

**BELAJAR PHALCON**



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# BELAJAR PHALCON

## Buku Phalcon Untuk Pemula

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**Rolly M. Awangga**  
Politeknik Pos Indonesia



**Kreatif Industri Nusantara**

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*To my parents*

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# CONTENTS IN BRIEF

---

|  |          |
|--|----------|
| <b>1 Phalcon - Overview</b>                                | <b>1</b> |
| <b>2 Enviromental Setup</b>                                | <b>5</b> |
| <b>3 Second Edited Book Sample Chapter Title</b>           | <b>7</b> |
| George Smeal, Ph.D., Sally Smith, M.D. and Stanley Kubrick |          |





# CONTENTS

---

|                                     |           |
|-------------------------------------|-----------|
| List of Figures                     | xi        |
| List of Tables                      | xiii      |
| Foreword                            | xv        |
| Preface                             | xvii      |
| Acknowledgments                     | xix       |
| Acronyms                            | xxi       |
| Glossary                            | xxiii     |
| List of Symbols                     | xxv       |
| Introduction                        | xxvii     |
| <i>Catherine Clark, PhD.</i>        |           |
| References                          | xxvii     |
| <b>1   Phalcon - Overview</b>       | <b>1</b>  |
| 1.1   Pengenalan                    | 1         |
| 1.1.1   Performance                 | 2         |
| 1.2   Tips On Special Section Heads | 2         |
|                                     | <b>ix</b> |

|          |  |           |
|----------|--|-----------|
| 1.3      | This Version of Section Head will be sent Contents                         | 3         |
| 1.4      | This show how to explicitly break lines<br>in Table of Contents            | 3         |
| 1.5      | How to get lower case in section head: $pH$                                | 3         |
| 1.6      | How to use a macro that has both upper and lower case parts:<br>$V_{Txyz}$ | 3         |
| 1.7      | Equation   | 3         |
| <b>2</b> | <b>Enviromental Setup</b>  | <b>5</b>  |
| 2.1      | Aplikasi yang dibutuhkan   | 5         |
| <b>3</b> | <b>Second Edited Book Sample Chapter Title</b>                             | <b>7</b>  |
|          | George Smeal, Ph.D., Sally Smith, M.D. and Stanley Kubrick                 |           |
| 3.1      | Sample Section   | 7         |
| 3.2      | Example, Figure and Tables   | 8         |
| 3.2.1    | Side by Side Tables and Figures  | 8         |
| 3.3      | Algorithm  | 9         |
|          | Problems   | 10        |
|          | Exercises  | 10        |
| 3.4      | Summary  | 11        |
|          | References   | 11        |
|          | Appendix: This is the Chapter Appendix Title                               | 12        |
|          | Chapter Appendix   | 12        |
| <b>A</b> | <b>This is the Appendix Title</b>  | <b>13</b> |
| <b>B</b> | <b>Appendix</b>  | <b>15</b> |
| <b>C</b> | <b>Alternate Reference Styles</b>  | <b>17</b> |
|          | References   | 19        |
|          | Index  | 21        |

## LIST OF FIGURES

---

|       |  |    |
|-------|--|----|
| 2.1   | Apa yang harus di-edit di file php.ini   | 6  |
| 3.1   | Short figure caption.  | 8  |
| 3.2   | Oscilloscope for memory address access operations, showing 500 ps address access time and superimposed signals of address access in 1 kbit memory plane. | 8  |
| 3.3   | This caption will go on the left side of the page. It is the initial caption of two side-by-side captions.   | 8  |
| 3.4   | This caption will go on the right side of the page. It is the second of two side-by-side captions.   | 8  |
| 3-A.1 | This is an appendix figure caption.  | 12 |
| A.1   | This is an appendix figure caption.  | 13 |



## LIST OF TABLES

---

|       |   |    |
|-------|---|----|
| 3.1   | Small Table   | 8  |
| 3.2   | Effects of the two types of $\alpha\beta\sum_B^A$ scaling proposed by Dennard and co-workers <sup>a,b</sup> | 8  |
| 3.3   | Table Caption   | 9  |
| 3.4   | Table Caption   | 9  |
| 3-A.1 | This is an appendix table caption   | 12 |
| A.1   | Appendix table caption  | 13 |



# FOREWORD

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This is the foreword to the book.





