

```
[Guinness:/tmp] dupont% cat sigchase
;; RRset to chase:
test.dnssec-tools.org. 86400 IN TXT "DNSSEC-TOOLS test zone for test
.dnssec-tools.org"
```

```
;; RRSIG of the RRset to chase:
test.dnssec-tools.org. 86400 IN RRSIG TXT 5 3 86400 20090426155658 200
90327155658 19442 test.dnssec-tools.org. xQT1wU0hLybQ/NhcPDoR+XdBqpFu813RahwkdT8
BRfrnRDjEWMKF5Q+r AR9BfyRjqp9xVEoXI3Y71Yxklz4oELdVpp7R+qf0SOM0bf5bupV++rrC MyNFu
vVABgCg1DiwaIWTfmVsAZYCJSzm2k+sHoXIcU2jUDHu9i4wtXha da4=
```

Launch a query to find a RRset of type DNSKEY for zone: test.dnssec-tools.org.

```
;; DNSKEYset that signs the RRset to chase:
test.dnssec-tools.org. 86400 IN DNSKEY 257 3 5 AQPULH650tuo6toxYX2zHCwd
ojmAKFa9gobYWrNEojKQAWJuvGMd4okT nLOJTL0hBWK4Uhf40ePpDR8QJayeI/eZg29UZLMBleZ96a
0mSo/JU4S q3G06X9d5Z01EVCvTkJUHHEvVmzZhBs0+43NcWYrSUoXX1JbXs9QKu01 BLPHuS5G/UfEs
yVonfl39dGrEput1gDWxIvov2UENM2eX0LE5ZiYGiX2 uDdN4SVIa0Rd+F2pSCiddE1bYxIi2ILW6bpe
im+mdC1BDJkEB70+ekeB R3as5D339z+9KeMyZgPs82SAQswbGdZvkWL8mgSdbf6DiuTkknIUzbS/ 6f
xlQ0/G0dq0NlTr28sW4Byj9gkpb2Clbqog72yJJ3s5CV4LGZ1jtpno FcsKwMlLn0j0X+L2iY7Spe5M9
D59Jqxl9cAWjAtsSXG5TvCUNBT2Eh6J w70imThJe4pUmFxGqhp1Pqs2dlNdGfcuVNf9lwa36Re7pUt+
FLT0A9FI Wk4utfUgZ03eWnKrw1Fw8QF9wKm252iscULNzKwYvfK8NGSBOfyYRvAw 7ZnAoxMKFIOlQ3
W8IsFjti5dLhLYWpFEGZ0T+eDc/lPhyaEsmsjHqNee yj4TmomV8n91s3H8IbrKu0cdIH1/k5iu+sLi9
EIApr0nxrX0+tHDIeZU oimBRFtETCcmsQ==
test.dnssec-tools.org. 86400 IN DNSKEY 257 3 5 AQPbjy5TVjqKVVYjCYOHUH
orMbjoLxpVSF7/QAJTi+Y6hcMoQrWjrl aLSLNNa0wFDMxXnnLD/KYj9GtX5Vq/dP/glw73l0U5CXrwX
ujvyXp7Wh vu8F2jLJEUoU1bZD12ZfGTmnflyblAJz3lPNy5ZHiisicD+7+uW0rSSX LLEwHd007jcEM
grH6B/jjk3bCHnXnQMclTEx2k/dKqcs+0hrhc98oK8r DQz+Rq+uT0oscWHuKy8a0RYDXCqbUxS5VwIJ
xgLTC7DQ3c3qS0IkvWdA KJJTnPabPWeELK15CI03+uAC+oUyJ51EC2qpJlpJc6knEeCYNYZP/HBp aF
S8Vz2j
test.dnssec-tools.org. 86400 IN DNSKEY 256 3 5 AQPX0nkFeyoD9Ypwt4rZgLoe
06hwJtFx+k/LNqv6CMSZAsPm5mbEo3ke dYZ9RlgTr1b7qH3bso5qdYGJkz3u6j05GcoIJmwXlHQY+Nt
