This article describes a simple way of comparing the security of the **MDB** & **ACCDB** file formats together with the compiled versions **MDE** & **ACCDE**.

First of all, I created three very simple test MDB files in Access 2003 format.

- 1. A backend file **BE.mdb** with one table **Table1.**
- The table had 4 fields (ID, Surname, FirstName, YearGroup) and 2 records Ann Jones / Ben Smith The BE file was encrypted with password *dinsdale*.
- 2. A frontend file **FE.mdb.** I then linked this to **Table1** in the **BE** file
- 3. The frontend was copied, encrypted with the password MDS and saved as FE PWD.mdb

Both versions of the frontend were then saved as MDE files: FE.mde & FE - PWD.mde

In early versions such as **Access 97**, **password strings** could be directly read using a text or hex editor. This appalling security lapse was fixed in later versions.

I checked both the frontend and backend files using a **hex editor** and searched for the two password strings. Although password data is stored in the file, the password information **CANNOT** be directly read using a hex editor in **Access 2003 MDB** files.

However, when I viewed the **BE** file using the hex editor, the details of **Table1** were found unencrypted in several locations. Both field names and the actual data were visible even though the file is password protected.

## Password protected MDB BE file

Field names																	
📓 BE.mdb																	
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ов	oc	OD	OE	OF	
00022EE0	00	00	FC	01	00	00	54	00	61	00	62	00	6C	00	65	00	.ü <mark>.T.a.b.l.e.</mark>
00022EF0	31	00	00	00	36	00	00	00	00	00	00	þο	DD	57	20	D2	16ÝW Ò
00022F00	FD	1E	$\mathbf{BF}$	4A	$^{\rm BD}$	D2	92	04	4C	С6	18	BF	07	00	00	00	ý.¿J¾Ò′.LÆ.̈́
00022F10	DD	F1	98	52	Ε6	E9	39	4B	Β7	88	C4	7C	14	94	В4	AC	Ýñ~Ræé9K·^Ä .″′¬
00022F20	04	00	00	00	00	00	8D	09	49	00	44	00	00	00	40	00	<mark>.I.D.</mark> @.
00022F30	00	00	00	00	00	00	64	8D	02	Ε6	CF	BB	7D	4F	8B	62	dæÏ»}0 <b< th=""></b<>
00022F40	B2	4F	2 C	78	2 C	82	07	00	00	00	DD	F1	98	52	E6	E9	²O,x,,Ýñ~Ræé
00022F50	39	4B	B7	88	C4	7C	14	94	В4	AC	OA	00	00	00	00	00	9K`^Ä .″′¬
00022F60	8D	09	53	00	75	00	72	00	6E	00	61	00	6D	00	65	00	. <mark>.S.u.r.n.a.m.e</mark> .
00022F70	00	00	42	00	00	00	00	00	00	00	D8	В8	66	C2	50	CF	Bø_fâPÏ
00022F80	41	49	A6	9D	57	83	4D	80	82	FD	07	00	00	00	DD	F1	AI¦.WfM€,ýÝñ
00022F90	98	52	Ε6	E9	39	4B	Β7	88	С4	7C	14	94	В4	AC	OA	00	~Ræé9K_^Ä .″′¬
00022FA0	00	00	00	00	8D	09	46	00	6F	00	72	00	65	00	6E	00	<mark>.F.o.r.e.n.</mark>
00022FB0	61	00	6D	00	65	00	00	00	44	00	00	00	00	00	00	00	a.m.eD
00022FC0	48	DB	66	CE	6E	E5	42	41	8F	7F	ЗA	5D	35	во	Β1	DD	HÛfÎnåBA:]5°±Ý
00022FD0	07	00	00	00	$\mathtt{D}\mathtt{D}$	F1	98	52	Ε6	Ε9	39	4B	Β7	88	C4	7C	Ýñ~Ræé9K∵^Ä
00022FE0	14	94	В4	AC	04	00	00	00	00	00	8D	09	59	00	65	00	.‴′¬ <mark>\.</mark> e.
00022FF0	61	00	72	00	47	00	72	00	6F	00	75	00	70	00	00	00	a.r.G.r.o.u.p.

