

Selenium

Selenium

Edward Cerullo

www.thecamp.dk

2014

Selenium



What is Selenium?



What is Selenium?

Periodic Table of the Elements

1 1H H	2 4He He											13 13Al Al	14 14Si Si	15 15P P	16 16S S	17 17Cl Cl	18 18Ar Ar																		
3 3Li Li	4 4Be Be											19 19K K	20 20Ca Ca	21 21Sc Sc	22 22Ti Ti	23 23V V	24 24Cr Cr	25 25Mn Mn	26 26Fe Fe	27 27Co Co	28 28Ni Ni	29 29Cu Cu	30 30Zn Zn	31 31Ga Ga	32 32Ge Ge	33 33As As	34 34Se Se	35 35Br Br	36 36Kr Kr						
5 5Na Na	6 6Mg Mg	7 7B B	8 8C C	9 9N N	10 10O O	11 11F F	12 12Ne Ne											37 37Rb Rb	38 38Sr Sr	39 39Y Y	40 40Zr Zr	41 41Nb Nb	42 42Mo Mo	43 43Tc Tc	44 44Ru Ru	45 45Rh Rh	46 46Pd Pd	47 47Ag Ag	48 48Cd Cd	49 49In In	50 50Sn Sn	51 51Sb Sb	52 52Te Te	53 53I I	54 54Xe Xe
6 6Li Li	7 7Be Be											55 55Cs Cs	56 56Ba Ba	57-71 Lanthanide Series	72 72Hf Hf	73 73Ta Ta	74 74W W	75 75Re Re	76 76Os Os	77 77Ir Ir	78 78Pt Pt	79 79Au Au	80 80Hg Hg	81 81Tl Tl	82 82Pb Pb	83 83Bi Bi	84 84Po Po	85 85At At	86 86Rn Rn						
8 8Li Li	9 9Be Be											87 87Fr Fr	88 88Ra Ra	89-103 Actinide Series	104 104Rf Rf	105 105Db Db	106 106Sg Sg	107 107Bh Bh	108 108Hs Hs	109 109Mt Mt	110 110Ds Ds	111 111Rg Rg	112 112Cn Cn	113 113Uut Uut	114 114Uuq Uuq	115 115Uup Uup	116 116Uuh Uuh	117 117Uus Uus	118 118Uuo Uuo						

Lanthanide Series
57 La 58 Ce 59 Pr 60 Nd 61 Pm 62 Sm 63 Eu 64 Gd 65 Tb 66 Dy 67 Ho 68 Er 69 Tm 70 Yb 71 Lu

Actinide Series
89 Ac 90 Th 91 Pa 92 U 93 Np 94 Pu 95 Am 96 Cm 97 Bk 98 Cf 99 Es 100 Fm 101 Md 102 No 103 Lr

Alkali Metals Alkaline Earths Transition Metals Main Group Nonmetals Halogens Noble Gases Lanthanides Actinides

What is Selenium?

