine besides some of the textual content.
  - LLM: gpt-oss:20b
- Some content came from the World Wide Web of course, and very little from my head ...
- Why use AI?
  - See how good the LLMs are in my local AI, being **one** reason.
  - Since this had worked previously, creating **good** (or **bad**) presentations is easier !
- Well, how good is the AI ?
  - Wait to hear the presentation & see the live demo ...

# Who created X2Go ?



- Oleksandr Shneyder and Heinz-M. Graesing
- X2Go is a project under the umbrella of the Open Remote Computing Association - orca e.V. - a registered association under Germany's Civil Code and also registered as a charitable organization, similar to a 501(c)(3) organization in the US.
- Provides high-performance, SSH-based remote desktop that works well over low-bandwidth LANs.
- Open-Source, GPL & AGPL-3+ license, active community.
- Client packages can be run on OpenBSD, FreeBSD, Linux, macOS or Windows
- included in the official Ubuntu release starting from 17.04 and Debian Wheezy releases

<https://wiki.x2go.org/doku.php>

<https://en.wikipedia.org/wiki/X2Go>

# Features:

---

- Graphical Remote Desktop that works well over both low bandwidth and high bandwidth connections
- The ability to disconnect and reconnect to a session, even from another client
- Support for sound
- Support for as many simultaneous users as the computer's resources will support
- Traffic is securely tunneled over SSH
- File Sharing from client to server
- Printer Sharing from client to server
- Easily select from multiple desktop environments (e.g., MATE, Gnome, KDE)
- Remote support possible via Desktop Sharing
- The ability to access single applications by specifying the name of the desired executable in the client configuration or selecting one of the pre-defined common applications

# X2Go Server:

---

- The machine that runs the X2Go server (the remote machine).
- Applications / session are started on this remote machine and the applications transfer their windows / desktops to the client.

# X2Go Client:

---

- The X2Go Client is the application that allows one to connect to a remote server and display a graphical desktop / application on the client machine.
- X2Go Client requires a local X11 server to display the remote sessions.
- On Linux, the client part of X2Go uses the local Xorg server
- On Mac OS X, the XQuartz X11 server needs to be installed as an extra component.
- On MS Windows such an X11 server is shipped with X2Go Client.

# Comparisons:

Feature	X2Go	TightVNC	RDP (Windows)
Transport	SSH (encrypted, compressed)	Raw VNC, optional SSH tunnel	RDP protocol (unencrypted unless TLS)
Performance on 10 Mbps	Very good (compression)	Poor (bandwidth heavy)	Average (depends on settings)
Audio support	Yes	No	Yes
Clipboard sync	Yes	No	Yes
File transfer	Built-in	No	No
Authentication	Public-key or password	Password	Integrated Windows auth
Server OS	Linux only	Linux / Windows	Windows only
Client OS	Linux / Windows / macOS	Linux / Windows / macOS	Windows / macOS / Linux (via third-party)
Multi-session	Yes	No	Yes (Remote Desktop Services)
License	GPL-v3	GPL	Proprietary

...needs to be closely fact checked, but seems by and large plausible

# Installation (Ubuntu):

## Server:

```
sudo apt update
```

```
sudo apt install x2goserver
```

```
sudo ufw allow 22/tcp    OR
```

```
sudo ufw allow from 192.168.1.0/24 to any port 22
```

```
systemctl status x2goserver
```

## Client:

```
sudo apt update
```

```
sudo apt install x2goclient
```



# Launch (Client)

- Menu → **x2goclient**
- New session

Host: 192.168.1.xxx

Login: <user\_id>

SSH Port: 22

[ ] Try auto login


Desktop: MATE

(KDE, Gnome, LXDE, XFCE, Unity, Cinnamon, etc.)

Session preferences - New session

Session Connection Input/Output Media Shared folders

Session name: New session

 << change icon

Path: /

Server

Host:

Login:

SSH port: 22

Use RSA/DSA key for ssh connection:

☐ Try auto login (via SSH Agent or default SSH key)

☐ Kerberos 5 (GSSAPI) authentication

☐ Delegation of GSSAPI credentials to the server

☐ Use Proxy server for SSH connection

Session type

☐ Run in X2GoKDrive (experimental)

KDE Command:

OK Cancel Defaults

# Input / Output

- Display

- ☐ Fullscreen

- ☐ Custom Width [1680] Height [1024]