#### Data

📓 BE.mdb																	
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ОВ	oc	OD	OE	OF	
0002EFA0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
0002EFB0																	
0002EFC0	00	00	04	00	02	00	00	00	09	00	00	00	FF	FΕ	4A	6F	ÿþ <mark>Jo</mark>
0002EFD0	6E	65	73	FF	FΕ	41	6E	6E	16	00	11	00	OA	00	02	00	nesÿþAnn
0002EFE0	OF	04	00	01	00	00	00	07	00	00	00	FF	FΕ	53	6D	69	ÿpSmi
0002EFF0	74	68	FF	FΕ	42	65	6E	16	00	11	00	OA	00	02	00	OF	thÿþBen

For comparison, the entire file is encrypted in a password protected ACCDB file

Password protected ACCDB BE file

📓 BE.mdb	🔊 BE	.acc	db														
Offset(h	) 00	01	02	03	04	05	06	07	08	09	0A	OB	oc	OD	OE	OF	
0002C040	14	С6	49	F5	A9	во	16	10	5E	Β1	70	EΒ	8B	5C	54	D2	.ÆIõ©°^±pë‹∖TÒ
0002C050	7F	90	00	AB	26	E7	СО	A4	85	06	Β8	OF	2 F	CD	AB	1A	«&çÀ¤Í«.
0002C060	6D	1E	DO	42	D1	94	59	9F	Α5	6E	90	ΕA	19	F7	С1	Ε1	m.ÐBÑ″YŸ¥n.ê.÷Áá
0002C070	6A	80	Ε9	66	2 C	Ε6	D8	8E	DB	54	63	27	8F	FF	A7	D9	j€éf,æØŽÛTc'.ÿ§Ù
0002C080	F9	ЗD	02	6F	${\tt FC}$	66	18	ΒA	F7	C2	<b>A</b> 6	5F	13	CF	B5	5F	ù=.oüf.°÷¦ϵ_
0002C090	A4	ΒE	98	BF	84	56	4A	F2	Α2	57	OF	E2	FЗ	$\mathbf{DF}$	71	10	¤¾~̃¿"VJò¢W.âóßq.
0002C0A0	73	AF	FF	ΕA	59	СС	00	1E	В5	76	5F	СО	70	40	AO	09	s¯ÿêΥÌμv_Àp0 .
0002C0B0	1E	35	43	6C	46	60	E4	C7	68	73	D5	С6	ЗE	71	ΕE	СВ	.5ClF`äÇhsÕÆ>qîË
0002C0C0	95	D8	03	DC	9C	E9	2 C	FO	53	D5	44	31	66	06	56	54	•Ø.Üœé,ðSÕD1f.VT
0002C0D0	16	2 C	5E	85	E2	79	BF	CF	85	CA	С6	7D	D5	04	48	69	.,^ây¿ÏÊÆ}Õ.Hi
0002C0E0	DD	41	02	56	08	D4	88	66	F8	C7	53	F6	СЗ	87	FЗ	47	ÝA.V.ÔŠføÇSöćóG
0002C0F0	06	Α7	FΕ	С9	F9	FЗ	С1	89	7D	СЗ	11	4E	CE	69	53	45	.SpÉùóÁ‱}Ã.NÎiSE
0002C100	26	72	92	DD	ΒE	72	89	22	54	OB	4F	ЗB	С4	24	FA	DO	&r'ݾr‰"T.O;Ä\$úĐ
0002C110		С4	37	48	08	ВC	ЗC	21	DЗ	D1	F5	BF	31	AB	СС	E2	8Ä7H.₩ ÓÑõ¿1«Ìâ</th
0002C120	F5	AC	51	OA	C6	22	6E	F8	29	2 D	8B	89	21	C3	FO	F9	õ¬Q.Æ"nø)−<‰!Ãðù
0002C130	6C	DF	9C	74	C2	E3	ΕE	91	E7	71	74	72	81	ΕO	86	D1	lßœtÂãî`çqtr.à†Ñ

Next, I wanted to see how secure the **backend** data would be from someone who didn't know the **BE** password. To do so, each **frontend** file was then checked using a **hex editor** looking specifically for the BE password text strings **PWD** and **dinsdale.** These were found in several locations:

## MDB file

📓 FE.mdb 🔝	FE.	mde															
Offset(h)				03	04	05	06	07	08	09	O A	OB	nc	ΩD	OE	OF	
000112F0	00			00													Ëf <mark>ć,õ,å0Ëfć,</mark>
00011300		2 C		40	00	00	20		54		61	00	62	00			õ,å@ <mark></mark> .T.a.b.l.
00011310	65		31		31				00	40	01		00	00	00		e.1.;q,
00011320	00 4D	00 53	19 20	00 41	00 63	80 63		00 73	00 73	00 3 B	00 50	00 57		00 3D	FF 64		ÿþ MS Access;PWD=di
00011340	6E	73		61					00			62	00			65	nsdale; T.a.b.l.e
00011350	00	31		6B	00		00	,	00	6B				6B			.1.k.k.k.k.k.k.k
00011360				3 A 0 0				·····/									·:
00011370		2C		00 40				00 2 A						11			≜Â Ç. ö,å0æ…ë*ö,å0
00011390	00	00	80	01	00	00				СВ				F5			€Ëf¿,õ,å
000113A0	40	СВ	66	BF										54			0Ëf;,õ,å0T.a
000113B0	00	62	00					31			. –						.b.l.e.1.:q"0.
000113C0 000113D0	3D 00	00	00	00 77	00 33	00 4 D	00 53	19 20	00 41	00 63	80 63	00 65	00 73	00 73	00 3B		=€ ÿþ <mark>MS Access;P</mark>
000113E0	57	44	ЗD	64	69	6E	73	64	61	6C	65	3B	54	00	61		WD=dinsdale;T.a.
000113F0	62	00	6C	00	65	00	31	00	6B	00	6B	00	6B	00	6B	00	<mark>b.l.e.1.k.k.</mark> k.k.