Periodic Table of the Elements

1 1.008 H	2 4.003 He																	13 26.982 Al	14 28.086 Si	15 30.974 P	16 32.06 S	17 35.45 Cl	18 39.948 Ar												
3 6.941 Li	4 9.012 Be																	19 69.723 K	20 24.305 Ca	21 44.956 Sc	22 78.972 Ti	23 50.942 V	24 51.996 Cr	25 54.938 Mn	26 55.845 Fe	27 58.933 Co	28 58.933 Ni	29 63.546 Cu	30 65.38 Zn	31 72.64 Ga	32 72.64 Ge	33 74.922 As	34 78.96 Se	35 79.904 Br	36 83.80 Kr
5 22.990 Na	6 24.305 Mg	7 88.906 Y	8 91.224 Zr	9 92.906 Nb	10 95.94 Mo	11 98.906 Tc	12 101.07 Ru	13 101.07 Rh	14 106.36 Pd	15 107.868 Ag	16 112.411 Cd	17 118.710 In	18 118.710 Sn	19 121.757 Sb	20 127.603 Te	21 126.905 I	22 131.29 Xe																		
9 39.098 K	10 40.078 Ca	11 88.906 Y	12 91.224 Zr	13 92.906 Nb	14 95.94 Mo	15 98.906 Tc	16 101.07 Ru	17 101.07 Rh	18 106.36 Pd	19 107.868 Ag	20 112.411 Cd	21 118.710 In	22 118.710 Sn	23 121.757 Sb	24 127.603 Te	25 126.905 I	26 131.29 Xe																		
11 72.64 Ga	12 72.64 Ge	13 74.922 As	14 78.96 Se	15 79.904 Br	16 83.80 Kr																														
19 88.906 Y	20 91.224 Zr	21 92.906 Nb	22 95.94 Mo	23 98.906 Tc	24 101.07 Ru	25 101.07 Rh	26 106.36 Pd	27 107.868 Ag	28 112.411 Cd	29 118.710 In	30 118.710 Sn	31 121.757 Sb	32 127.603 Te	33 126.905 I	34 131.29 Xe																				
27 50.942 V	28 51.996 Cr	29 54.938 Mn	30 55.845 Fe	31 58.933 Co	32 58.933 Ni	33 63.546 Cu	34 65.38 Zn	35 72.64 Ga	36 72.64 Ge	37 74.922 As	38 78.96 Se	39 79.904 Br	40 83.80 Kr																						
35 69.723 K	36 24.305 Ca	37 88.906 Y	38 91.224 Zr	39 92.906 Nb	40 95.94 Mo	41 98.906 Tc	42 101.07 Ru	43 101.07 Rh	44 106.36 Pd	45 107.868 Ag	46 112.411 Cd	47 118.710 In	48 118.710 Sn	49 121.757 Sb	50 127.603 Te	51 126.905 I	52 131.29 Xe																		
39 88.906 Y	40 91.224 Zr	41 92.906 Nb	42 95.94 Mo	43 98.906 Tc	44 101.07 Ru	45 101.07 Rh	46 106.36 Pd	47 107.868 Ag	48 112.411 Cd	49 118.710 In	50 118.710 Sn	51 121.757 Sb	52 127.603 Te	53 126.905 I	54 131.29 Xe																				
47 78.972 Ti	48 50.942 V	49 51.996 Cr	50 54.938 Mn	51 55.845 Fe	52 58.933 Co	53 58.933 Ni	54 63.546 Cu	55 65.38 Zn	56 69.723 Ga	57 72.64 Ge	58 74.922 As	59 78.96 Se	60 79.904 Br	61 83.80 Kr																					
55 88.906 Y	56 91.224 Zr	57 92.906 Nb	58 95.94 Mo	59 98.906 Tc	60 101.07 Ru	61 101.07 Rh	62 106.36 Pd	63 107.868 Ag	64 112.411 Cd	65 118.710 In	66 118.710 Sn	67 121.757 Sb	68 127.603 Te	69 126.905 I	70 131.29 Xe																				
63 69.723 Ga	64 72.64 Ge	65 74.922 As	66 78.96 Se	67 79.904 Br	68 83.80 Kr																														
71 88.906 Y	72 91.224 Zr	73 92.906 Nb	74 95.94 Mo	75 98.906 Tc	76 101.07 Ru	77 101.07 Rh	78 106.36 Pd	79 107.868 Ag	80 112.411 Cd	81 118.710 In	82 118.710 Sn	83 121.757 Sb	84 127.603 Te	85 126.905 I	86 131.29 Xe																				
79 78.972 Ti	80 50.942 V	81 51.996 Cr	82 54.938 Mn	83 55.845 Fe	84 58.933 Co	85 58.933 Ni	86 63.546 Cu	87 65.38 Zn	88 69.723 Ga	89 72.64 Ge	90 74.922 As	91 78.96 Se	92 79.904 Br	93 83.80 Kr																					
87 88.906 Y	88 91.224 Zr	89 92.906 Nb	90 95.94 Mo	91 98.906 Tc	92 101.07 Ru	93 101.07 Rh	94 106.36 Pd	95 107.868 Ag	96 112.411 Cd	97 118.710 In	98 118.710 Sn	99 121.757 Sb	100 127.603 Te	101 126.905 I	102 131.29 Xe																				
95 69.723 Ga	96 72.64 Ge	97 74.922 As	98 78.96 Se	99 79.904 Br	100 83.80 Kr																														
103 88.906 Y	104 91.224 Zr	105 92.906 Nb	106 95.94 Mo	107 98.906 Tc	108 101.07 Ru	109 101.07 Rh	110 106.36 Pd	111 107.868 Ag	112 112.411 Cd	113 118.710 In	114 118.710 Sn	115 121.757 Sb	116 127.603 Te	117 126.905 I	118 131.29 Xe																				
111 78.972 Ti	112 50.942 V	113 51.996 Cr	114 54.938 Mn	115 55.845 Fe	116 58.933 Co	117 58.933 Ni	118 63.546 Cu	119 65.38 Zn	120 69.723 Ga	121 72.64 Ge	122 74.922 As	123 78.96 Se	124 79.904 Br	125 83.80 Kr																					
119 88.906 Y	120 91.224 Zr	121 92.906 Nb	122 95.94 Mo	123 98.906 Tc	124 101.07 Ru	125 101.07 Rh	126 106.36 Pd	127 107.868 Ag	128 112.411 Cd	129 118.710 In	130 118.710 Sn	131 121.757 Sb	132 127.603 Te	133 126.905 I	134 131.29 Xe																				
127 69.723 Ga	128 72.64 Ge	129 74.922 As	130 78.96 Se	131 79.904 Br	132 83.80 Kr																														
135 88.906 Y	136 91.224 Zr	137 92.906 Nb	138 95.94 Mo	139 98.906 Tc	140 101.07 Ru	141 101.07 Rh	142 106.36 Pd	143 107.868 Ag	144 112.411 Cd	145 118.710 In	146 118.710 Sn	147 121.757 Sb	148 127.603 Te	149 126.905 I	150 131.29 Xe																				
143 78.972 Ti	144 50.942 V	145 51.996 Cr	146 54.938 Mn	147 55.845 Fe	148 58.933 Co	149 58.933 Ni	150 63.546 Cu	151 65.38 Zn	152 69.723 Ga	153 72.64 Ge	154 74.922 As	155 78.96 Se	156 79.904 Br	157 83.80 Kr																					
151 88.906 Y	152 91.224 Zr	153 92.906 Nb	154 95.94 Mo	155 98.906 Tc	156 101.07 Ru	157 101.07 Rh	158 106.36 Pd	159 107.868 Ag	160 112.411 Cd	161 118.710 In	162 118.710 Sn	163 121.757 Sb	164 127.603 Te	165 126.905 I	166 131.29 Xe																				
159 69.723 Ga	160 72.64 Ge	161 74.922 As	162 78.96 Se	163 79.904 Br	164 83.80 Kr																														
167 88.906 Y	168 91.224 Zr	169 92.906 Nb	170 95.94 Mo	171 98.906 Tc	172 101.07 Ru	173 101.07 Rh	174 106.36 Pd	175 107.868 Ag	176 112.411 Cd	177 118.710 In	178 118.710 Sn	179 121.757 Sb	180 127.603 Te	181 126.905 I	182 131.29 Xe																				
175 78.972 Ti	176 50.942 V	177 51.996 Cr	178 54.938 Mn	179 55.845 Fe	180 58.933 Co	181 58.933 Ni	182 63.546 Cu	183 65.38 Zn	184 69.723 Ga	185 72.64 Ge	186 74.922 As	187 78.96 Se	188 79.904 Br	189 83.80 Kr																					
183 88.906 Y	184 91.224 Zr	185 92.906 Nb	186 95.94 Mo	187 98.906 Tc	188 101.07 Ru	189 101.07 Rh	190 106.36 Pd	191 107.868 Ag	192 112.411 Cd	193 118.710 In	194 118.710 Sn	195 121.757 Sb	196 127.603 Te	197 126.905 I	198 131.29 Xe																				
191 69.723 Ga	192 72.64 Ge	193 74.922 As	194 78.96 Se	195 79.904 Br	196 83.80 Kr																														
199 88.906 Y	200 91.224 Zr	201 92.906 Nb	202 95.94 Mo	203 98.906 Tc	204 101.07 Ru	205 101.07 Rh	206 106.36 Pd	207 107.868 Ag	208 112.411 Cd	209 118.710 In	210 118.710 Sn	211 121.757 Sb	212 127.603 Te	213 126.905 I	214 131.29 Xe																				
207 78.972 Ti	208 50.942 V	209 51.996 Cr	210 54.938 Mn	211 55.845 Fe	212 58.933 Co	213 58.933 Ni	214 63.546 Cu	215 65.38 Zn	216 69.723 Ga	217 72.64 Ge	218 74.922 As	219 78.96 Se	220 79.904 Br	221 83.80 Kr																					
215 88.906 Y	216 91.224 Zr	217 92.906 Nb	218 95.94 Mo	219 98.906 Tc	220 101.07 Ru	221 101.07 Rh	222 106.36 Pd	223 107.868 Ag	224 112.411 Cd	225 118.710 In	226 118.710 Sn	227 121.757 Sb	228 127.603 Te	229 126.905 I	230 131.29 Xe																				
223 69.723 Ga	224 72.64 Ge	225 74.922 As	226 78.96 Se	227 79.904 Br	228 83.80 Kr																														
231 88.906 Y	232 91.224 Zr	233 92.906 Nb	234 95.94 Mo	235 98.906 Tc	236 101.07 Ru	237 101.07 Rh	238 106.36 Pd	239 107.868 Ag	240 112.411 Cd	241 118.710 In	242 118.710 Sn	243 121.757 Sb	244 127.603 Te	245 126.905 I	246 131.29 Xe																				
239 78.972 Ti	240 50.942 V	241 51.996 Cr	242 54.938 Mn	243 55.845 Fe	244 58.933 Co	245 58.933 Ni	246 63.546 Cu	247 65.38 Zn	248 69.723 Ga	249 72.64 Ge	250 74.922 As	251 78.96 Se	252 79.904 Br	253 83.80 Kr																					
247 88.906 Y	248 91.224 Zr	249 92.906 Nb	250 95.94 Mo	251 98.906 Tc	252 101.07 Ru	253 101.07 Rh	254 106.36 Pd	255 107.868 Ag	256 112.411 Cd	257 118.710 In	258 118.710 Sn	259 121.757 Sb	260 127.603 Te	261 126.905 I	262 131.29 Xe																				
255 69.723 Ga	256 72.64 Ge	257 74.922 As	258 78.96 Se	259 79.904 Br	260 83.80 Kr																														
263 88.906 Y	264 91.224 Zr	265 92.906 Nb	266 95.94 Mo	267 98.906 Tc	268 101.07 Ru	269 101.07 Rh	270 106.36 Pd	271 107.868 Ag	272 112.411 Cd	273 118.710 In	274 118.710 Sn	275 121.757 Sb	276 127.603 Te	277 126.905 I	278 131.29 Xe																				
271 78.972 Ti	272 50.942 V	273 51.996 Cr	274 54.938 Mn	275 55.845 Fe	276 58.933 Co	277 58.933 Ni	278 63.546 Cu	279 65.38 Zn	280 69.723 Ga	281 72.64 Ge	282 74.922 As	283 78.96 Se	284 79.904 Br	285 83.80 Kr																					
279 88.906 Y	280 91.224 Zr	281 92.906 Nb	282 95.94 Mo	283 98.906 Tc	284 101.07 Ru	285 101.07 Rh	286 106.36 Pd	287 107.868 Ag	288 112.411 Cd	289 118.710 In	290 118.710 Sn	291 121.757 Sb	292 127.603 Te	293 126.905 I	294 131.29 Xe																				
287 69.723 Ga	288 72.64 Ge	289 74.922 As	290 78.96 Se	291 79.904 Br	292 83.80 Kr																														
295 88.906 Y	296 91.224 Zr	297 92.906 Nb	298 95.94 Mo	299 98.906 Tc	300 101.07 Ru	301 101.07 Rh	302 106.36 Pd	303 107.868 Ag	304 112.411 Cd	305 118.710 In	306 118.710 Sn	307 121.757 Sb	308 127.603 Te	309 126.905 I	310 131.29 Xe																				
303 78.972 Ti	304 50.942 V	305 51.996 Cr	306 54.938 Mn	307 55.845 Fe	308 58.933 Co	309 58.933 Ni	310 63.546 Cu	311 65.38 Zn	312 69.723 Ga	313 72.64 Ge	314 74.922 As	315 78.96 Se	316 79.904 Br	317 83.80 Kr																					
311 88.906 Y	312 91.224 Zr	313 92.906 Nb	314 95.94 Mo	315 98.906 Tc	316 101.07 Ru	317 101.07 Rh	318 106.36 Pd	319 107.868 Ag	320 112.411 Cd	321 118.710 In	322 118.710 Sn	323 121.757 Sb	324 127.603 Te	325 126.905 I	326 131.29 Xe																				
319 69.723 Ga	320 72.64 Ge	321 74.922 As	322 78.96 Se	323 79.904 Br	324 83.80 Kr																														
327 88.906 Y	328 91.224 Zr	329 92.906 Nb	330 95.94 Mo	331 98.906 Tc	332 101.07 Ru	333 101.07 Rh	334 106.36 Pd	335 107.868 Ag	336 112.411 Cd	337 118.710 In	338 118.710 Sn	339 121.757 Sb	340 127.603 Te	341 126.905 I	342 131.29 Xe																				
335 78.972 Ti	336 50.942 V	337 51.996 Cr	338 54.938 Mn	339 55.845 Fe	340 58.933 Co	341 58.933 Ni	342 63.546 Cu	343 65.38 Zn	344 69.723 Ga	345 72.64 Ge	346 74.922 As	347 78.96 Se	348 79.904 Br	349 83.80 Kr																					
343 88.906 Y	344 91.224 Zr	345 92.906 Nb	346 95.94 Mo	347 98.906 Tc	348 101.07 Ru	349 101.07 Rh	350 106.36 Pd	351 107.868 Ag	352 112.411 Cd																										

What is Selenium?

Periodic Table of the Elements

1	2											10	11	12	13	14	15	16	17	18
H	He											B	C	N	O	F	Ne			
Li	Be											Al	Si	P	S	Cl	Ar			
Na	Mg	3	4	5	6	7	8	9	10	11	12	Ga	Ge	As	Se	Br	Kr			
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	In	Sn	Sb	Te	I	Xe			
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	Tl	Pb	Bi	Po	At	Rn			
Cs	Ba		Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg									
Fr	Ra		Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn									
Lanthanide Series		57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72			
Actinide Series		89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	

Selenium is a non-metal with properties between Sulfur (S-above) and Tellurium (Te-below).

Why Selenium?



Well, once upon a time, there was a testing application called Mercury...