- ☐ Use whole display

- Display [ ] (Identify all displays)

- ☐ Not resizable

- ☐ Set display DPI [ ]

- ☐ Xinerama extension (support for 2 or more displays)

# Input / Output

---

- Clipboard mode
  - [ ] Bidirectional
  - [ ] Copy & paste from client to server
  - [ ] Copy & paste from server to client
  - [ ] Disable clipboard completely

# Input / Output

---

- Keyboard
  - [ ] Auto-detect keyboard settings
  - [ ] Do not configure keyboard
  - [ ] Configure keyboard

# Media

---

- Sound:

- ☐ Enable sound support

- ☐ Pulse audio

- ☐ arts

- ☐ esd

- ☐ Use SSH port fwd'ing to tunnel sound system connections through firewalls

- ☐ Use default sound port

- Sound port [4173]

# Shared folders

- **Shared Folders:**

Path: [ ] Add

# /home/user/Documents

```
/home/user/Pictures
```

# /home/user/Music

## [ ] Use SSH port fwd'ing to tunnel file system connections through firewalls

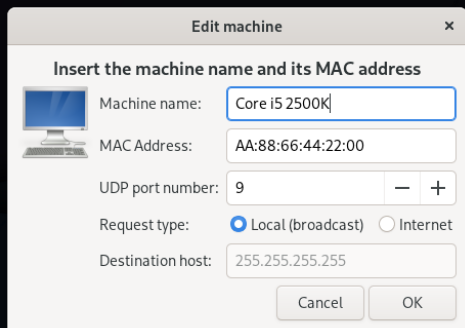
# Power Management:

- Server:

*sudo apt update*

*sudo apt install gWakeOnLan*

*(enable 'WOL' feature in the BIOS)*



Edit machine

Insert the machine name and its MAC address

Machine name: Core i5 2500K

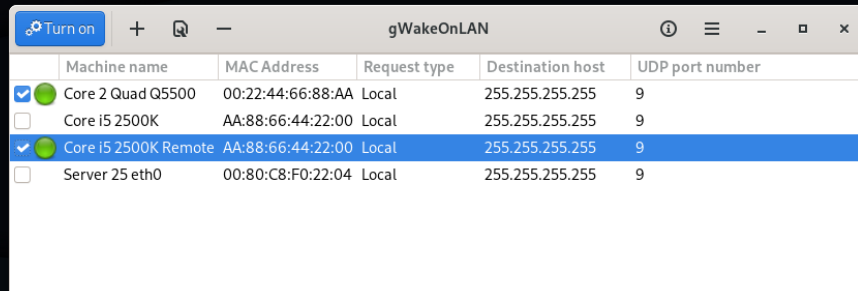
MAC Address: AA:88:66:44:22:00

UDP port number: 9

Request type: ☒ Local (broadcast) ☐ Internet

Destination host: 255.255.255.255

Cancel OK



	Machine name	MAC Address	Request type	Destination host	UDP port number
<input checked="" type="checkbox"/>	Core 2 Quad Q5500	00:22:44:66:88:AA	Local	255.255.255.255	9
<input type="checkbox"/>	Core i5 2500K	AA:88:66:44:22:00	Local	255.255.255.255	9
<input checked="" type="checkbox"/>	Core i5 2500K Remote	AA:88:66:44:22:00	Local	255.255.255.255	9
<input type="checkbox"/>	Server 25 eth0	00:80:C8:F0:22:04	Local	255.255.255.255	9

<https://github.com/muflone/gwakeonlan>

# Conservation = Power Management

6

2

4

C

Carbon

12.011

Series	Reactive nonmetals
Write-up	<a href="#">Carbon</a> <a href="#">Wikipedia</a> ▼
State at <input type="text" value="0"/> °C ▼	Solid
Weight	12.011 u ▼
Energy levels	2, 4
Electronegativity	2.55
Melting point	3,642 °C ▼
Boiling point	3,642 °C ▼
Electron affinity	153.9 kJ/mol ▼
Ionization, 1st ▼	1,086.5 kJ/mol ▼
Radius, calculated ▼	67 pm ▼
Hardness, Brinell ▼	N/A MPa ▼
Modulus, bulk ▼	33 GPa ▼
Density, STP ▼	2,260 kg/m³ ▼
Conductivity, thermal ▼	140 W/mK ▼