# PREFACE

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This is an example preface. This is an example preface. This is an example preface.  
This is an example preface.

R. K. WATTS

*Durham, North Carolina*  
*September, 2007*



## ACKNOWLEDGMENTS

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From Dr. Jay Young, consultant from Silver Spring, Maryland, I received the initial push to even consider writing this book. Jay was a constant “peer reader” and very welcome advisor during this year-long process.

To all these wonderful people I owe a deep sense of gratitude especially now that this project has been completed.

G. T. S.



## ACRONYMS

---

|       |   |
|-------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| AEC   | Atomic Energy Commission                                  |
| OSHA  | Occupational Health and Safety Commission                 |
| SAMA  | Scientific Apparatus Makers Association                   |



## GLOSSARY

---

|           |   |
|-----------|---|
| NormGibbs | Draw a sample from a posterior distribution of data with an unknown mean and variance using Gibbs sampling. |
| pNull     | Test a one sided hypothesis from a numerically specified posterior CDF or from a sample from the posterior  |
| sintegral | A numerical integration using Simpson's rule  |





# SYMBOLS

---

- $A$  Amplitude
- $\&$  Propositional logic symbol
- $a$  Filter Coefficient
- $\mathcal{B}$  Number of Beats



# INTRODUCTION

---

CATHERINE CLARK, PHD.  
Harvard School of Public Health  
Boston, MA, USA

The era of modern began in 1958 with the invention of the integrated circuit by J. S. Kilby of Texas Instruments [?]. His first chip is shown in Fig. I. For comparison, Fig. I.2 shows a modern microprocessor chip, [4].  
This is the introduction. This is the introduction. This is the introduction. This is the introduction. This is the introduction. This is the introduction.

$$ABC\mathcal{DE}\mathcal{F}\alpha\beta\Gamma\Delta\sum_{def}^{abc} \tag{I.1}$$

## REFERENCES

1. J. S. Kilby, "Invention of the Integrated Circuit," *IEEE Trans. Electron Devices*, **ED-23**, 648 (1976).
2. R. W. Hamming, *Numerical Methods for Scientists and Engineers*, Chapter N-1, McGraw-Hill, New York, 1962.
3. J. Lee, K. Mayaram, and C. Hu, "A Theoretical Study of Gate/Drain Offset in LDD MOSFETs" *IEEE Electron Device Lett.*, **EDL-7**(3). 152 (1986).



# CHAPTER 1

---

## PHALCON - OVERVIEW

---

### 1.1 Pengenalan

Phalcon diperkenalkan sebagai salah satu Framework PHP terbaru, yang dikembangkan oleh sekelompok pengembang yang antusias. Phalcon adalah Framework yang digabungkan secara longgar, yang berarti memungkinkannya bisa membuat komponen objek menempel seperti lem, berdasarkan kebutuhan aplikasi.

Phalcon memberikan beberapa fitur yang unik sebagai keunggulan dibandingkan framework yang lain (baik framework tradisional atau yang sering dipakai) di pemrograman PHP. Diantaranya:

- Framework yang full-stack open source
- User hanya membutuhkan code yang lebih sedikit untuk mendapatkan keuntungan di beberapa komponen
- bisa dipakai untuk membuat framework independen seperti yang dibutuhkan. Contohnya, jika kita hanya membutuhkan komponen cache yang dimiliki Phalcon, kita bisa menggunakannya di aplikasi apapun baik yang dibuat PHP atau menggunakan framework lain.

- Di sisi developer, mereka mempunyai konsep MVC (Model-View-Controller) dan ORM (Object-Relational Modeling), bekerja dengan mudahnya dalam pemrograman Phalcon.