Periodic Table of the Elements

The periodic table is color-coded by groups. The legend below the table identifies the colors for each group:

- Alkali Metal (Pink)
- Alkaline Earth (Purple)
- Transition Metal (Light Blue)
- Post-Transition Metal (Orange)
- Nonmetals (Green)
- Halogens (Dark Blue)
- Noble Gas (Yellow)
- Lanthanide Series (Light Green)
- Actinide Series (Red)

1	2											13	14	15	16	17	18
1	2											13	14	15	16	17	18
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	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	14																

Well, once upon a time, there was a testing application called Mercury...

Periodic Table of the Elements

The periodic table is color-coded by groups. The legend below the table identifies the colors for each group:

- Alkali Metal (Pink)
- Alkaline Earth (Purple)
- Transition Metal (Light Blue)
- Post-Transition Metal (Orange)
- Nonmetals (Green)
- Halogens (Dark Blue)
- Noble Gas (Yellow)
- Lanthanide Series (Light Green)
- Actinide Series (Red)

1	2											10	11	12	13	14	15	16	17	18															
1	H	2																	10	Ne															
3	Li	4	Be											13	B	14	C	15	N	16	O	17	F	18	Ar										
5	Na	6	Mg	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																
19	K	20	Ca	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr
37	Rb	38	Sr	39	Y	40	Zr	41	Nb	42	Mo	43	Tc	44	Ru	45	Rh	46	Pd	47	Ag	48	Cd	49	In	50	Sn	51	Sb	52	Te	53	I	54	Xe
55	Cs	56	Ba	57-71	72	Hf	73	Ta	74	W	75	Re	76	Os	77	Ir	78	Pt	79	Au	80	Hg	81	Tl	82	Pb	83	Bi	84	Po	85	At	86	Rn	
87	Fr	88	Ra	89-103	104	Rf	105	Db	106	Sg	107	Bh	108	Hs	109	Mt	110	Ds	111	Rg	112	Cn	113	Uut	114	Uuq	115	Uup	116	Uuh	117	Uus	118	Uuo	
Lanthanide Series		57	La	58	Ce	59	Pr	60	Nd	61	Pm	62	Sm	63	Eu	64	Gd	65	Tb	66	Dy	67	Ho	68	Er	69	Tm	70	Yb	71	Lu				
Actinide Series		89	Ac	90	Th	91	Pa	92	U	93	Np	94	Pu	95	Am	96	Cm	97	Bk	98	Cf	99	Es	100	Fm	101	Md	102	No	103	Lr				

Well, once upon a time, there was a testing application called Mercury...

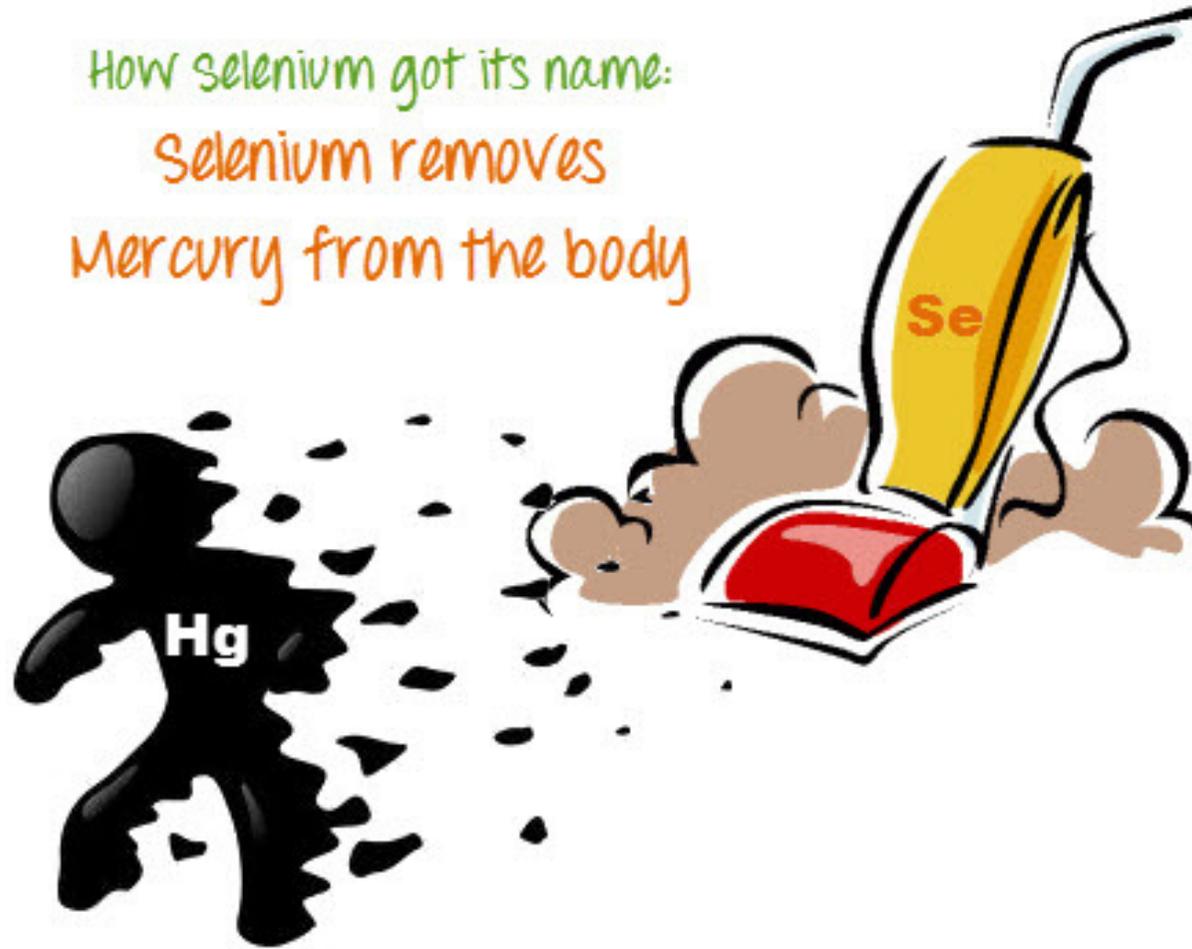


MERCURY INTERACTIVE

But Mercury was complex to use
and very expensive...

But Mercury was complex to use and very expensive...

How selenium got its name:
Selenium removes
Mercury from the body



And then Mercury was bought by HP, and rebranded Quality Center.



And then Mercury was bought by HP, and rebranded Quality Center.



Want to guess how expensive
it is now?

Objectives

- Navigate around in Selenium
- Create some test cases manually
- Create some test cases using the Record option
- Group test cases together in a Test Suite
- Look at Selenese
- Add in JavaScript
- Føniks Computer site
- The Google

There are two versions of Selenium:

There are two versions of Selenium:

- Selenium IDE

There are two versions of Selenium:

- Selenium IDE



There are two versions of Selenium:

- Selenium IDE
- Selenium WebDriver



There are two versions of Selenium:

- Selenium IDE
- Selenium WebDriver



Selenium IDE

- Interactive Development Environment for your tests.

Selenium IDE

- Interactive Development Environment for your tests.
- Record tests and then play them back.

Selenium IDE

- Interactive Development Environment for your tests.
- Record tests and then play them back.
- Easy to select fields from pages.

Selenium IDE

- Interactive Development Environment for your tests.
- Record tests and then play them back.
- Easy to select fields from pages.
- Test step by step.

Selenium IDE

- Interactive Development Environment for your tests.
- Record tests and then play them back.
- Easy to select fields from pages.
- Test step by step.
- Debug mode with breakpoints.

Selenium IDE

- Interactive Development Environment for your tests.
- Record tests and then play them back.
- Easy to select fields from pages.
- Test step by step.
- Debug mode with breakpoints.
- Save tests as HTML files. (And other formats.)

Selenium IDE

- Interactive Development Environment for your tests.
- Record tests and then play them back.
- Easy to select fields from pages.
- Test step by step.
- Debug mode with breakpoints.
- Save tests as HTML files. (And other formats.)
- Accessed as a plug-in for Firefox.

Selenium IDE

- Firefox plug-in is available here:

http://docs.seleniumhq.org/download/#side_plugins

- There are several versions; start here:

version 2.5.0 released on 01/Jan/2014

The Selenium IDE plugin is here:

Downloads - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Downloads

docs.seleniumhq.org/download/

Google

SeleniumHQ
Browser Automation

edit this page search selenium: Go

Projects **Download** Documentation Support About

Selenium Downloads

- Latest Releases
- Previous Releases
- Source Code
- Maven Information

Donate to Selenium

with PayPal

[Donate](#)

through sponsorship

You can [sponsor the Selenium project](#) if you'd like some public recognition of your generous contribution.

Selenium Sponsors

See who [supports the Selenium project](#).

Downloads

Below is where you can find the latest releases of all the Selenium components. You can also find a list of [previous releases](#), [source code](#), and additional information for [Maven users](#) (Maven is a popular Java build tool).

Selenium IDE

Selenium IDE is a Firefox plugin which records and plays back user interactions with the browser. Use this to either create simple scripts or assist in exploratory testing. It can also export Remote Control or WebDriver scripts, though they tend to be somewhat brittle and should be overhauled into some sort of Page Object-y structure for any kind of resiliency.

Download latest released version [2.5.0](#) released on 01/Jan/2014 or view the [Release Notes](#) and then [install some plugins](#).

Selenium Server (formerly the Selenium RC Server)

The Selenium Server is needed in order to run either Selenium RC style scripts or Remote Selenium Webdriver ones. The 2.x server is a drop-in replacement for the old Selenium RC server and is designed to be backwards compatible with your existing infrastructure.