Temperature   °C  °F  K

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
														Pnictogens	Chalcogens	Halogens		
1 <b>H</b> Hydrogen 1.008	Atomic Symbol Name Weight				<b>C</b> Solid		Metals				Metalloids	Nonmetals						2 <b>He</b> Helium 4.0026
3 <b>Li</b> Lithium 6.94	4 <b>Be</b> Beryllium 9.0122			<b>Hg</b> Liquid						Post-transition metals	Transition metals							10 <b>Ne</b> Neon 20.180
11 <b>Na</b> Sodium 22.990	12 <b>Mg</b> Magnesium 24.305			<b>H</b> Gas						Alkaline earth metals	Lanthanoids	Actinoids					17 <b>Cl</b> Chlorine 35.45	18 <b>Ar</b> Argon 39.948
				<b>RF</b> Unknown						Alkali metals								
19 <b>K</b> Potassium 39.098	20 <b>Ca</b> Calcium 40.078	21 <b>Sc</b> Scandium 44.956	22 <b>Ti</b> Titanium 47.867	23 <b>V</b> Vanadium 50.942	24 <b>Cr</b> Chromium 51.996	25 <b>Mn</b> Manganese 54.938	26 <b>Fe</b> Iron 55.845	27 <b>Co</b> Cobalt 58.933	28 <b>Ni</b> Nickel 58.693	29 <b>Cu</b> Copper 63.546	30 <b>Zn</b> Zinc 65.38	31 <b>Ga</b> Gallium 69.723	32 <b>Ge</b> Germanium 72.630	33 <b>As</b> Arsenic 74.922	34 <b>Se</b> Selenium 78.971	35 <b>Br</b> Bromine 79.904	36 <b>Kr</b> Krypton 83.798	
37 <b>Rb</b> Rubidium 85.468	38 <b>Sr</b> Strontium 87.62	39 <b>Y</b> Yttrium 88.906	40 <b>Zr</b> Zirconium 91.224	41 <b>Nb</b> Niobium 92.906	42 <b>Mo</b> Molybdenum 95.95	43 <b>Tc</b> Technetium (98)	44 <b>Ru</b> Ruthenium 101.07	45 <b>Rh</b> Rhodium 102.91	46 <b>Pd</b> Palladium 106.42	47 <b>Ag</b> Silver 107.87	48 <b>Cd</b> Cadmium 112.41	49 <b>In</b> Indium 114.82	50 <b>Sn</b> Tin 118.71	51 <b>Sb</b> Antimony 121.76	52 <b>Te</b> Tellurium 127.60	53 <b>I</b> Iodine 126.90	54 <b>Xe</b> Xenon 131.29	
55 <b>Cs</b> Caesium 132.91	56 <b>Ba</b> Barium 137.33	57–71		72 <b>Hf</b> Hafnium 178.49	73 <b>Ta</b> Tantalum 180.95	74 <b>W</b> Tungsten 183.84	75 <b>Re</b> Rhenium 186.21	76 <b>Os</b> Osmium 190.23	77 <b>Ir</b> Iridium 192.22	78 <b>Pt</b> Platinum 195.08	79 <b>Au</b> Gold 196.97	80 <b>Hg</b> Mercury 200.59	81 <b>Tl</b> Thallium 204.38	82 <b>Pb</b> Lead 207.2	83 <b>Bi</b> Bismuth 208.98	84 <b>Po</b> Polonium (209)	85 <b>At</b> Astatine (210)	86 <b>Rn</b> Radon (222)
87 <b>Fr</b> Francium (223)	88 <b>Ra</b> Radium (226)	89–103		104 <b>Rf</b> Rutherfordium (267)	105 <b>Db</b> Dubnium (268)	106 <b>Sg</b> Seaborgium (269)	107 <b>Bh</b> Bohrium (270)	108 <b>Hs</b> Hassium (277)	109 <b>Mt</b> Meitnerium (278)	110 <b>Ds</b> Darmstadtium (281)	111 <b>Rg</b> Roentgenium (282)	112 <b>Cn</b> Copernicium (285)	113 <b>Nh</b> Nihonium (286)	114 <b>Fl</b> Flerovium (289)	115 <b>Mc</b> Moscovium (290)	116 <b>Lv</b> Livermorium (293)	117 <b>Ts</b> Tennessine (294)	118 <b>Og</b> Oganesson (294)
For elements with no stable isotopes, the mass number of the isotope with the longest half-life is in parentheses.																		
		6		57 <b>La</b> Lanthanum 138.91	58 <b>Ce</b> Cerium 140.12	59 <b>Pr</b> Praseodymium 140.91	60 <b>Nd</b> Neodymium 144.24	61 <b>Pm</b> Promethium (145)	62 <b>Sm</b> Samarium 150.36	63 <b>Eu</b> Europium 151.96	64 <b>Gd</b> Gadolinium 157.25	65 <b>Tb</b> Terbium 158.93	66 <b>Dy</b> Dysprosium 162.50	67 <b>Ho</b> Holmium 164.93	68 <b>Er</b> Erbium 167.26	69 <b>Tm</b> Thulium 168.93	70 <b>Yb</b> Ytterbium 173.05	71 <b>Lu</b> Lutetium 174.97
		7		89 <b>Ac</b> Actinium (227)	90 <b>Th</b> Thorium 232.04	91 <b>Pa</b> Protactinium 231.04	92 <b>U</b> Uranium 238.03	93 <b>Np</b> Neptunium (237)	94 <b>Pu</b> Plutonium (244)	95 <b>Am</b> Americium (243)	96 <b>Cm</b> Curium (247)	97 <b>Bk</b> Berkelium (247)	98 <b>Cf</b> Californium (251)	99 <b>Es</b> Einsteinium (252)	100 <b>Fm</b> Fermium (257)	101 <b>Md</b> Mendelevium (258)	102 <b>No</b> Nobelium (259)	103 <b>Lr</b> Lawrencium (266)



