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## Tool for Re-formatting Plate Records

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### Outline

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- The Problem
- The Solution
- How it works
- Examples
- Discussion

## The Problem

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- We need to modify CRFs for an existing/active study due to protocol amendments.
- This requires database modifications that can be cumbersome for a study with a large number of patients already accrued.

## The Solution: dfdbmod

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- Tool for adding, swapping, or removing fields
- Unix command line utility
- Written in Perl
- Uses DataFax shell routines
  - DFgetparam.rpc
  - DFexport.rpc
  - DFdisable.rpc
  - DFreindex
  - DFenable.rpc

## How it works

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- Export the plate file and QC data file for the study
- Add, swap, or remove fields
- Maintain the integrity of QC's
- Stop the study server
- Overwrite the existing plate file and QC file in the study data directory
- Start the study server

## Brute Force?

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- No – Brute Force would imply inefficient, poorly written code.
- This program is ***STRICT***
  - It will modify your data

## Parameters

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- DataFax study number
- DataFax plate number
  
- Field addition(s)  
OR
- Field swap(s)  
OR
- Field removal(s)

## Adding Fields

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- Specify the number of fields to add and the field which to add after
  
- Syntax:  

```
dfdbmod -s study -p plate -A '<number of fields to add> <field to add after>,  
[<number of fields to add> <field to add after>, ...]'
```

## Removing Fields

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- Specify the fields to remove

- Syntax

```
dfdbmod -s study -p plate -R '<field>, [<field>, ...]'
```

## Swapping Fields

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- Specify the fields to swap

- Syntax

```
dfdbmod -s study -p plate -S '<field 1> <field 2>,  
[<field 1> <field 2>, ...]'
```

## Example 1

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- `dfdbmod -s 251 -p 10 -A '3 7, 2 10'`

Before:

```
1|1|9936/0015024|251|10|0202|002991|6061132  
110|Peter Pan|General Hospital|99/09/07  
15:51:50|99/09/07 15:51:50|
```

After:

```
1|1|9936/0015024|251|10|0202|002991|606113  
2110|Peter Pan|General Hospital|99/09/07  
15:51:50|99/09/07 15:51:50|
```

## Example 2

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- `dfdbmod -s 251 -p 10 -S '8 9, 9 10'`

Before:

```
1|1|9936/0015024|251|10|0202|002991|6061132  
110|Peter Pan|General Hospital|99/09/07  
15:51:50|99/09/07 15:51:50|
```

After:

```
1|1|9936/0015024|251|10|0202|002991|Peter  
Pan|General Hospital|6061132110|99/09/07  
15:51:50|99/09/07 15:51:50|
```

### Example 3

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- `dfdbmod -s 251 -p 10 -R '7, 9'`

Before:

```
1|1|9936/0015024|251|10|0202|002991|6061132
110|Peter Pan|General Hospital|99/09/07
15:51:50|99/09/07 15:51:50|
```

After:

```
1|1|9936/0015024|251|10|0202|6061132110|Gen
eral Hospital|99/09/07 15:51:50|99/09/07
15:51:50|
```

### Example 4

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- `dfdbmod -s 251 -p 10 -R '6, 11'`

Before:

```
1|1|9936/0015024|251|10|0202|002991|6061132
110|Peter Pan|General Hospital|99/09/07
15:51:50|99/09/07 15:51:50|
```

Result:

```
*****
Can't modify reserved fields. Operation Aborted.
*****
```

## Discussion

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- Should I have used DFimport.rpc?
- What about the audit trail?
- How about only adding fields to the end of records and using DFmoveto's?
- Isn't removing fields generally a bad idea?