Download version [2.42.2](#)

To use the Selenium Server in a Grid configuration [see the wiki page](#).

The Internet Explorer Driver Server

This is required if you want to make use of the latest and greatest features of the WebDriver InternetExplorerDriver. Please make sure that this is available on your \$PATH (or %PATH% on Windows) in order for the IE Driver to work as expected.

Download version 2.42.0 for (recommended) [32 bit Windows IE](#) or [64 bit Windows IE](#)

[CHANGELOG](#)

21:30
22.07.2014

The Selenium IDE plugin is here:

Downloads - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Downloads

docs.seleniumhq.org/download/

Google

SeleniumHQ
Browser Automation

edit this page search selenium: Go

Projects **Download** Documentation Support About

Selenium Downloads

- Latest Releases
- Previous Releases
- Source Code
- Maven Information

Donate to Selenium

with PayPal

[Donate](#)

through sponsorship

You can [sponsor the Selenium project](#) if you'd like some public recognition of your generous contribution.

Selenium Sponsors

See who [supports the Selenium project](#).

Downloads

Below is where you can find the latest releases of all the Selenium components. You can also find a list of [previous releases](#), [source code](#), and additional information for [Maven users](#) (Maven is a popular Java build tool).

Selenium IDE

Selenium IDE is a Firefox plugin which records and plays back user interactions with the browser. Use this to either create simple scripts or assist in exploratory testing. It can also export Remote Control or WebDriver scripts, though they tend to be somewhat brittle and should be overhauled into some sort of Page Object-y structure for any kind of resiliency.

Download latest released version [2.5.0](#) released on 01/Jan/2014 or view the [Release Notes](#) and then [install some plugins](#).

Selenium Server (formerly the Selenium RC Server)

The Selenium Server is needed in order to run either Selenium RC style scripts or Remote Selenium Webdriver ones. The 2.x server is a drop-in replacement for the old Selenium RC server and is designed to be backwards compatible with your existing infrastructure.

Download version [2.42.2](#)

To use the Selenium Server in a Grid configuration [see the wiki page](#).

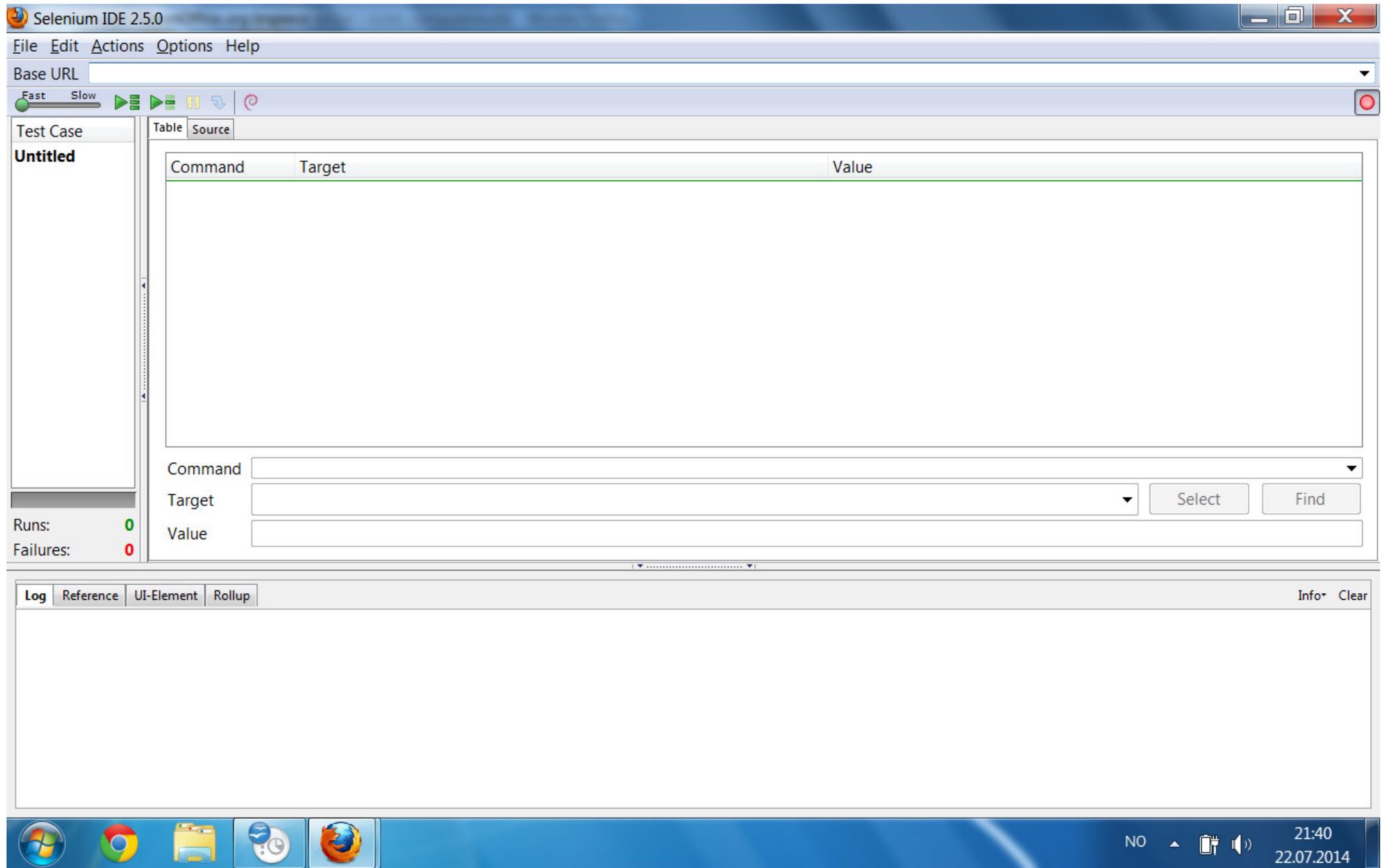
The Internet Explorer Driver Server

This is required if you want to make use of the latest and greatest features of the WebDriver InternetExplorerDriver. Please make sure that this is available on your \$PATH (or %PATH% on Windows) in order for the IE Driver to work as expected.

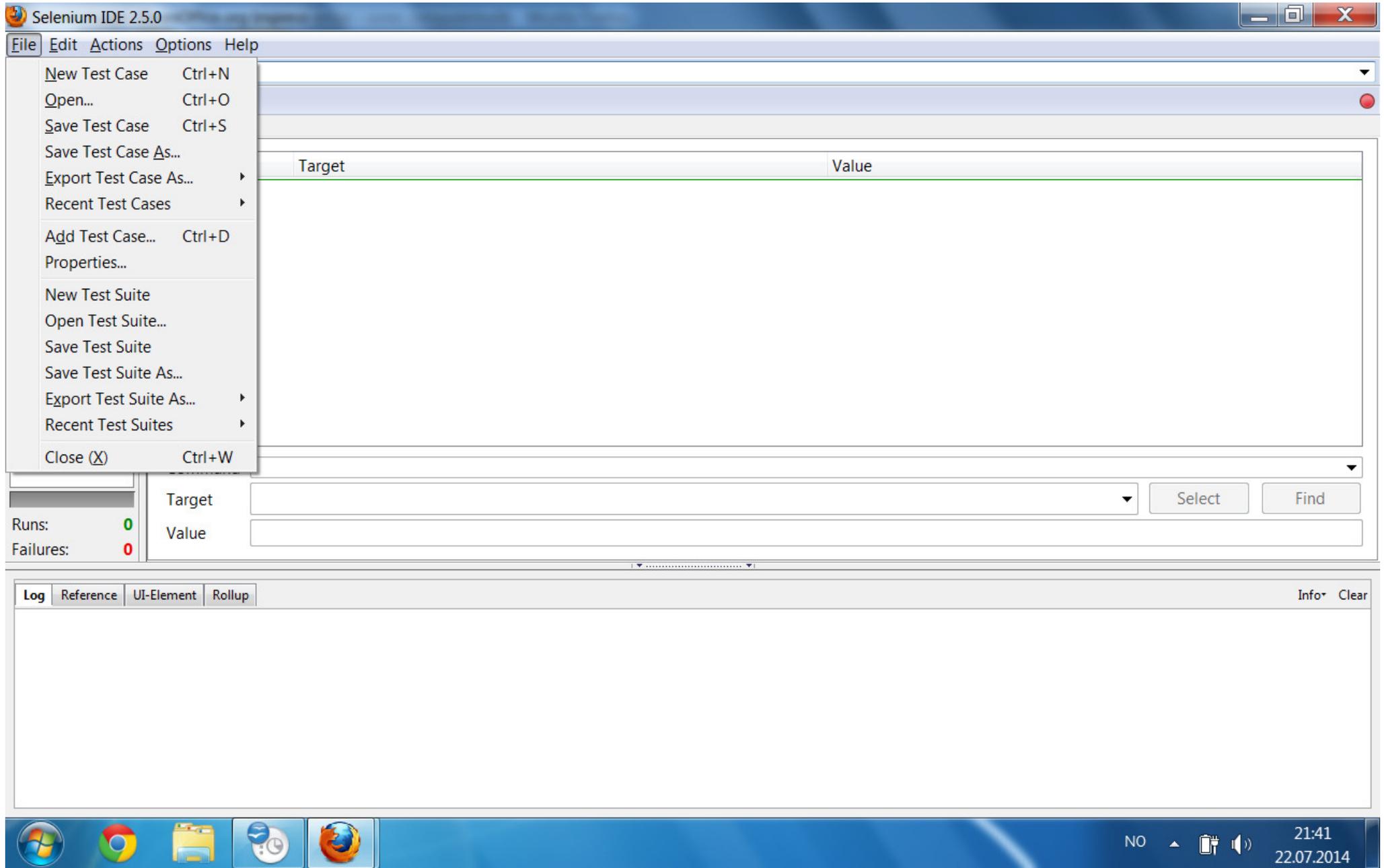
Download version 2.42.0 for (recommended) [32 bit Windows IE](#) or [64 bit Windows IE](#)
[CHANGELOG](#)