6	2
C	4
Carbon	
12.011	

C	<a href="#">activated charcoal</a>
$^{13}\text{C}$	<a href="#">carbon-13</a>
C	<a href="#">diamond</a>
C	<a href="#">graphite</a>
$\text{C}_{60}$	<a href="#">buckminsterfullerene</a>
$\text{C}_{70}$	[5,6]-fullerene-C70
$\text{Ag}_2\text{C}_2$	silver(I) acetylide
$\text{BaC}_2$	barium carbide
$\text{CB}_4$	<a href="#">boron carbide</a>
$\text{CBe}_2$	<a href="#">beryllium carbide</a>
$^{13}\text{CBr}_4$	carbon-13C tetrabromide
$\text{CBr}_4$	<a href="#">carbon tetrabromide</a>
$\text{CCl}_2$	<a href="#">dichlorocarbene</a>

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 Pnictogens	16 Chalcogens	17 Halogens	18		
1	<div>1</div> <div>H</div> <div>Hydrogen</div> <div>1.00794</div>	<div>Atomic Symbol</div> <div>Name Weight</div> <div>C</div> <div>x</div>																<div>2</div> <div>He</div> <div>Helium</div> <div></div>		
2	<div>3</div> <div>Li</div> <div>Lithium</div> <div>6.941</div>	<div>4</div> <div>Be</div> <div>Beryllium</div> <div>9.012</div>													<div>5</div> <div>B</div> <div>Boron</div> <div>10.811</div>	<div>6</div> <div>C</div> <div>Carbon</div> <div>12.011</div>	<div>7</div> <div>N</div> <div>Nitrogen</div> <div>14.007</div>	<div>8</div> <div>O</div> <div>Oxygen</div> <div>15.999</div>	<div>9</div> <div>F</div> <div>Fluorine</div> <div>18.998</div>	<div>10</div> <div>Ne</div> <div>Neon</div> <div></div>
3	<div>11</div> <div>Na</div> <div>Sodium</div> <div>22.990</div>	<div>12</div> <div>Mg</div> <div>Magnesium</div> <div>24.305</div>													<div>13</div> <div>Al</div> <div>Aluminum</div> <div>26.982</div>	<div>14</div> <div>Si</div> <div>Silicon</div> <div>28.086</div>	<div>15</div> <div>P</div> <div>Phosphorus</div> <div>30.974</div>	<div>16</div> <div>S</div> <div>Sulfur</div> <div>32.065</div>	<div>17</div> <div>Cl</div> <div>Chlorine</div> <div>35.453</div>	<div>18</div> <div>Ar</div> <div>Argon</div> <div></div>
4	<div>19</div> <div>K</div> <div>Potassium</div> <div>39.098</div>	<div>20</div> <div>Ca</div> <div>Calcium</div> <div>40.078</div>	<div>21</div> <div>Sc</div> <div>Scandium</div> <div>44.956</div>	<div>22</div> <div>Ti</div> <div>Titanium</div> <div>47.88</div>	<div>23</div> <div>V</div> <div>Vanadium</div> <div>50.942</div>	<div>24</div> <div>Cr</div> <div>Chromium</div> <div>51.996</div>	<div>25</div> <div>Mn</div> <div>Manganese</div> <div>54.938</div>	<div>26</div> <div>Fe</div> <div>Iron</div> <div>55.845</div>	<div>27</div> <div>Co</div> <div>Cobalt</div> <div>58.933</div>	<div>28</div> <div>Ni</div> <div>Nickel</div> <div>58.693</div>	<div>29</div> <div>Cu</div> <div>Copper</div> <div>63.546</div>	<div>30</div> <div>Zn</div> <div>Zinc</div> <div>65.38</div>	<div>31</div> <div>Ga</div> <div>Gallium</div> <div>69.723</div>	<div>32</div> <div>Ge</div> <div>Germanium</div> <div>72.630</div>	<div>33</div> <div>As</div> <div>Arsenic</div> <div>74.922</div>	<div>34</div> <div>Se</div> <div>Selenium</div> <div>78.96</div>	<div>35</div> <div>Br</div> <div>Bromine</div> <div>79.904</div>	<div>36</div> <div>Kr</div> <div>Krypton</div> <div></div>		