PtsukN/4R h+jcyX8N2WdYhYGLQZ6W25ljszZ5F3mhgnXrMz+o9S2t+l8ppM9LipPX uMhMFQ==
test.dnssec-tools.org. 86400 IN DNSKEY 256 3 5 AQPgjVLwLeMvBCZSYvwabhRs
J0rQ5lYlkc8M90rNoR1BLDep23A1uXbY q/fV9jwjFvIcI//Y/3Hmkm87+DBvojKV5XngSi8B95wJW+w
+IEuTaTgP gFg3XiuX5LaU7G2Q6IQF2Fwpcw+gf613srYCQak1EflwDaaC0mX64gFq q3tisQ==
```

```
;; RRSIG of the DNSKEYset that signs the RRset to chase:
test.dnssec-tools.org. 86400 IN RRSIG DNSKEY 5 3 86400 20090426155658
20090327155658 19442 test.dnssec-tools.org. lc0BlBr8z0V3QNqSv7wDYARaCJV2mWnX7+SW
2XUaDXZTMXXos0K/mdzg KP2C0iHCpE7wlIuxoaJ3hC0xdvG6I8vFTawInIXcJwI6cmt14hi84X8I mp
HmDzwaHALwjM3CDe9tAmad3cJbPAC2SEzm3V+kHADwyglDXL4NTu/F 0fg=
test.dnssec-tools.org. 86400 IN RRSIG DNSKEY 5 3 86400 20090426155658
20090327155658 28827 test.dnssec-tools.org. haVgd0yLFERtKcI5AGIdIyv4fKYrHufyiy2s
yuIA4Ayy8/T6Jodjqs57 F9KdCpS/x0dTnCD9k4TyrnazFoBPG+xaWGaoSXg7zRQYQIJ3ZlAQu0KU B9
zzpxaJOB8Psc8UK0VEXbQfsyrKYBBASL6oV0avq+/42JyimIilOuvW HUv3Ybp2oFGRJRJ1bs+K5+SLr
xzrrJx1Yroq96Ktp0a07bCXZo85gY6z GpmU5wKfyjF3VyEJUewSc1pho7GYwfvAVSM/zQVD0AcybAzj
/3UspVb/ NiblRmIYmeslZTpXzcFnsUDRFPT5JjLE6cKNpGs+g1gUfbnoDmWiIBjK 1V2JIGXx9Ra0D1
1WZzQvJAiu0whtnZ0swfLKbv04JeTYL55d2D/KPbtu niMcUU+p2dcaSzQDGBZ4Aih81VS3X/kjniEnA
Vc/yYAPARMppGVT7qXD ggzbODRpSF5S7JnMjqFmh8kytZ2C9qha3NjjcDQnsuE9tErSv6QCLS18 anB
LxGMIM12u0K3mFjg4ajKJTBd0Bs97xSdBHvIaYqeP6HbuuBPBXvqn iiEhRhfr/Ri9EMSp+V9Ku1Q/UH
```

```
KAHAorNwkh4ItGTCWdnEkNwSaD3DR0 fE8WkzSFdZetguBhk9udYTbfz6Y16ybdJY6XegWPVSCwdmwt/
UrXCdV7 +5R8/3V5e9A=
test.dnssec-tools.org. 86400 IN RRSIG DNSKEY 5 3 86400 20090426155658
20090327155658 55926 test.dnssec-tools.org. oaE/vqH97zwZtwkY2FRPgSt2lZkRrz4hyUyb
TW46XXzhin38rj4y5bA7 fWIoCUwVMRIEMv4Had2KISEBHB0ghe012pKqqaA8GYXsM0PlvMf4Iz8 CB
3N7xmWEjd1DQMRd0W4T5N06wFMQcr/k4PkZf16xwkp20BJfT5FBQ8z xULKgZSePh1G1x6VnemIkTXKH
26rVgUa07hW6kIgYzN+u/A00HCHSms3 5FDBiI+rNg9Ng9hJ3ylapMxkjyeYJm+h2ylxLS0DaFDBBdSa
IeDsQna7 8Z5e9dj6BiVpqKQdRYL85o7wULkLmj2Jx/dKqa55nvU4ssu019/QSZf CchbYw==
```