Windows taskbar: 21:30 22.07.2014

Click the icon:



File / New Test Case (Or Ctrl N):



Enter a Base URL and File Save:

The screenshot displays the Selenium IDE 2.5.0 interface. The title bar reads "FC001.html - Selenium IDE 2.5.0". The menu bar includes "File", "Edit", "Actions", "Options", and "Help". The "Base URL" field is set to "www.fcomputer.dk". Below the menu bar is a toolbar with a speed slider (Fast to Slow) and several icons. On the left, the "Test Case" pane shows an "Untitled" test case named "FC001". The main workspace is a table with columns "Command", "Target", and "Value". Below the table are input fields for "Command", "Target", and "Value", along with "Select" and "Find" buttons. At the bottom left, the "Runs" status shows 0 and "Failures" shows 0. The bottom panel contains tabs for "Log", "Reference", "UI-Element", and "Rollup", with "Info" and "Clear" buttons on the right. The Windows taskbar at the bottom shows the Start button, icons for Chrome, File Explorer, and Firefox, and the system tray with the date and time "21:43 22.07.2014".

FC001.html - Selenium IDE 2.5.0

File Edit Actions Options Help

Base URL www.fcomputer.dk

Fast Slow

Test Case

Untitled

FC001

Command	Target	Value
---------	--------	-------

Command

Target

Value

Command

Target

Value

Select Find

Runs: 0

Failures: 0

Log Reference UI-Element Rollup

Info Clear

21:43 22.07.2014

Right Click / Insert a new cmd:

The screenshot displays the Selenium IDE 2.5.0 interface. The main window title is "FC001.html - Selenium IDE 2.5.0". The menu bar includes "File", "Edit", "Actions", "Options", and "Help". The "Base URL" is set to "www.fcomputer.dk". The interface is divided into several sections:

- Test Case:** A list on the left showing "FC001".
- Table:** A table with columns "Command", "Target", and "Value". A right-click context menu is open over the table, listing options: "Cut" (Ctrl+X), "Copy" (Ctrl+C), "Paste" (Ctrl+V), "Delete" (Del), "Insert New Command", "Insert New Comment", "Clear All", "Toggle Breakpoint" (B), "Set / Clear Start Point" (S), and "Execute this command" (X).
- Command:** A dropdown menu at the bottom of the table.
- Target:** An input field.
- Value:** An input field.
- Buttons:** "Select" and "Find" buttons.
- Runs:** A green bar indicating 1 run.
- Failures:** A red bar indicating 0 failures.
- Log:** A section at the bottom with tabs for "Log", "Reference", "UI-Element", and "Rollup".

The Windows taskbar at the bottom shows the system tray with the time "15:55" and date "23.07.2014".

selectWindow / Null:

The screenshot shows the Selenium IDE 2.5.0 interface. The title bar reads "FC001.html - Selenium IDE 2.5.0 *". The menu bar includes "File", "Edit", "Actions", "Options", and "Help". The "Base URL" is set to "www.fcomputer.dk". The "Test Case" pane on the left shows "FC001 *". The main workspace is a table with columns "Command", "Target", and "Value". A single row is visible with "selectWindow" in the Command column and "null" in the Value column. Below the table, the "Command" field is set to "selectWindow", the "Target" field is empty, and the "Value" field contains "null". There are "Select" and "Find" buttons to the right of the input fields. On the left side of the workspace, it shows "Runs: 1" and "Failures: 0".

Command	Target	Value
selectWindow		null

Command: selectWindow
Target:
Value: null

Runs: 1
Failures: 0

The screenshot shows the "Reference" pane in Selenium IDE. It displays the documentation for the `selectWindow(windowID)` method. The text explains that it selects a popup window using a window locator, and that once selected, all commands go to that window. It also notes that to select the main window again, `null` should be used as the target. The documentation lists three window locators: `title=My Special Window`, `name=myWindow`, and `var=variableName`.

selectWindow(windowID)

Arguments:

- `windowID` - the JavaScript window ID of the window to select

Selects a popup window using a window locator; once a popup window has been selected, all commands go to that window. To select the main window again, use `null` as the target.

Window locators provide different ways of specifying the window object: by title, by internal JavaScript "name," or by JavaScript variable.

- **title=My Special Window:** Finds the window using the text that appears in the title bar. Be careful; two windows can share the same title. If that happens, this locator will just pick one.
- **name=myWindow:** Finds the window using its internal JavaScript "name" property. This is the second parameter "windowName" passed to the JavaScript method `window.open(url, windowName, windowFeatures, replaceFlag)` (which Selenium intercepts).
- **var=variableName:** Some pop-up windows are unnamed (anonymous), but are associated with a JavaScript variable name in the current application window, e.g. "`window.foo = window.open(url);`". In those cases, you can open the window

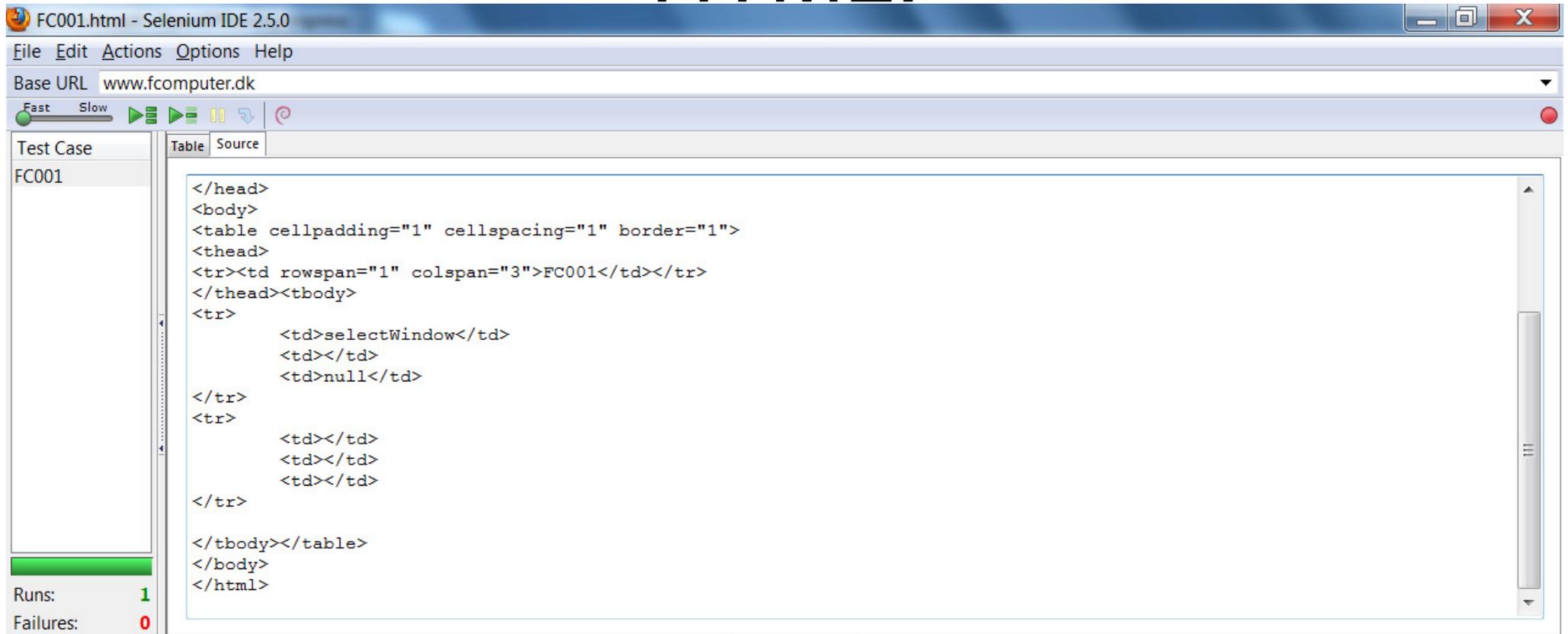
A * indicates the test needs to be saved:

The screenshot shows the Selenium IDE 2.5.0 interface. The title bar reads 'FC001.html - Selenium IDE 2.5.0 *'. The menu bar includes 'File', 'Edit', 'Actions', 'Options', and 'Help'. The 'Base URL' is set to 'www.fcomputer.dk'. The 'Test Case' list on the left shows 'FC001 *'. The main table has two columns: 'Command' and 'Target'. The first row contains 'selectWindow' in the 'Command' column and 'null' in the 'Target' column. Below the table, the 'Command' field is set to 'selectWindow', the 'Target' field is empty, and the 'Value' field is set to 'null'. The 'Runs' counter shows '1' and 'Failures' shows '0'.