	MDE	file
--	-----	------

📓 FE.mdb	S FI	E.mde	2														
Offset(h)	) 00	01	02	03	04	05	06	07	08	09	0A	ов	oc	OD	OE	OF	
00011540	00	СВ	66	BF	2C	F5	2 C	E5	40	СВ	66	BF	2 C	F5	2 C	E5	.Ëf¿,õ,å0Ëf¿,õ,å
00011550	40	00	00	20	00	54	00	61	00	62	00	6C	00	65	00	31	0 <mark>.T.a.b.l.e.1</mark>
00011560	00	6A	D8	84	00	00	40	00	39	00	00	00	00	00	00	19	.jø"0.9
00011570	00	00	80	00	00	00	00	00	00	00	00	FF	FΕ	4D	53	20	€ÿþMS
00011580	41	63	63	65	73	73	ЗB	50	57	44	ЗD	64	69	6E	73	6 <mark>4</mark>	Access; PWD=dinsd
00011590	61	6C	65	ЗB	54	00	61	00	62	00	6C	00	65	00	31	00	ale;T.a.b.l.e.1.
000115A0	6B	00	6B	00	6B	00	6B	00	6B	00	6B	00	6B	00	5F	00	k.k.k.k.k.k.
000115B0	ЗA	. 00	2 E	00	2 C	00	20	00	OB	00	FF	07	00	11	00	37	:,ÿ7
000115C0	00	00	00	01	00	00	OF	01	00	C5	77	ЗB	С8	32	8B	EЗ	Åw;È2<ã
000115D0	40	FD	7D	ЗB	С8	32	8B	EЗ	40	OA	00	02	80	4D	00	53	0ý};È2<ã0€M.S
000115E0	00	79	00	73	00	57	00	53	00	44	00	50	00	52	00	65	.v.s.W.S.D.P.R.e

As you can see, converting the file to MDE format does not encrypt the linked table name or the password needed to open the BE file. The BE file is completely insecure

Next, I checked whether adding a password to the FE had any effect

#### Password protected MDB file

📓 FE - PWD.ad	cdb:	F.P AO	FE -	- PW	D.ac	cde	50 80	FE -	PW	0.md	b						
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ОВ	oc	OD	OE	OF	
00011300	F5	2 C	E5	40	00	00	20	00	54	00	61	00	62	00	6C	00	õ,å@ <mark>.T.a.b.l.</mark>
00011310	65	00	31	00	ЗA	71	84	00	00	40	01	ЗD	00	00	00	00	e.1.:q~0.=
00011320	00	00	19	00	00	80	00	00	00	00	00	00	00	00	FF	FE	€ÿþ
00011330	4D	53	20	41	63	63	65	73	73	ЗB	50	57	44	ЗD	64	69	MS Access; PWD=di
00011340	6E	73	64	61	6C	65	ЗB	54	00	61	00	62	00	6C	00	65	nsdale;T.a.b.l.e
00011350	00	31	00	6B	00	6B	00	6B	00	6B	00	6B	00	6B	00	6B	.1.k.k.k.k.k.k.k
00011360	00	5F	00	ЗA	00	2 E	00	2 C	00	20	00	OB	00	FF	07	00	:ÿ
00011370	11	00	OA	00	00	80	01	00	00	OF	06	00	C2	7C	C7	15	€â Ç.
00011380	F5	2 C	E5	40	Ε6	85	EВ	2 A	F5	2 C	E5	40	01	11	00	OB	õ,å0æ…ë≭õ,å0
00011390	00	00	80	01	00	00	OF	06	00	CB	66	$\mathbf{BF}$	2C	F5	2 C	E5	€Ëf¿,õ,å
000113A0	40	CB	66	BF	2 C	F5	2 C	E5	40	00	00	20	00	54	00	61	0Ëf;,õ,å0T.a
000113B0	00	62	00	6C	00	65	00	31	00	90	15	84	00	00	40	01	.b.l.e.1"0.
000113C0	ЗD	00	00	00	00	00	00	19	00	00	80	00	00	00	00	00	= <mark></mark> €
000113D0	00	00	00	FF	FΕ	4D	53	20	41	63	63	65	73	73	ЗB	50	ÿþ <mark>MS Access;P</mark>
000113E0	57	44	ЗD	64	69	6E	73	64	61	6C	65	ЗB	54	00	61	00	WD=dinsdale;T.a.
000113F0	62	00	6C	00	65	00	31	00	6B	00	6B	00	6B	00	6B	00	b.l.e.1.k.k.k.k.
00011400	6B	00	6B	00	6B	00	5F	00	ЗA	00	2 E	00	2 C	00	20	00	k.k.k:
00011410	OB	00	FF	07	00	11	00	39	00	00	00	01	00	00	OF	01	ÿ9