Launch a query to find a RRset of type DS for zone: test.dnssec-tools.org.

```
;; DSset of the DNSKEYset
test.dnssec-tools.org. 86400 IN DS 28827 5 2 7D06A161755F7C7CA0D15B
8039C7D7B45FB8E5DD025FCEBE209CB077 56BBAE07
test.dnssec-tools.org. 86400 IN DS 28827 5 1 23A4C97124AB46E7FB7ABB
58E36887FF78745AC8
```

```
;; RRSIG of the DSset of the DNSKEYset
test.dnssec-tools.org. 86400 IN RRSIG DS 5 3 86400 20090513172018 2009
0413172018 49713 dnssec-tools.org. ZTbJbRlvm5y3GGD575bfwR6gnjYCW+XAqn2agf7GVxy0l
OBftzJmvVEc AV8maBoBPXmXULbuLOQZnFndkyPdYx09ysJpn1iJ75jFhvB/f1iLnaUg kgXwqYsFzwb
md0WIpShYyqErrorLbZdTzTByWdYYoOdE0kSsPoYfyD3xN d+0=
```

```
;; WE HAVE MATERIAL, WE NOW DO VALIDATION
;; VERIFYING TXT RRset for test.dnssec-tools.org. with DNSKEY:19442: success
;; OK We found DNSKEY (or more) to validate the RRset
;; Now, we are going to validate this DNSKEY by the DS
;; OK a DS validates a DNSKEY in the RRset
;; Now verify that this DNSKEY validates the DNSKEY RRset
;; VERIFYING DNSKEY RRset for test.dnssec-tools.org. with DNSKEY:28827: success
;; OK this DNSKEY (validated by the DS) validates the RRset of the DNSKEYs, thus
the DNSKEY validates the RRset
;; Now, we want to validate the DS : recursive call
```

Launch a query to find a RRset of type DNSKEY for zone: dnssec-tools.org.

```
;; DNSKEYset that signs the RRset to chase:
dnssec-tools.org. 86400 IN DNSKEY 256 3 5 AwEAAbyCnAFjB+Ltka0wNyY7
qyZikte1XvAsetXSoJ0vn55AgbMFeVow F9eQKvAJdpSg2XYtltocgzch0/2Q01KB0Ik+jDz1HwTfn1Y
LCk7tB+rg swH2f3FdT3ymLVpINnWJ5A7f33JtUVFKVA9XEjvdu0kGPAPLEBK9qrTX kb00vgZJ
dnssec-tools.org. 86400 IN DNSKEY 256 3 5 AwEAAcoGFtZienUK3Rrsg00f
uFrPJieS1oPnuaoCf3136KbQQHZH0YZW V7gujJMpJpCXZBL4/kzpEizyuBYRAqkP24qymAbZpqDAh6A
wnfzfKJXg emmR5s5/K769LVpDnH4Ha1yb6+f2M4oJ/30yTuU6A/SeQgEr/XvoY6gW E1JlW4iD
dnssec-tools.org. 86400 IN DNSKEY 257 3 5 AwEAAcUa48KRuPrTSYBF1HkL
bM+KLQYc3Mwt/LFKLkahrZhs4JGogD3h p9n6hlxG+1vTTRWJlCSobsPAwF1ApWouCGPNcRcJnAIqgQz
XNfA6K/h8 nabRR6T61fm2ghI0pX1nL3CXoCWKr7eJaJ/E7fqD0LhoQZT6iGtbNbyY 7QP0PswrmUM4p
nXwD7cPc3w9EtwGVyU1NEMipV/JABdqTPWdP6GWvdGy Y5Bp2Cvp9PSbwVntm2AqV+bX0BQ6XB+H5fhg
2SMWd9SstviJELS0i5vI V3zaLaj3LLB+BG23hHzpYXHulK+5M7T3cudw7BhD50w3mF4+hrM07jQc Bu
```