Command	Target	Value
selectWindow		null

The screenshot shows the 'Reference' tab for the 'selectWindow(windowID)' command. The text reads: 'selectWindow(windowID) Arguments: • windowID - the JavaScript window ID of the window to select. Selects a popup window using a window locator; once a popup window has been selected, all commands go to that window. To select the main window again, use null as the target. Window locators provide different ways of specifying the window object: by title, by internal JavaScript "name," or by JavaScript variable. • title=My Special Window: Finds the window using the text that appears in the title bar. Be careful; two windows can share the same title. If that happens, this locator will just pick one. • name=myWindow: Finds the window using its internal JavaScript "name" property. This is the second parameter "windowName" passed to the JavaScript method window.open(url, windowName, windowFeatures, replaceFlag) (which Selenium intercepts). • var=variableName: Some pop-up windows are unnamed (anonymous), but are associated with a JavaScript variable name in the current application window, e.g. "window.foo = window.open(url);". In those cases, you can open the window

Click on the Source tab to see the HTML:



FC001.html - Selenium IDE 2.5.0

File Edit Actions Options Help

Base URL www.fcomputer.dk

Fast Slow

Test Case

FC001

Table Source

```
</head>
<body>
<table cellpadding="1" cellspacing="1" border="1">
<thead>
<tr><td rowspan="1" colspan="3">FC001</td></tr>
</thead><tbody>
<tr>
<td>selectWindow</td>
<td></td>
<td>null</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody></table>
</body>
</html>
```

Runs: 1

Failures: 0



Log Reference UI-Element Rollup

selectWindow(windowID)

Arguments:

- windowID - the JavaScript window ID of the window to select

Selects a popup window using a window locator; once a popup window has been selected, all commands go to that window. To select the main window again, use null as the target.

Window locators provide different ways of specifying the window object: by title, by internal JavaScript "name," or by JavaScript variable.

- **title=My Special Window:** Finds the window using the text that appears in the title bar. Be careful; two windows can share the same title. If that happens, this locator will just pick one.
- **name=myWindow:** Finds the window using its internal JavaScript "name" property. This is the second parameter "windowName" passed to the JavaScript method window.open(url, windowName, windowFeatures, replaceFlag) (which Selenium intercepts).
- **var=variableName:** Some pop-up windows are unnamed (anonymous), but are associated with a JavaScript variable name in the current application window, e.g. "window.foo = window.open(url);". In those cases, you can open the window

Click on Table tab and press the Run button:

The screenshot displays the Selenium IDE 2.5.0 interface. The title bar reads "FC001.html - Selenium IDE 2.5.0". The menu bar includes "File", "Edit", "Actions", "Options", and "Help". The "Base URL" is set to "www.fcomputer.dk". The interface features a "Test Case" sidebar on the left with "FC001" selected. The main workspace is divided into "Table" and "Source" tabs, with "Table" active. A table contains the following data:

Command	Target	Value
selectWindow		null

Below the table, the "Command" field is set to "selectWindow", the "Target" field is empty, and the "Value" field is set to "null". "Select" and "Find" buttons are visible to the right of the input fields. The bottom status bar shows "Runs: 1" and "Failures: 0". The bottom-most section is a "Log" window with tabs for "Log", "Reference", "UI-Element", and "Rollup", displaying the message "[info] Executing: |selectWindow | | null |". The Windows taskbar at the bottom shows the time as 16:37 on 23.07.2014.

And the test results will increment:

The screenshot displays the Selenium IDE 2.5.0 interface. The main window shows a test case named 'FC001' with a table of test steps. The table has three columns: 'Command', 'Target', and 'Value'. The first row shows the command 'selectWindow' with a 'Value' of 'null'. Below the table, the command 'selectWindow' is entered in the 'Command' field, and 'null' is entered in the 'Value' field. The 'Runs' counter shows 1, and the 'Failures' counter shows 0. The log at the bottom shows the message '[info] Executing: |selectWindow | | null |'.

FC001.html - Selenium IDE 2.5.0

File Edit Actions Options Help

Base URL www.fcomputer.dk

Fast Slow

Test Case

FC001

Command	Target	Value
selectWindow		null

Command selectWindow

Target

Value null

Runs: 1

Failures: 0

Log Reference UI-Element Rollup

[info] Executing: |selectWindow | | null |

NO 16:37 23.07.2014

Plus the Log will be populated:

The screenshot displays the Selenium IDE 2.5.0 interface. The top window title is "FC001.html - Selenium IDE 2.5.0". The menu bar includes "File", "Edit", "Actions", "Options", and "Help". The "Base URL" is set to "www.fcomputer.dk". The interface features a "Test Case" panel on the left with "FC001" selected. The main area shows a table with columns "Command", "Target", and "Value". Below the table, the "Command" field is set to "selectWindow", and the "Value" field is set to "null". The "Runs" counter shows "1" and "Failures" shows "0". The bottom panel, titled "Log", contains the entry "[info] Executing: |selectWindow | | null |". The Windows taskbar at the bottom shows the time as 16:37 on 23.07.2014.