### 1.1.1 Performance

Perbedaan Framework Phalcon dengan Framework Yii dan Laravel [1].

| -                       | Yii  | Laravel  | Phalcon   |
|-------------------------|--|--|---|
| Tipe dalam Proyek       | Yii adalah spesialis membuat proyek skala besar seperti forums, portals, CMS, RESTful web services, dll. | Laravel biasa digunakan untuk aplikasi berbasis web, laravel terkenal karena sintaks nya yang sangat indah dan canggih | Phalcon digunakan untuk semua variasi proyek                                |
| Database yang Mendukung | Yii mendukung semua RDBMS dan non-RDBMS  | Laravel mendukung semua RDBMS  | Phalcon memberikan dukungan secara equal (sama) baik RDBMS maupun non-RDBMS |
| Bahasa Pemrograman      | Framework Yii menggunakan bahasa pemrograman PHP saja  | Laravel menggunakan bahasa pemrograman PHP dan mengikuti pattern MVC   | Phalcon menggunakan bahasa pemrograman PHP dan C                            |
| Keterjangkauan          | Yii cukup baik digunakan di skala proyek kecil ke menengah   | Laravel punya keterjangkauan yang tinggi dalam skala proyek  | Phalcon cocok untuk proyek skala menengah                                   |
| Performa                | Sedikit lambat   | Performa tinggi namun masih dibawah Phalcon  | Performa Tinggi   |

**1.1.1.1 This is the subsection** Here is some text after the subsection. Here is some text after the subsection. Here is some text after the subsection. Here is some text after the subsection.

*This is the paragraph* Here is some normal text. Here is some normal text. Here is some normal text. Here is some normal text.

## 1.2 Tips On Special Section Heads

Here are some things you can do for a special section head.

### 1.3 Break Long Section heads with double backslash

Here is some normal text. Here is some normal text. Here is some normal text.

### 1.4 Here is a Section Title

See this section head for information on how to explicitly break lines in table of contents.

### 1.5 How to get lower case in section head: $pH$

Here is some normal text. Here is some normal text. Here is some normal text.

### 1.6 How to use a macro that has both upper and lower case parts:

$V_{Txyz}$

See the top of this file where the definition and box were set.

### 1.7 Equation

For optimal vertical spacing, no blank lines before or after equations

$$\alpha\beta\Gamma\Delta \tag{1.1}$$

as you see here.





## CHAPTER 2

---

# ENVIROMENTAL SETUP

---

### 2.1 Aplikasi yang dibutuhkan

Memerlukan XAMPP untuk instalasi Framework Phalcon.

- Step 1: Download Install lah file DLL (Dynamic Link Library) Phalcon di link <https://phalconphp.com/en/download>, sesuaikan file dll nya dengan konfigurasi versi XAMPP Anda.
- Step 2: Extract phalcon-php.dll file ke direktori /php/ext di folder XAMPP.
- Step 3: Edit file php.ini didalam folder /XAMPP/php/php.ini. Tambahkan "extension=php\_phalcon.dll" tanpa tanda kutip ke baris akhir php.ini. Sesuai dengan gambar 2.1
- Step 4: Setelah itu, cek di localhost/dashboard/phpinfo.php, akan terdaftar library phalcon disana.
- Step 5: Set Path Variable nya dengan menekan windows+R di keyboard, lalu ketikkan "sysdm.cpl SystemProperties" tanpa tanda kutip, masuk tab advance, lalu enviromental variables, klik new, dan masukkan path nya:



```

; tab-width: 4
; End:
[Syslog]
define_syslog_variables=Off
[Session]
define_syslog_variables=Off
[Date]
date.timezone=Europe/Berlin
[MySQL]
mysql.allow_local_infile=On
mysql.allow_persistent=On
mysql.cache_size=2000
mysql.max_persistent=-1
mysql.max_link=-1
mysql.default_port=3306
mysql.default_socket="MySQL"
mysql.connect_timeout=3
mysql.trace_mode=Off
[Sybase-CT]
sybct.allow_persistent=On
sybct.max_persistent=-1
sybct.max_links=-1
sybct.min_server_severity=10
sybct.min_client_severity=10
[MSSQL]
mssql.allow_persistent=On
mssql.max_persistent=-1
mssql.max_links=-1
mssql.min_error_severity=10
mssql.min_message_severity=10
mssql.compatability_mode=Off
mssql.secure_connection=Off
extension=php_phalcon.dll

```

**Figure 2.1** Apa yang harus di-edit di file php.ini

- Step 6: Path variable ini membantu Anda agar bisa menjalankan Phalcon Framework via cmd, terutama jika ingin membuat project yang baru:
- Step 7: Setelah masuk cmd, ketikkan command seperti di 2.1.