kaWNK0oXsymkVMRdwqvgW0ikXwpOKQtR9bgB09NubE8Xqopn7Fve9A 1nOKR8x14VFCERRGZPQuyEEy
wQJcGfdC3THnIPaYevx1j5jU1EQxKVO 7Q0ou6Hg/0/LNhedqIysPnRqx3BuhfMEp2aRjZArXioRJRqf
ZckzKfJR nq0Dr8r8EtC1J6sdLUW0iayJbmIm4y/m7IXPTh1Q2od8uGFKNKN1dpiz i5fes6Camg7QP2
Bx98ScsMHQC4jntTLJYgs6g5AcL0MkXJdHk7fNQAeg FU0oIL3CBrXSQRixxGTTdeIca0pURTfWiP9co
LLY0ItCdxgWLRbR6TGD t5+NBILQtCp0r0vf
dnssec-tools.org. 86400 IN DNSKEY 257 3 5 AwEAAc8/BYFAN1g+P9SxzDbn
4V+xbt6Dc/h6lq3yg40D1S1l0YCMbMWY h+7a5Z6hzzW3Wnm5+xqgpvAMzS2KYklq74xVnN8lw7qulzL
5YTdU5yp9 5m4AC+1NbWpOZZXEEvmcyvXPjVBXj+mwY0q4NyWZrxYb3YmRFiB3t40c L1l90xbxnSwrE
nP+y0Nr6JYUzg7m6ANh4IHu7VdvYDs54gngE8ekSn5B P2zUDb5U+6uKOWL9ZrPvCS1MrBkQ15Zfqnpj
twIfEwHj0ecUvnzF0qev Nya0VsqyiFfRZpR4FLSY5Es7WzrY7x3pDAovNvQ4rpWIZme930WTVJ2u tv
8l8DBdph0by+XN1/xAPhBaSqkCw+QE7oez6A+5PhJDGJMA0c8xgffF D8j4Rm0dgLIj39UL04xbVxjfm
e5WkgQ5pkH1QqURbtgJayaRN87DQi6s issq4JLgYGLV/0v6lq540gGLT0brqeRWUm+A8IW2jc7hH0Fq
MStYupVM VvyaD8gLavNuhTqcae0iTEI8eW2C62DTQ/WH0o6aA+cxlnzkIyzHqtmW q2Pk4k61xwQ4r+
sJT03jN9uSy6+Dtbe9fEvI376tXCm5/IthHa5Me5Wv P0s0einj2+eDh+2Az0ErezG77/HPyT+RkV6ec
x7XZbuyr+pSyZJUjnm+ wYgx4f/TMZcQjya5

;; RRSIG of the DNSKEYset that signs the RRset to chase:

dnssec-tools.org. 86400 IN RRSIG DNSKEY 5 2 86400 20090513172018
20090413172018 47143 dnssec-tools.org. eCBeLVg6IqfaAAAniLH4gpD6oWSim4Tvm2eNpiXyzn
ekasHeadElFaLW0 syeBXc3M7VEtB9dm4IG+NIfsq23sZt33LEtagSfd2Yo+YjpkudqAy4Wa 7DLXrkt
DNCbY5TR9z/sZH2lpudfk45QjmtTTOPScYVBCY2HBqHQYQ7bo LveYbYbpveDNFaoWtSxvR8NC1FTPMn
ITpjzsKN3ciY/aylS4taFoWY9C gqx5Xv9rWwSwFt85hY0w+x82dicS6wUjreNNnzpFoY2vk4t9Sv2N
Zrr g2M065aykEfhhJWZw7LlS02hJf8huB0EPwQVQYG+feXMRTVBilRCvU8Y m9BcDeT8t6zDuGEPVS4
LpKX0q7ytrMubYyu6FG/ef3uZ8M/R07xGQ4w6 tFeJjeYNQhg6oT562gtFUBvixNnham6zeDzzzHcTE1
0CpyAZoVfieh0E Cv34LCEf0lCgzQs1Qeqy2gelZa0DjuXpq1f8fu6e2AWTrrE1TsEuUTtJ kwwsvb9p
s8i/ofXHjP1tT1Da5hSryg0i8oz1SSPGgd+HTHYKI5q0lDRn nCbg4aTKS8MfhIDdWNHdYlV/ayltVib
B7tnUxBCq3TINj6H+V0nfxlf0 qZs+6E0KLyPZeXJEFu4osOX8709/h0H67EHhNH6NKXZahjfD5/3oGB
Y0 KlaiiVkiVgg=