Command	Target	Value
selectWindow		null

Command: selectWindow
Target:
Value: null

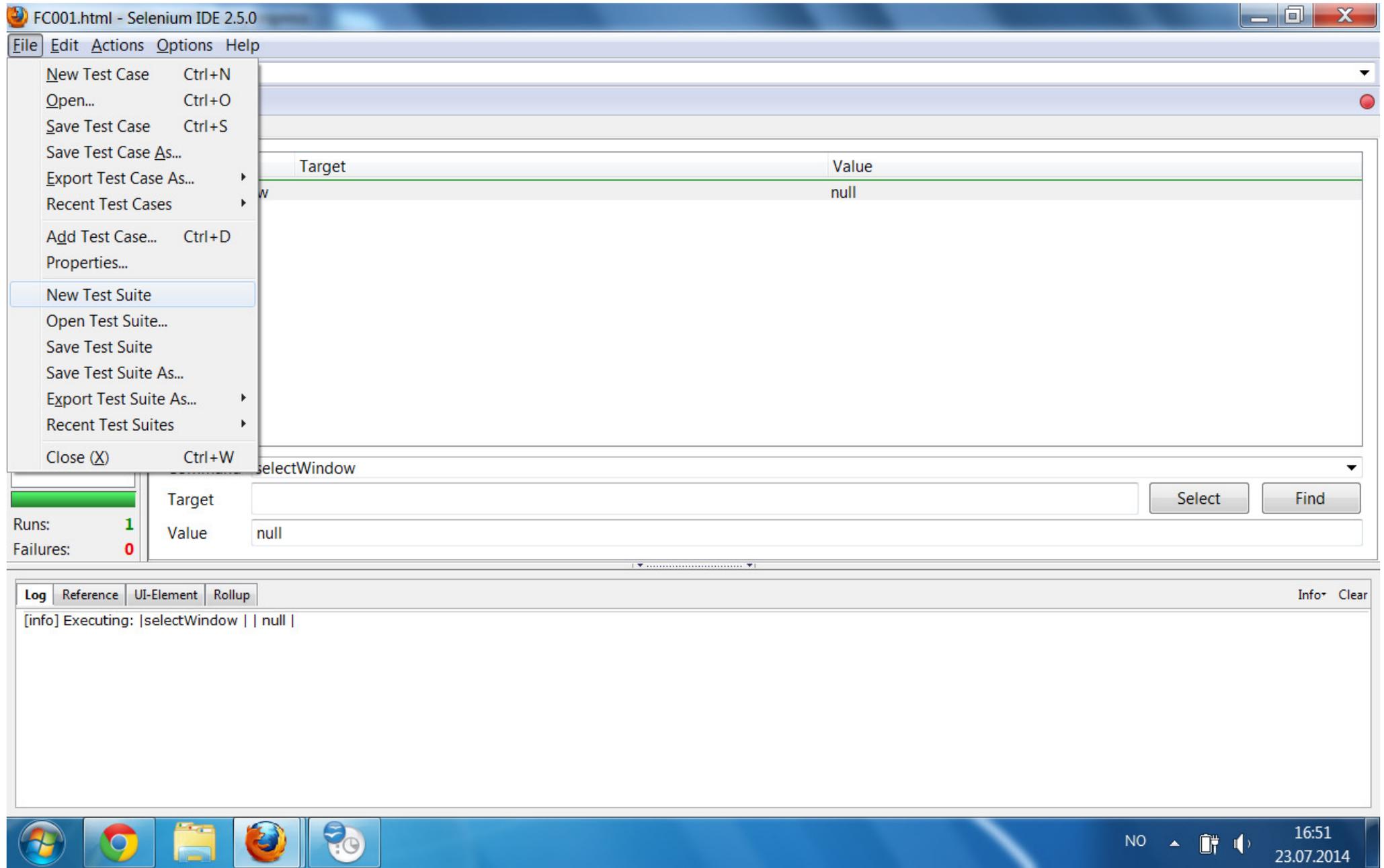
Runs: 1
Failures: 0

Log: [info] Executing: |selectWindow | | null |

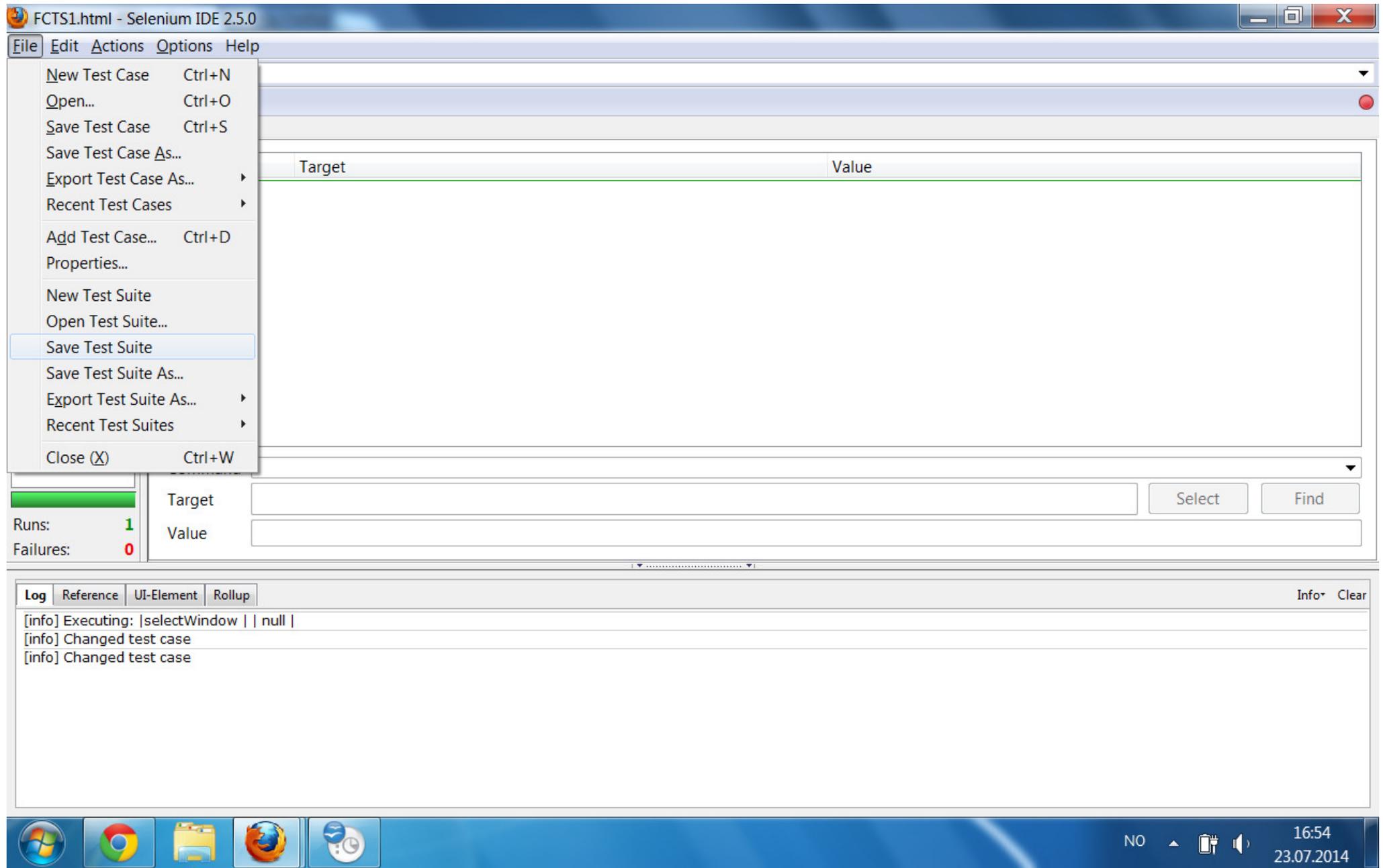
Easy, hæ?

Now, let's make a suite of tests.

File / New Test Suite:



File / Save Test Suite:



And, WaLa:

The screenshot displays the Selenium IDE 2.5.0 interface. The title bar reads "FCTS1.html - Selenium IDE 2.5.0". The menu bar includes "File", "Edit", "Actions", "Options", and "Help". The "Base URL" is set to "www.fcomputer.dk". The interface features a "Test Case" sidebar on the left with "FCTS1" selected. Below the sidebar, it shows "Runs: 1" and "Failures: 0". The main workspace contains a table with three columns: "Command", "Target", and "Value". Below the table are input fields for "Command", "Target", and "Value", along with "Select" and "Find" buttons. At the bottom, there is a "Log" panel with tabs for "Log", "Reference", "UI-Element", and "Rollup", and "Info" and "Clear" buttons. The Windows taskbar at the bottom shows the Start button, icons for Chrome, File Explorer, Firefox, and a clock, with the system tray displaying "NO", network, volume, and date/time "16:56 23.07.2014".

File Edit Actions Options Help

Base URL www.fcomputer.dk

Fast Slow

Test Case

FCTS1

Command	Target	Value
---------	--------	-------

Command

Target

Value

Command

Target

Value

Select Find

Runs: 1

Failures: 0

Log Reference UI-Element Rollup

Info Clear

NO 16:56 23.07.2014

Now, I want to test each tab:

The screenshot shows a Mozilla Firefox browser window displaying the Føniks Computer website. The browser's address bar shows the URL <https://www.fcomputer.dk>. The website header features the Føniks logo and navigation links for 'JOB | NYHEDSBREV | KUNDECENTER | KONTAKT OS | MIN KONTO'. Below the header is a category menu with tabs for 'PC/BÆRBAR', 'HARDWARE', 'GAMING', 'SOFTWARE', 'NETVÆRK', 'SCAN/PRINT', 'TV/HI-FI', 'FOTO/VIDEO', 'TELEFONI/GPS', 'KONTOR', and 'DEMOSHOP'. A search bar is located on the right side of the menu.

The main content area is dominated by a large banner with a yellow flower and the text 'Se sommerens åbningstider her!'. To the right of the banner are several promotional boxes: 'Har du styr på dine data?' featuring Buffalo and ASUS products, 'Produktguides' for RAM, cables, and toners, 'Din kurv' with logos for DKK, VISA, and MasterCard, and 'Lagerforklaring' explaining store and remote inventory policies.

At the bottom, there are sections for 'Mest populære' and 'Nye produkter', each with sub-sections for 'Bærbart' (laptops and tablets) and 'Office software' (Office 365). A 'Chat med en medarbejder' button is visible in the bottom right corner. The Windows taskbar at the bottom shows the system clock at 17:00 on 23.07.2014.

Turn on the Record function:

The screenshot displays the Selenium IDE 2.5.0 interface. The title bar reads "FCTS1.html - Selenium IDE 2.5.0". The menu bar includes "File", "Edit", "Actions", "Options", and "Help". The Base URL is set to "https://www.fcomputer.dk/". The interface features a "Fast" vs "Slow" speed slider and a toolbar with various icons. On the left, a "Test Case" pane shows "FCTS1". The main workspace is a table with columns "Command", "Target", and "Value". Below the table are input fields for "Command", "Target", and "Value", along with "Select" and "Find" buttons. The bottom status bar shows "Runs: 1" and "Failures: 0". The bottom-most section is a "Log" pane with tabs for "Log", "Reference", "UI-Element", and "Rollup". The "Log" pane contains the following text:

```
clickAndWait(locator)
Generated from click(locator)
Arguments:
  • locator - an element locator
Clicks on a link, button, checkbox or radio button. If the click action causes a new page to load (like a link usually does), call waitForPageToLoad.
```

The Windows taskbar at the bottom shows the Start button, icons for Chrome, File Explorer, Firefox, and a clock, along with system tray icons for network, volume, and power, and the system clock showing 17:34 on 23.07.2014.

Click every tab:

Fønix Computer - Køb PC, computer, bærbar i vores computerbutik - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Fønix Computer - Køb PC, com... +

fcomputer.dk https://www.fcomputer.dk

Google

FØNIKS®

JOB | NYHEDSBREV | KUNDECENTER | KONTAKT OS | MIN KONTO

PC/BÆRBAR HARDWARE GAMING SOFTWARE NETVÆRK SCAN/PRINT TV/HI-FI FOTO/VIDEO TELEFONI/GPS KONTOR DEMOSHOP

Hjemmeside Søg efter...

Har du styr på dine data?
Klik her og se vores smarte løsninger!



Se sommerens åbningstider her!



Produktguides

RAM/hukommelsesguide
Kabelguide
Reserveudvalgsguide
Blæk- og tonerguide



Din kurv

DKK VISA VISA Checkout MasterCard Pris inkl. moms



København Aarhus



Telefon: 70 60 60 64
E-mail: kontakt@fcomputer.dk

Lagerforklaring

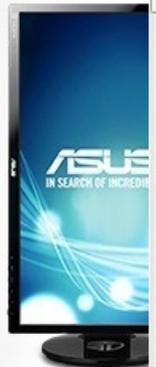
- Butikslager (Varen ligger på eget lager)
- Fjernlager (Varen skal bestilles 1-3 hverdage før evt. afhentning)
- Ekstra leverings t...

Mest populære

Bærbar Bærbar Office software ... Bærbar Bærbar



ASUS skærm et hvert for Se det store udvalg og skarpe priser!



statistik og annoncer. Læs mere.

Chat med en medarbejder

17:00
23.07.2014

Turn off the Record function:

The screenshot displays the Selenium IDE 2.5.0 interface. The main window shows a test case named 'FCTS1 *' with a table of commands. The table has three columns: Command, Target, and Value. The commands listed are 'open' and ten 'clickAndWait' actions targeting various links on the website 'https://www.fcomputer.dk/'. Below the table, there are input fields for Command, Target, and Value, along with 'Select' and 'Find' buttons. The bottom panel shows a log window with the following content:

```
Log Reference UI-Element Rollup
clickAndWait(locator)
Generated from click(locator)
Arguments:
  • locator - an element locator
Clicks on a link, button, checkbox or radio button. If the click action causes a new page to load (like a link usually does), call waitForPageToLoad.
```

The Windows taskbar at the bottom shows the time as 17:38 on 23.07.2014.