## Password protected MDE file

📓 FE.mdb 📓	FE.	.mde	FC AC	FE	- PV	VD.m	ndb	FD	FE -	PWE	).md	e					
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ов	oc	OD	OE	OF	
00011550	40	00	00	20	00	54	00	61	00	62	00	6C	00	65	00	31	0T <mark>.a.b.l.e.1</mark>
00011560	00	35	В5	84	00	00	40	00	39	00	00	00	00	00	00	19	.5μ <i>"</i> 0.9
00011570	00	00	80	00	00	00	00	00	00	00	00	FF	FΕ	4D	53	20	€ÿþ <mark>MS</mark>
00011580	41	63	63	65	73	73	ЗB	50	57	44	ЗD	64	69	6E	73	64	Access; PWD=dinsd
00011590	61	6C	65	ЗB	54	00	61	00	62	00	6C	00	65	00	31	00	ale;T.a.b.l.e.1.
000115A0	6B	00	6B	00	6B	00	6B	00	6B	00	6B	00	6B	00	5F	00	k.k.k.k.k.k.k
000115B0	ЗA	00	2 E	00	2 C	00	20	00	OB	00	FF	07	00	11	00	37	:,ÿ7
000115C0	00	00	00	01	00	00	OF	01	00	С5	77	ЗB	С8	32	8B	E3	Åw;È2<ã
000115D0	40	FD	7D	3 B	С8	32	8B	EЗ	40	OA	00	02	80	4D	00	53	0ý};È2<ã0€M.S
000115E0	00	79	00	73	00	57	00	53	00	44	00	50	00	52	00	65	.y.s.W.S.D.P.R.e
00011570	00	60	00	61	00	24	00	60	00	60	00	65	00	50	00	20	lationah

#### The file location is also easily found:

📓 FE - PWD w	ith N	1DB	SQL	BE ta	bles	.mde	FO	) FE	- PV	/D.m	de						
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ов	oc	OD	OE	OF	
00039F70	00	00	00	00	00	00	00	00	00	00	00	00	47	00	ЗA	00	<mark>G.:.</mark>
00039F80	5C	00	4D	00	79	00	46	00	69	00	6C	00	65	00	73	00	\.M.y.F.i.l.e.s.
00039F90	5C	00	45	00	78	00	61	00	6D	00	70	00	6C	00	65	00	\.E.x.a.m.p.l.e.
00039FA0	44	00	61	00	74	00	61	00	62	00	61	00	73	00	65	00	D.a.t.a.b.a.s.e.
00039FB0	73	00	5C	00	53	00	65	00	63	00	75	00	72	00	69	00	s.\.S.e.c.u.r.i.
00039FC0	74	00	79	00	43	00	68	00	61	00	6C	00	6C	00	65	00	t.y.C.h.a.l.l.e.
00039FD0	6E	00	67	00	65	00	73	00	5C	00	4D	00	44	00	45	00	n.g.e.s.\.M.D.E.
00039FE0	20	00	76	00	73	00	20	00	41	00	43	00	43	00	44	00	.v.sA.C.C.D.
00039FF0	45	00	5C	00	42	00	45	00	2 E	00	6D	00	64	00	62	00	E.\.B.Em.d.b.
0003A000	01	01	66	00	03	00	00	00	00	00	00	00	50	00	ΕD	OF	fP.í.
000038040	5.0	$\odot \mathbb{R}$	60	$\odot \mathbb{R}$	50	OF	O.D.	$\odot \mathbb{R}$	0.2	$\odot \mathbb{R}$	DO.	$\odot \mathbb{R}$	2.0	OF	OD	OF.	