**Listing 2.1** Command untuk cara menambah project baru

```
phalcon create --project <project --name>
```

- Step 8: Project berhasil dibuat! masuk ke URL localhost/namaprojectanda

## CHAPTER 3

---

# SECOND EDITED BOOK SAMPLE CHAPTER TITLE

---

GEORGE SMEAL, PH.D.<sup>1</sup>, SALLY SMITH, M.D.<sup>2</sup> AND STANLEY KUBRICK<sup>1</sup>

<sup>1</sup>AT&T Bell Laboratories Murray Hill, New Jersey

<sup>2</sup>Harvard Medical School, Boston, Massachusetts

### 3.1 Sample Section

Here is some sample text.

### 3.2 Example, Figure and Tables

#### EXAMPLE 3.1 Optional Example Name

Use Black’s law [Equation (6.3)] to estimate the reduction in useful product life if a metal line is initially run at 55°C at a maximum line current density.

illustration here

**Figure 3.1** Short figure caption.

**Figure 3.2** Oscillograph for memory address access operations, showing 500 ps address access time and superimposed signals of address access in 1 kbit memory plane.

| Table 3.1 Small Table |     |       |      |
|-----------------------|-----|-------|------|
| one                   | two | three | four |
| C                     | D   | E     | F    |

**Table 3.2** Effects of the two types of  $\alpha\beta\sum_B^A$  scaling proposed by Dennard and co-workers<sup>a,b</sup>

| Parameter            | $\kappa$ Scaling | $\kappa, \lambda$ Scaling |
|----------------------|------------------|---------------------------|
| Dimension            | $\kappa^{-1}$    | $\lambda^{-1}$            |
| Voltage              | $\kappa^{-1}$    | $\kappa^{-1}$             |
| Currant              | $\kappa^{-1}$    | $\lambda/\kappa^2$        |
| Dopant Concentration | $\kappa$         | $\lambda^2/\kappa$        |

<sup>a</sup>Refs. 19 and 20.

<sup>b</sup> $\kappa, \lambda > 1$ .

#### 3.2.1 Side by Side Tables and Figures

Space for figure...

**Figure 3.3** This caption will go on the left side of the page. It is the initial caption of two side-by-side captions.

Space for second figure...

**Figure 3.4** This caption will go on the right side of the page. It is the second of two side-by-side captions.

| Table 3.3 Table Caption |        |        |       | Table 3.4 Table Caption |               |        |       |
|-------------------------|--------|--------|-------|-------------------------|---------------|--------|-------|
| one                     | two    | three  | four  | A                       | B             | C      | D     |
| a                       | little | sample | table | a                       | second little | sample | table |

The command `\sidebyside{ }{ }` works similarly for tables:

When using `\sidebyside`, one must use the cross referencing command `\label{ }` after and *outside* of `\caption{ }`:

```
\begin{table}
\sidebyside{\caption{Table Caption}\label{tab1}
first table}
{\caption{Table Caption}\label{tab2} second table}
\end{table}
```

or,

```
\begin{figure}
\sidebyside{\vskip<dimen>\caption{fig caption}\label{fig1}}
{\vskip<dimen>\caption{fig caption}\label{fig2}}
\end{figure}
```

### 3.3 Algorithm

This is a sample algorithm.