For each click, verify the title:

The screenshot shows the Selenium IDE 2.5.0 interface. The window title is 'TabTest01.html - Selenium IDE 2.5.0'. The menu bar includes 'File', 'Edit', 'Actions', 'Options', and 'Help'. The 'Base URL' is set to 'https://www.fcomputer.dk/'. The interface includes a speed control slider (Fast to Slow) and several control buttons (play, pause, stop, refresh, and a red stop button).

The 'Test Case' pane on the left shows 'TabTest01'. The main area displays a table with the following data:

Command	Target	Value
open	/	
clickAndWait	link=PC/BÆRBAR	
verifyTitle	Bærbar PC - Køb en bærbar PC, MacBook, notebook m.m. online	

Below the table, there are input fields for 'Command', 'Target', and 'Value', along with 'Select' and 'Find' buttons. The 'Runs' counter shows '1' and 'Failures' shows '0'. The bottom pane is currently empty, with tabs for 'Log', 'Reference', 'UI-Element', and 'Rollup', and 'Info' and 'Clear' buttons.

The Windows taskbar at the bottom shows the Start button, icons for Chrome, File Explorer, Firefox, and a clock, with the system tray displaying 'NO', a volume icon, and the date and time '19:36 23.07.2014'.

...and save the test as a new name:

The screenshot shows the Selenium IDE 2.5.0 interface. The title bar reads 'TabTest01.html - Selenium IDE 2.5.0'. The menu bar includes 'File', 'Edit', 'Actions', 'Options', and 'Help'. The 'Base URL' is set to 'https://www.fcomputer.dk/'. The interface features a 'Test Case' sidebar on the left with 'TabTest01' selected. The main area displays a table of test steps:

Command	Target	Value
open	/	
clickAndWait	link=PC/BÆRBAR	
verifyTitle	Bærbar PC - Køb en bærbar PC, MacBook, notebook m.m. online	

Below the table are input fields for 'Command', 'Target', and 'Value', along with 'Select' and 'Find' buttons. The bottom status bar shows 'Runs: 1' and 'Failures: 0'. The Windows taskbar at the bottom indicates the time is 19:36 on 23.07.2014.

Repeat this for all 11 tabs:

The screenshot displays the Selenium IDE 2.5.0 interface. The title bar reads "TabTest02.html - Selenium IDE 2.5.0". The menu bar includes "File", "Edit", "Actions", "Options", and "Help". The "Base URL" is set to "https://www.fcomputer.dk/". The interface features a "Fast" to "Slow" speed slider and several control buttons (play, pause, stop, refresh, home). On the left, a "Test Case" sidebar lists "TabTest01" and "TabTest02", with "TabTest02" selected. The main area shows a table with the following content:

Command	Target	Value
open	/	
clickAndWait	link=PC/HARDWARE	
verifyTitle	Hardware - Vi forhandler hardware til billige priser	

Below the table, there are input fields for "Command", "Target", and "Value", along with "Select" and "Find" buttons. At the bottom left, a status bar shows "Runs: 1" and "Failures: 0". The bottom of the image shows the Windows taskbar with icons for Internet Explorer, Google Chrome, File Explorer, and Selenium IDE, along with the system tray showing the time "19:57" and date "23.07.2014".

Edit the Test Suite file:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
<head profile="http://selenium-ide.openqa.org/profiles/test-case">
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<link rel="selenium.base" href="https://www.fcomputer.dk/" />
<title>FCTS1</title>
</head>
<body>
<table cellpadding="1" cellspacing="1" border="1">
<thead>
<tr><td rowspan="1" colspan="3">FCTS1</td></tr>
</thead><tbody>

<tr><td><a href="TabTest01.html">TabTest01</a></td></tr>
<tr><td><a href="TabTest02.html">TabTest02</a></td></tr>
<tr><td><a href="TabTest03.html">TabTest03</a></td></tr>
<tr><td><a href="TabTest04.html">TabTest04</a></td></tr>
<tr><td><a href="TabTest05.html">TabTest05</a></td></tr>
<tr><td><a href="TabTest06.html">TabTest06</a></td></tr>
<tr><td><a href="TabTest07.html">TabTest07</a></td></tr>
<tr><td><a href="TabTest08.html">TabTest08</a></td></tr>
<tr><td><a href="TabTest09.html">TabTest09</a></td></tr>
<tr><td><a href="TabTest10.html">TabTest10</a></td></tr>
<tr><td><a href="TabTest11.html">TabTest11</a></td></tr>

</tbody></table>
</body>
</html>
```

Insert search word into Google:

The screenshot displays the Selenium IDE 2.5.0 interface. The title bar reads "Google1.html - Selenium IDE 2.5.0". The menu bar includes "File", "Edit", "Actions", "Options", and "Help". The "Base URL" is set to "https://www.google.com/". The "Test Case" pane on the left shows "Google1" and "Google2". The main table contains the following test steps:

Command	Target	Value
open	/	
type	id=gbqfq	Denmark
sendKeys	id=gbqfq	\$(KEY_ENTER)

Below the table, there are input fields for "Command", "Target", and "Value", along with "Select" and "Find" buttons. The "Runs:" counter shows "1" and "Failures:" shows "0". The bottom status bar includes "Log", "Reference", "UI-Element", "Rollup", "Info", and "Clear".



Google returns:

Denmark - Google-søgning - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Denmark - Google-søgning

google.dk https://www.google.dk/?gws_rd=cr&ei=VAHRU-mtAaiCzAO8oYGgCw#q=Denmark

Google Denmark Log ind

Internet Maps Billeder Videoer Bøger Mere Søgeværktøjer

Ca. 190.000.000 resultater (0,38 sekunder)

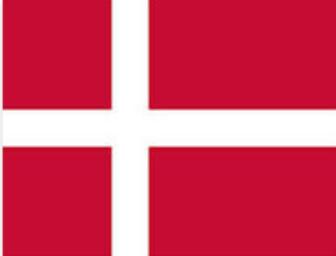
Cookies hjælper os med at levere vores tjenester. Ved at bruge vores tjenester accepterer du vores brug af cookies. [Få flere oplysninger](#)

Denmark.dk - The official website of Denmark
denmark.dk/ Oversæt denne side
Explore the universe of Denmark.dk. The fast track to facts, articles and news about the Danish society.

Denmark - Wikipedia, the free encyclopedia
en.wikipedia.org/wiki/Denmark Oversæt denne side
Location of Denmark (dark green). – in Europe (green & dark grey) – in the European Union (green) – [Legend]. Kingdom of Denmark: Greenland, the Faroe ...
Margrethe II of Denmark - Region - Helle Thorning-Schmidt - Danish language

VisitDenmark: Ferie i Danmark | Den officielle guide til ferie i ...
www.visitdenmark.dk/
VisitDenmark · Disclaimer · Kontakt · Cookies på VisitDenmark. VisitDenmark - The official tourism site of Denmark © 2012. Galleri - images. Close. Tilbage.

Billeder af Danmark Rapportér billeder



Danmark

Danmark er et land i Skandinavien beliggende i det nordlige Europa. Danmark kaldes sammen med Grønland og Færøerne officielt Kongeriget Danmark. [Wikipedia](#)

Hovedstad: København
Landekode: +45
Valuta: Danske kroner
Befolkningstal: 5,59 millioner (2012) Verdensbanken
Dronning: Margrethe 2.

Destinationer Se 45+ mere

Insert search word into Google:

The screenshot shows the Selenium IDE 2.5.0 interface. The main window displays a test case named "Google2" with the following steps:

Command	Target	Value
store	javascript["Boeing " + Math.floor(Math.random() * 1000);]	query
open	/	
type	id=gbqfq	\${query}
sendKeys	id=gbqfq	\${KEY_ENTER}
verifyValue	id=gbqfq	\${query}

Below the table, there are input fields for Command, Target, and Value, along with "Select" and "Find" buttons. The "Log" panel at the bottom shows the message "[info] Changed test case".

Google returns:

Boeing 136 - Google-søgning - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Boeing 136 - Google-søgning

google.dk https://www.google.dk/?gws_rd=cr&ei=7gLRU8enEiaCzAPc_oCQCw#q=Boeing+136

Google Boeing 136 Log ind

Internet Billeder Maps Videoer Mere Søgeværktøjer

Ca. 3.850.000 resultater (0,24 sekunder)

Cookies hjælper os med at levere vores tjenester. Ved at bruge vores tjenester accepterer du vores brug af cookies.
Få flere oplysninger OK

Billeder af Boeing 136 Rapportér billeder



Flere billeder af **Boeing 136**

Photos: Boeing 747-136 Aircraft Pictures | Airliners.net
www.airliners.net/photo/British.../Boeing-747-136/.../... Oversæt denne side
Picture of the Boeing 747-136 aircraft. ... Great shot, lovely picture.is it not a 747-236 and not a 136...the 1 series only had 3 windows on top... A visitor from ...

Boeing #136 FlightAware
flightaware.com/live/flight/BOE136 Oversæt denne side
Boeing #136 Flight Tracker (BOE136) Flight Tracker (en route flights, arrivals, departures, history) with live maps and aircraft photos

Windows taskbar: NO 14:58 24.07.2014

Tips for Selenium:

- Be organized! Establish a naming convention for your test cases.
- Be patient! Sometimes Selenium is a bit slow to respond.
- Use it! Don't mix Selenium tests with manual tests. You will benefit in the long run.

For further reference:

- ISTQB
- Agile Testing

http://www.amazon.com/Agile-Testing-Practical-Guide-Testers/dp/0321534468/ref=sr_1_7?s=books&ie=UTF8&qid=1406207011&sr=1-7&keywords=software+testing