5	<div>37</div> <div>Rb</div> <div>Rubidium</div> <div>85.468</div>	<div>38</div> <div>Sr</div> <div>Strontium</div> <div>87.62</div>	<div>39</div> <div>Y</div> <div>Yttrium</div> <div>88.906</div>	<div>40</div> <div>Zr</div> <div>Zirconium</div> <div>91.224</div>	<div>41</div> <div>Nb</div> <div>Niobium</div> <div>92.906</div>	<div>42</div> <div>Mo</div> <div>Molybdenum</div> <div>95.94</div>	<div>43</div> <div>Tc</div> <div>Technetium</div> <div></div>	<div>44</div> <div>Ru</div> <div>Ruthenium</div> <div>101.07</div>	<div>45</div> <div>Rh</div> <div>Rhodium</div> <div>102.91</div>	<div>46</div> <div>Pd</div> <div>Palladium</div> <div>106.42</div>	<div>47</div> <div>Ag</div> <div>Silver</div> <div>107.87</div>	<div>48</div> <div>Cd</div> <div>Cadmium</div> <div>112.41</div>	<div>49</div> <div>In</div> <div>Indium</div> <div>114.82</div>	<div>50</div> <div>Sn</div> <div>Tin</div> <div>118.71</div>	<div>51</div> <div>Sb</div> <div>Antimony</div> <div>121.76</div>	<div>52</div> <div>Te</div> <div>Tellurium</div> <div>127.6</div>	<div>53</div> <div>I</div> <div>Iodine</div> <div>126.91</div>	<div>54</div> <div>Xe</div> <div>Xenon</div> <div></div>		
6	<div>55</div> <div>Cs</div> <div>Caesium</div> <div>132.91</div>	<div>56</div> <div>Ba</div> <div>Barium</div> <div>137.33</div>	57-71		<div>72</div> <div>Hf</div> <div>Hafnium</div> <div>178.49</div>	<div>73</div> <div>Ta</div> <div>Tantalum</div> <div>180.95</div>	<div>74</div> <div>W</div> <div>Tungsten</div> <div>183.85</div>	<div>75</div> <div>Re</div> <div>Rhenium</div> <div>186.21</div>	<div>76</div> <div>Os</div> <div>Osmium</div> <div>190.23</div>	<div>77</div> <div>Ir</div> <div>Iridium</div> <div>192.22</div>	<div>78</div> <div>Pt</div> <div>Platinum</div> <div>195.08</div>	<div>79</div> <div>Au</div> <div>Gold</div> <div>196.97</div>	<div>80</div> <div>Hg</div> <div>Mercury</div> <div>200.59</div>	<div>81</div> <div>Tl</div> <div>Thallium</div> <div>204.38</div>	<div>82</div> <div>Pb</div> <div>Lead</div> <div>207.2</div>	<div>83</div> <div>Bi</div> <div>Bismuth</div> <div>208.98</div>	<div>84</div> <div>Po</div> <div>Polonium</div> <div></div>	<div>85</div> <div>At</div> <div>Astatine</div> <div></div>	<div>86</div> <div>Rn</div> <div>Radon</div> <div></div>	