The above screenshots show that *adding a password to the frontend does not encrypt the linked table name or the password needed to open the BE file. The BE file remains completely insecure* 

For comparison, I converted all the test files to ACCDB format but otherwise identical to those above

- 1. A backend file **BE.accdb** with one table **Table1**. The file was encrypted with password *dinsdale*.
- 2. A frontend file FE.accdb. I then linked this to Table1 in the BE file
- 3. The frontend was copied, encrypted with the password *MDS* and saved as **FE PWD.accdb** In **ACCDB** files, much stronger 128-bit encryption is used which encrypts the **entire file**

NOTE:

For that reason, zipping an encrypted ACCDB/ACCDE file will have little effect on file size By comparison zipping a password protected MDB/MDE file does reduce file size

Both versions of the frontend were then saved as ACCDE files: FE.accde & FE - PWD.accde

#### The same tests were run as for the MDB / MDE files

ACCDB	file
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E FE.accdb																	
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ОВ	oc	OD	OE	OF	
00011070	2 C	E5	40	31	04	76	29	F5	2 C	E5	40	00	00	00	00	54	_,å@1.v)õ,å@ <mark></mark> T
00011080	00	61	00	62	00	6C	00	65	00	31	00	88	00	00	40	00	.a.b.l.e.1. <sup>^</sup> 0.
00011090	68	00	00	00	00	00	00	19	00	00	11	00	09	00	00	80	h€
000110A0	01	00	00	OF	06	00	A8	E8	21	28	F5	2 C	E5	40	E9	69	`è! <mark>(õ,å0éi</mark>
000110B0	23	28	F5	2 C	E5	40	00	00	20	00	54	00	61	00	62	00	#(õ,å0 <mark>.T.a.b.</mark>
000110C0	6C	00	65	00	31	00	5D	1A	88	00	00	40	00	68	00	00	<u>l.e.1.].</u> ^@.h
000110D0	00	00	00	00	19	00	00	80	00	00	00	00	00	00	00	00	<mark>€</mark>
000110E0	FF	FΕ	4D	53	20	41	63	63	65	73	73	ЗB	50	57	44	ЗD	ÿp <mark>MS Access;PWD=</mark>
000110F0	64	69	6E	73	64	61	6C	65	ЗB	54	00	61	00	62	00	6C	dinsdale;T.a.b.l
00011100	00	65	00	31	00	31	07	00	40	00	6E	00	00	00	00	00	<mark>.e.1</mark> .1@.n
00011110	00		00		00		00	2D	00	CD.	00	2D	00	CD.	00	E R	1- 1- 1- 1-

## ACCDE file

FE.accdb	ぷ <mark>」</mark> F	E.aco	cde														
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ОВ	oc	OD	OE	OF	
000110B0	23	28	F5	2C	E5	40	00	00	20	00	54	00	61	00	62	00	#(õ,å0 <mark>.T.a.b.</mark>
000110C0	6C	00	65	00	31	00	СО	A6	88	00	00	40	00	63	00	00	l.e.1.À¦^0.c
000110D0	00	00	00	00	19	00	00	80	00	00	00	00	00	00	00	00	···€
000110E0																	11
000110F0	64	69	6E	73	64	61	6C	65	ЗB	54	þo	61	00	62	00	6C	dinsdale;T.a.b.l
00011100	00	65	00	31	00	31	07	00	40	00	69	00	00	00	00	00	.e.1.10.i
00011110	00	77	00	77	00	77	00	6B	00	6B	00	6B	00	6B	00	5F	.w.w.w.k.k.k.k
00011120	00	30	00	2 F	00	20	00	20	00	OB	00	नन	47	00	11	00	• <u>ü</u> G

*Neither ACCDB nor ACCDE files offer any additional security in terms of the BE file. As a result, this remains insecure* 

For comparison, here are the results using password protected (encrypted) ACCDB / ACCDE files