dnssec-tools.org. 86400 IN RRSIG DNSKEY 5 2 86400 20090513172018
20090413172018 49713 dnssec-tools.org. FFWyzCrmxk3x4aX3VcvzHpQY9Q4TNbTFjKobFWnMd
7TJ6VrKp8/uZnTM ZJodyYviITadcf5qTr7V3y5vQrH9liavjxCiqF8/mDzxBKf0DvxL1lnq vrpG2H/
qu+gk3VkfkyQ118872pFdRwZQ4mgyslJkjD5DzEqyMUaEh69 05o=

dnssec-tools.org. 86400 IN RRSIG DNSKEY 5 2 86400 20090513172018
20090413172018 54556 dnssec-tools.org. PFdZrS8e8Giok+otQL+nFymQ8w0dWbA64yja8EU+S
5v3Q5Xyx3s/Hzpx KS7rommPQimE5RwvLFs+4X5MdY1kAnzv5r07rjJRMsl4vYh+3F6J0eoC LYCjIa6
wHLpQIvQEBsYfAVx6jWqQAnUaKSZu+iBd/TS6Z4iet+yrtpn7 v7ZuzDYSacViLhHAKCceobbwLgW6zc
hv25QNWJvnevGrxmcc4svP1tRx 0ZVLKvIzD6QhR8SfYZ+WiHPgFJ0/bxZyZmaCC0dsDCYhuBgfs62/w
HZ7 i2DQa0dNjSmZ5U1V6GI+XIYFtlk5BIHpwBXu2+ppMpm1+q+cIACLJRG6 kFnKnyrqlr0EShEsptg
E3JgUCixM6c18ArkKZMwK3X2R72781iC9FhVo grcyJDf/iEUhFVVoRJOP8QTHm9F/W5FNwskLkXxGuE
4GYFYXkpbyYF8v PiC4DLiPiWrGBfoHDPDsbnvA8+mgmfKqmR77tHd5uW0B5RpvSPFj5p zYHrcvvi
d9i/qH1q9aYlQMh1sYi6ExYqH0ExMbjYkL3sZXAUOnHSTQGH EaUkLL/9dxG04yq00+Qee4mwwilKXRH
HH4xZ0P010JcfzqAimLD0oXj9 vimnysGHZNRyIztahECIJWpIwrJchClbT6rsgZx+XjGGeEqbZDccE
PX 9DWY8UufWck=

Launch a query to find a RRset of type DS for zone: dnssec-tools.org.

;; NO ANSWERS: no more

;; WARNING There is no DS for the zone: dnssec-tools.org.

;; WE HAVE MATERIAL, WE NOW DO VALIDATION

```
;; VERIFYING DS RRset for test.dnssec-tools.org. with DNSKEY:49713: success
;; OK We found DNSKEY (or more) to validate the RRset
;; Ok, find a Trusted Key in the DNSKEY RRset: 54556
;; VERIFYING DNSKEY RRset for dnssec-tools.org. with DNSKEY:54556: success

;; Ok this DNSKEY is a Trusted Key, DNSSEC validation is ok: SUCCESS

[Guinness:/tmp] dupont%
```