7	<div>87</div> <div>Fr</div> <div>Francium</div> <div></div>	<div>88</div> <div>Ra</div> <div>Radium</div> <div></div>	89-103		<div>104</div> <div>Rf</div> <div>Rutherfordium</div> <div></div>	<div>105</div> <div>Db</div> <div>Dubnium</div> <div></div>	<div>106</div> <div>Sg</div> <div>Seaborgium</div> <div></div>	<div>107</div> <div>Bh</div> <div>Bohrium</div> <div></div>	<div>108</div> <div>Hs</div> <div>Hassium</div> <div></div>	<div>109</div> <div>Mt</div> <div>Meitnerium</div> <div></div>	<div>110</div> <div>Ds</div> <div>Darmstadtium</div> <div></div>	<div>111</div> <div>Rg</div> <div>Roentgenium</div> <div></div>	<div>112</div> <div>Cn</div> <div>Copernicium</div> <div></div>	<div>113</div> <div>Nh</div> <div>Nihonium</div> <div></div>	<div>114</div> <div>Fl</div> <div>Flerovium</div> <div></div>	<div>115</div> <div>Mc</div> <div>Moscovium</div> <div></div>	<div>116</div> <div>Lv</div> <div>Livermorium</div> <div></div>	<div>117</div> <div>Ts</div> <div>Tennessine</div> <div></div>	<div>118</div> <div>Og</div> <div>Oganesson</div> <div></div>	
Numbers in place of weights indicate the number of compounds formed by adding that element to your compound search.																				
			6	<div>57</div> <div>La</div> <div>Lanthanum</div> <div>138.91</div>	<div>58</div> <div>Ce</div> <div>Cerium</div> <div>140.12</div>	<div>59</div> <div>Pr</div> <div>Praseodymium</div> <div>140.91</div>	<div>60</div> <div>Nd</div> <div>Neodymium</div> <div>144.24</div>	<div>61</div> <div>Pm</div> <div>Promethium</div> <div></div>	<div>62</div> <div>Sm</div> <div>Samarium</div> <div>150.36</div>	<div>63</div> <div>Eu</div> <div>Europium</div> <div>151.96</div>	<div>64</div> <div>Gd</div> <div>Gadolinium</div> <div>157.25</div>	<div>65</div> <div>Tb</div> <div>Terbium</div> <div>158.93</div>	<div>66</div> <div>Dy</div> <div>Dysprosium</div> <div>162.50</div>	<div>67</div> <div>Ho</div> <div>Holmium</div> <div>164.93</div>	<div>68</div> <div>Er</div> <div>Erbium</div> <div>167.26</div>	<div>69</div> <div>Tm</div> <div>Thulium</div> <div>168.93</div>	<div>70</div> <div>Yb</div> <div>Ytterbium</div> <div>173.05</div>	<div>71</div> <div>Lu</div> <div>Lutetium</div> <div>174.97</div>		
			7	<div>89</div> <div>Ac</div> <div>Actinium</div> <div></div>	<div>90</div> <div>Th</div> <div>Thorium</div> <div>232.04</div>	<div>91</div> <div>Pa</div> <div>Protactinium</div> <div></div>	<div>92</div> <div>U</div> <div>Uranium</div> <div>238.03</div>	<div>93</div> <div>Np</div> <div>Neptunium</div> <div></div>	<div>94</div> <div>Pu</div> <div>Plutonium</div> <div></div>	<div>95</div> <div>Am</div> <div>Americium</div> <div></div>	<div>96</div> <div>Cm</div> <div>Curium</div> <div></div>	<div>97</div> <div>Bk</div> <div>Berkelium</div> <div></div>	<div>98</div> <div>Cf</div> <div>Californium</div> <div></div>	<div>99</div> <div>Es</div> <div>Einsteinium</div> <div></div>	<div>100</div> <div>Fm</div> <div>Fermium</div> <div></div>	<div>101</div> <div>Md</div> <div>Mendelevium</div> <div></div>	<div>102</div> <div>No</div> <div>Nobelium</div> <div></div>	<div>103</div> <div>Lr</div> <div>Lawrencium</div> <div></div>		