#### Password protected ACCDB file

📓 FE - PWD.a	ccdb	50	FE -	PW	D.ac	cde	FD	FE -	PW	D.md	lb	郈 F	E - P	WD.	mde	FD R0	FE.accdb			
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ОВ	oc	OD	OE	OF				
00011050	8F	1C	91	D9	сс	35	2 E	<b>A</b> 5	42	С6	ΕO	OC	23	AE	5E	в8	'ÙÌ5.¥BÆà.#®^∖	Informatio	202	×
00011060	DC	AA	ЕD	07	AЗ	F4	70	2 B	FЗ	20	EВ	8B	24	ΕD	FΒ	OB	ܲí.£ôp+ó ë<\$íû.	monnaut	511	
00011070	10	OA	E5	2 E	В7	F4	8B	77	$\mathbb{DC}$	28	9C	24	DB	F1	D8	6F	å. ∙ó< wÜ(œ\$ÛñØo			
00011080	BC	5Å	7D	51	C2	В4	СС	ΒA	88	FO	F4	1E	45	ЗC	$\mathtt{BD}$	5C	₩Z}Q´̰Šðô.E<%\			
00011090	53	40	С5	F8	51	80	DЗ	23	70	91	E2	88	Α7	0C	EΒ	1D	S0ÅøQ€Ó#p`â^§.ë.		Can't find "PWD".	
000110A0	62	58	EΒ	2 D	DB	61	40	1B	D5	AB	2 E	CE	78	49	4A	ЗA	bXë-Ûa0.Õ«.ÎxIJ:			
000110B0	8E	9F	1C	DO	D1	84	EF	86	Β4	75	38	С8	5C	8B	B8	67	ŽŸ.ÐŇ̃"u8È\<_g			
000110C0	2 A	ΕD	13	FO	6A	E8	1C	D6	47	49	80	EF	02	07	39	C5	*í.ðjè.ÖGI€ï9Å		ОК	
000110D0	Β1	FA	E9	8B	71	08	95	22	СС	B2	OB	93	D2	21	01	59	±úé <q.•″̲.∾ò!.y< td=""><td></td><td>UK</td><td></td></q.•″̲.∾ò!.y<>		UK	
000110E0	34	4C	56	$\mathtt{BD}$	Ε9	4E	74	51	66	Β6	73	63	73	70	Β1	84	4LV%éNtQf¶scsp±"			
000110F0	0C	40	8C	11	7E	22	C7	24	ΕO	52	F7	78	С9	99	61	93	.@Œ.~″Ç\$àR÷xÉ™a``			
00011100	4F	08	FD	DO	7D	82	17	F2	95	BB	2 A	2 C	Β1	52	F5	22	O.ýÐ},.ò•»*,±Rõ″			
00011110	ΕD	6C	92	BD	22	CF	88	22	СО	94	CE	50	14	56	37	CE	<u>íl′≒″ÏŠ″À″ÎP.V7Î</u>			

## Password protected ACCDE file

📓 FE - PWD.ac	cdb:	FD	FE -	PW	D.ac	cde	FD	FE -	PWD	).md	b	🔝 F	E - P	WD.	mde	F.P.	FE.accdb	50 80	FE.accde		
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ов	oc	OD	OE	OF					
000110A0	95	8C	D7	59	BA	14	B6	1C	Β7	46	FΒ	83	сс	D8	6C	17	•Œ×Y°.	я. ·	FûfÌØ1.	Information	$\times$
000110B0	СС	OF	8E	Β6	7B	В4	86	10	38	46	20	С8	AB	8Å	CE	30	Ì.޶{′	+.8	F È«ŠÎO	D	
000110C0	7A	ΟA	7B	E4	1D	33	98	D5	FO	2D	15	D8	FD	Ε4	AF	98	z.{ä.3	~Õð	.øýä⁻~	~	
000110D0	BO	9A	29	1B	24	1F	60	AD	4D	27	36	C2	D6	30	8B	СО	°š).\$.	`.M	['6ÂÖO<À	À Can't find "PWD".	
000110E0	1E	18	17	D4	85	ΕÀ	CE	9E	56	34	7D	AO	В9	EЗ	B8	СЗ	ô…ê	ΞV	′4} 'ã,Ã	ã 🔰	
000110F0	8D	Β9	ЗD	24	89	50	11	ΕD	OD	A8	47	39	ΒO	С6	F9	ΟA	. ¹=\$‰P	.í.	∵G9° <b>Æ</b> ù.		
00011100	25	OD	С4	68	FC	4C	4E	71	18	84	31	25	EЗ	0C	25	77	%.ÄhüL	Nq.	"1%ã.%w	ω	
00011110	43	Β7	21	18	ЗC	4D	BB	68	C2	С8	68	E5	53	14	OF	5A	$C \cdot ! . < M$	[»hÂ	ÈhåSZ	Z OK	
00011120	83	ΒO	21	8F	FO	Ε6	OD	5F	F9	19	1A	6F	78	68	32	4C	f°!.ðæ	:ù	oxh2L	L	
00011130	DO	18	03	26	85	06	16	B5	43	31	57	F 6	09	AA	DЗ	9F	Ð&	.µC	∶1Wö.≞ÓŸ	Ÿ	
00011140	ЗE	3 E	ЕC	5B	7E	5Å	<b>A</b> 6	A5	DE	D2	9B	$\mathbf{D}\mathbf{F}$	6E	AD	D8	DC	>>ì[~Z	¦¥Þ	∘Ò>Bn.ØÜ	Ü	

The password protected ACCDB & ACCDE files encrypt the entire file including BOTH the linked table name and password information

Therefore, to keep the data in a BE file secure, the FE file needs to be in ACCDB/ACCDE format and encrypted using password protection.

### Linking to other sources

ACCDB/ACCDE files can also link to other data sources including MDB & SQL Server tables. Providing the FE is encrypted, the details of these link tables are also secure.

**MDB** files cannot link to **ACCDB** files. However, they can of course be linked to **SQL** tables including those created in later versions of **SQL Server** providing the datatypes can be recognised by the **MDB** file.