[https://en.wikipedia.org/wiki/Carbon\\_dioxide](https://en.wikipedia.org/wiki/Carbon_dioxide)

# Power Management:

- **Server:**

*sudo apt update*

*sudo apt install pm-utils*

- Suspend command line:

*USER\_ID='jmb'*

*host=Dell-01'*

*ssh -t '\${USER\_ID:+\$USER\_ID@}\$host' 'sudo pm-suspend'*



# Power Management:

- **Server** (timed suspend):

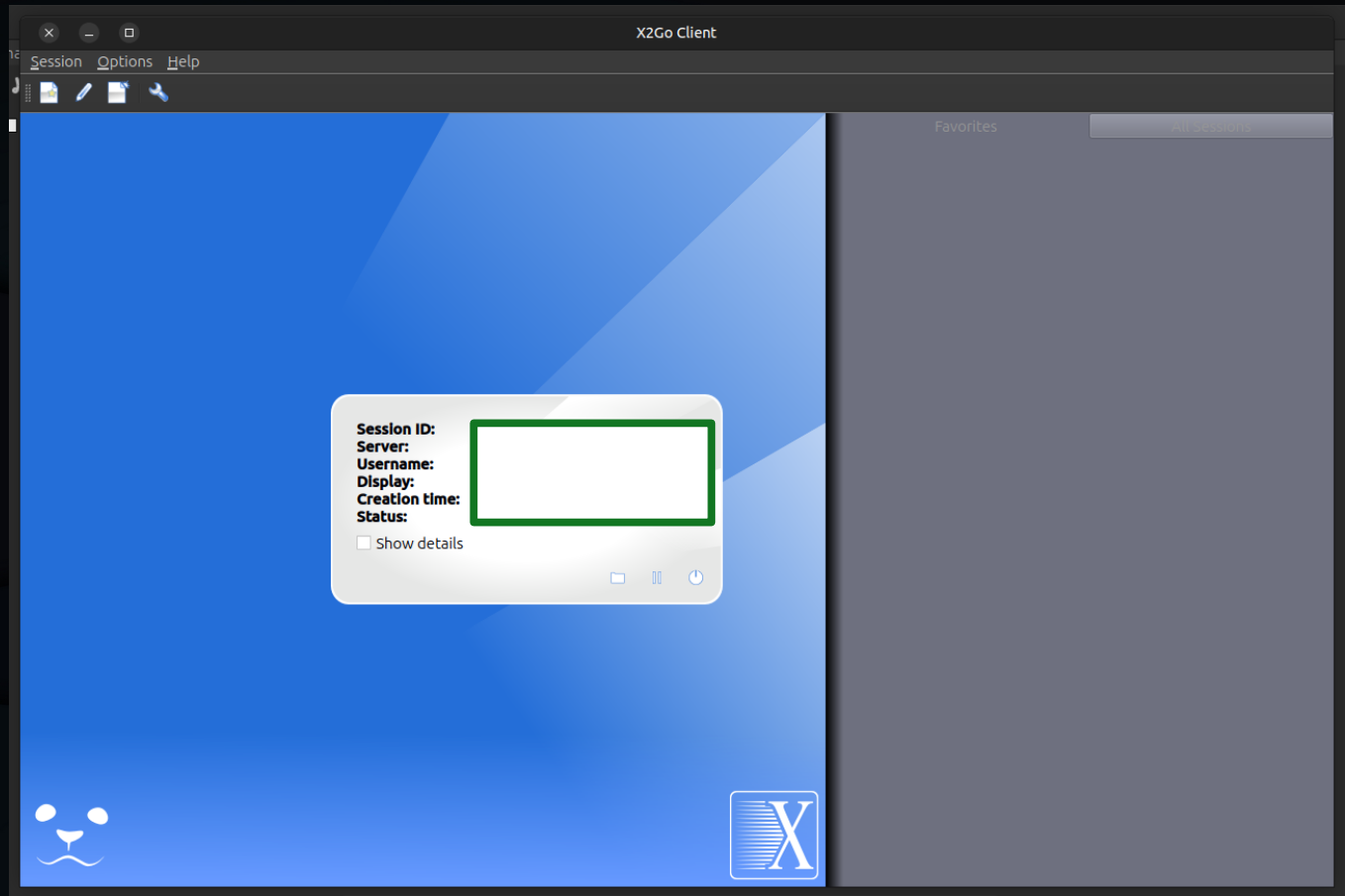
*crontab -e*

*# Example: suspend at 17:00 every day*

*0 17\* \* \* /usr/sbin/pm-suspend*



# Live Demo



# Questions, comments or rewards:

?

!

\$