**SQL Server** is a much more secure environment so does that mean **linked SQL Server** tables are also secure in an **MDB** file? Sadly, the answer is, not really!

I added links to several **SQL** tables in a **password protected MDE**. As with any other linked tables in **MDB/MDE or ACCDB/ACCDE** files, the **connection strings are visible** though the **password is NOT shown**.

Table	es 💿 «	
Search	<u>~</u>	
*	tblAccessinfo	
*	tblCaler ODBC;DRIVER=SQL Serv	II er;SERVER=.\SQLEXPRESS;UID=CEOuser;APP=CEOBE;DATABASE=CEOBE;TABLE=dbo.tblAccessInfo
*	tblFeedback	
*	tblKickout	
•	Table1	

However, using a hex editor, the **full SQL connection string including the password is shown** for each table

📓 FE - PWD.m	de	FD	FE -	PWE	) wit	h MD	)B S	QL B	E tab	les.n	nde						
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ов	oc	OD	OE	OF	
0003DD20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
0003DD30	44	00	52	00	49	00	56	00	45	00	52	00	ЗD	00	53	00	D.R.I.V.E.R.=.S.
0003DD40	51	00	4C	00	20	00	53	00	65	00	72	00	76	00	65	00	Q.LS.e.r.v.e.
0003DD50	72	00	3 B	00	53	00	45	00	52	00	56	00	45	00	52	00	r.;.S.E.R.V.E.R.
0003DD60	ЗD	00	2 E	00	5C	00	53	00	51	00	4C	00	45	00	58	00	=\.S.Q.L.E.X.
00030070	50	00	52	00	45	00	53	00	53	00	ЗB	00	55	00	49	00	P.R.E.S.S.;.U.I.
0003DD80	44	00	ЗD	00	43	00	45	00	4F	00	75	00	73	00	65	00	D.=.C.E.O.u.s.e.
0003DD90	72	00	ЗB	00	50	00	57	00	44	00	ЗD	00	43	00	45	00	r.;.P.W.D.=.C.E.
OOO3DDAO	4F	00	70	00	61	00	73	00	73	00	77	00	6F	00	72	00	O.p.a.s.s.w.o.r.
OOO3DDBO	64	00	ЗB	00	41	00	50	00	50	00	ЗD	00	43	00	45	00	d.;.A.P.P.=.C.E.
OOO3DDCO	4F	00	42	00	45	00	ЗB	00	44	00	41	00	54	00	41	00	O.B.E.;.D.A.T.A.
0003DDD0	42	00	41	00	53	00	45	00	ЗD	00	43	00	45	00	4F	00	B.A.S.E.=.C.E.O.
OOO3DDEO	42	00	45	00	44	00	52	00	49	00	56	00	45	00	52	00	B.E.D.R.I.V.E.R.
OOO3DDFO	ЗD	00	53	00	51	00	4C	00	20	00	53	00	65	00	72	00	=.S.Q.LS.e.r.
0003DE00	76	00	65	00	72	00	ЗB	00	53	00	45	00	52	00	56	00	v.e.r.;.S.E.R.V.

The SQL table names are also easily found. For example:

📓 FE - PWD.m	de	FD	FE -	PWE	) wit	h ME	DB S	QL B	E tab	les.n	nde						
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	ОВ	oc	OD	OE	OF	
00011170	00	01	00	00	OF	04	00	CD	98	D1	С9	OC	2 D	E5	40	81	í~ŇÉ.—å0.
00011180	21	D2	C9	0C	2D	E5	40	00	00	10	20	74	00	62	00	6C	!ÒÉå@ t.b.l
00011190	00	4B	00	69	00	63	00	6B	00	6F	00	75	00	74	00	39	<mark>.K.i.c.k.o.u.t.</mark> 9
000111A0	26	В4	00	00	40	03	ЗD	00	00	00	00	00	00	64	00	62	&´@.= <mark>d.b</mark>
000111B0	00	6F	00	2 E	00	74	00	62	00	6C	00	4B	00	69	00	63	.ot.b.l.K.i.c
000111C0	00	6B	00	6F	00	75	00	74	00	00	00	00	00	01	00	00	.k.o.u.t
000111D0	00	01	00	00	00	34	00	00	00	00	00	FF	FF	4F	00	FF	4ÿÿO.ÿ
000111E0	FF	FF	00	FF	FF	1F	00	07	00	00	00	A7	1D	00	00	2 E	ÿÿ.ÿÿ§
000111F0	22	00	05	7F	7D	AO	00	7F	7D	AO	00	7F	71	AO	00	7F	"}}q
00011200	7D	AO	00	01	OD	A2	00	7F	7F	Ε6	01	22	00	00	00	0C	}¢æ.″
00011210	00	00	80	00	00	00	00	00	00	00	00	04	00	OA	00	00	€
00011220	00	F9	FF	01	00	00	00	58	00	00	40	05	49	00	00	00	.ùÿX@.I
00011230	00	00	00	С8	00	С8	00	С8	00	ВC	00	ВC	00	A4	00	5E	È.È.È.¼.¼.¤.^
00011240	00	42	00	36	00	36	00	34	00	20	00	OB	00	FF	5E	00	.B.6.6.4ÿ^.
00011250	11	00	41	00	00	00	01	00	00	OF	04	00	F5	D1	DO	С9	AŐŇÐÉ
00011260	OC	2D	E5	40	61	35	D1	С9	OC	2 D	E5	40	00	00	10	20	å0a5ÑÉå0
00011270	74	00	62	00	6C	00	46	00	65	00	65	00	64	00	62	00	t.b.l.F.e.e.d.b.
00011280	61	00	63	00	6B	00	39	26	В4	00	00	40	02	ЗD	00	00	a.c.k.9&′0.=
00011290	00	00	00	00	64	00	62	00	6F	00	2 E	00	74	00	62	00	d.b.ot.b.
000112A0	6C	00	46	00	65	00	65	00	64	00	62	00	61	00	63	00	l.F.e.e.d.b.a.c.
000112B0	6B	00	00	00	00	00	01	00	00	00	04	00	00	00	34	00	<mark>k</mark> 4.
00011260	00	00	00	00	ריי	ריי	45	00	66	66	ריי	00	66	66	10	00	

The SQL field names are also listed. For example:

📓 FE - PWD.m	ıde	FD AO	FE -	PWE	) wit	h ME	DB S	QL B	E tab	les.n	nde						
Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	OB	oc	OD	OE	OF	
00034070	04	00	00	02	00	00	00	00	00	00	00	64	00	24	00	41	d.\$. <mark>A</mark>
00034080	00	70	00	70	00	6C	00	69	00	63	00	61	00	74	00	69	.p.p.l.i.c.a.t.i
00034090	00	6F	00	6E	00	56	00	65	00	72	00	73	00	69	00	6F	.o.n.V.e.r.s.i.o
0003A0A0	00	6E	00	1A	00	41	00	63	00	63	00	65	00	73	00	73	.nA.c.c.e.s.s
0003A0B0	00	56	00	65	00	72	00	73	00	69	00	6F	00	6E	00	83	<mark>.V.e.r.s.i.o.n.</mark> f
0003A0C0	07	00	00	00	00	01	FF	FF	00	FF	FF	00	FF	FF	00	FF	
0003A0D0	FF	00	FF	FF	00	FF	FF	00	FF	FF	00	FF	FF	00	FF	FF	<u> </u>
0003A0E0	00	02	ЗB	00	00	ЗC	00	00	00	00	00	00	00	89	00	00	;<
0003A0F0	00	00	00	59	06	00	00	00	00	00	00	00	00	00	00	00	
0003A100	FF	FF	FF	FF	00	00	00	00	04	04	01	00	00	00	00	1E	ÿÿÿÿ
0003A110	00	70	00	6B	00	74	00	62	00	6C	00	41	00	63	00	63	.p.k.t.b.l.A.c.c
0003A120	00	65	00	73	00	73	00	49	00	6E	00	66	00	6F	00	FF	<mark>.e.s.s.I.n.f.o.</mark> ÿ
0003A130	FF	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	ÿ
0003A140	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
00023150	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	

It is somewhat of a relief to state that, the **linked SQL table data** DOES appear to be encrypted. However, as the **full SQL connection string and table names** have been exposed, it may not be that difficult for users to gain access to the **SQL datafile** itself.

### Password Recovery utilities

Password recovery utilities can be useful if you forget the password to your own applications but can just as easily be used for other applications that are not your own work.

Running a quick online check will soon find several utilities (mostly free) that will crack passwords on MDB files. This is usually very quick as the level of encryption is relatively weak

By comparison, I am only aware of one commercial utility that can crack ACCDB passwords. This is done by 'brute force' trying every possible combination of characters until one is successful. If a strong password is used, the process can take MANY hours and is therefore unlikely to be worth the effort in most cases. Obviously, there are many other factors involved in making databases as secure as possible including:

- a) The use of workgroup security for MDB/MDE files
- b) Protecting the location of the BE file by saving on a secure network and limiting user permissions to the folder
- c) Using a SQL server backend database
- d) Using strong passwords that cannot easily be hacked

# However, an Access database can NEVER be made 100% secure. A capable and determined hacker can break any Access database given sufficient time and determination

I would welcome feedback on the information provided in this article

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Mendip Data Systems

Updated 24/09/2018