#### Algorithm 3.1

```
state.transition algorithm {
  for each neuron  $j \in \{0, 1, \dots, M-1\}$ 
  {
    calculate the weighted sum  $S_j$  using Eq. (6);
    if ( $S_j > t_j$ )
      {turn ON neuron;  $Y_1 = +1$ }
    else if ( $S_j < t_j$ )
      {turn OFF neuron;  $Y_1 = -1$ }
    else
      {no change in neuron state;  $y_j$  remains unchanged;}
  }
}
```

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 normal text. Here is some normal text.

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This is a sample of extract or quotation.

1. This is the first item in the numbered list.
  2. This is the second item in the numbered list. This is the second item in the numbered list. This is the second item in the numbered list.
- This is the first item in the itemized list.
  - This is the first item in the itemized list. This is the first item in the itemized list. This is the first item in the itemized list.

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## PROBLEMS

**3.1** For Hooker's data, Problem 1.2, use the Box and Cox and Atkinson procedures to determine a appropriate transformation of PRES in the regression of PRES on TEMP. find  $\hat{\lambda}$ ,  $\tilde{\lambda}$ , the score test, and the added variable plot for the score. Summarize the results.

**3.2** The following data were collected in a study of the effect of dissolved sulfur on the surface tension of liquid copper (Baes and Killogg, 1953).

| $x = \text{Weight \% sulfur}$ |     | $Y = \text{Decrease in Surface Tension}$<br>(dynes/cm), two Replicates |     |
|-------------------------------|-----|--|-----|
| 0.                            | 034 | 301  | 316 |
| 0.                            | 093 | 430  | 422 |
| 0.                            | 30  | 593  | 586 |

- a) Find the transformations of  $X$  and  $Y$  sot that in the transformed scale the regression is linear.
  - b) Assuming that  $X$  is transformed to  $\ln(X)$ , which choice of  $Y$  gives better results,  $Y$  or  $\ln(Y)$ ? (Sclove, 1972).
  - c) In the case of  $\alpha_1$ ?
  - d) In the case of  $\alpha_2$ ?
- 3.3** Examine the Longley data, Problem 3.3, for applicability of assumptions of the linear model.
- 3.4** In the case of  $\Gamma_1$ ?
- 3.5** In the case of  $\Gamma_2$ ?

## EXERCISES

**3.1** For Hooker's data, Exercise 1.2, use the Box and Cox and Atkinson procedures to determine a appropriate transformation of PRES in the regression of PRES on TEMP. find  $\hat{\lambda}$ ,  $\tilde{\lambda}$ , the score test, and the added variable plot for the score. Summarize the results.

**3.2** The following data were collected in a study of the effect of dissolved sulfur on the surface tension of liquid copper (Baes and Killogg, 1953).

| $x = \text{Weight \% sulfur}$ |     | $Y = \text{Decrease in Surface Tension}$<br>(dynes/cm), two Replicates |     |
|-------------------------------|-----|--|-----|
| 0.                            | 034 | 301  | 316 |
| 0.                            | 093 | 430  | 422 |
| 0.                            | 30  | 593  | 586 |

- Find the transformations of  $X$  and  $Y$  sot that in the transformed scale the regression is linear.
- Assuming that  $X$  is transformed to  $\ln(X)$ , which choice of  $Y$  gives better results,  $Y$  or  $\ln(Y)$ ? (Sclove, 1972).
- In the case of  $\Delta_1$ ?
- In the case of  $\Delta_2$ ?

**3.3** Examine the Longley data, Problem 3.3, for applicability of assumptions of the linear model.

**3.4** In the case of  $\Gamma_1$ ?

**3.5** In the case of  $\Gamma_2$ ?

## 3.4 Summary

This is a summary of this chapter. Here are some references: [1], [4].

## REFERENCES

- J. S. Kilby, "Invention of the Integrated Circuit," *IEEE Trans. Electron Devices*, **ED-23**, 648 (1976).
- R. W. Hamming, *Numerical Methods for Scientists and Engineers*, Chapter N-1, McGraw-Hill, New York, 1962.
- J. Lee, K. Mayaram, and C. Hu, "A Theoretical Study of Gate/Drain Offset in LDD MOSFETs" *IEEE Electron Device Lett.*, **EDL-7**(3). 152 (1986).
- A. Berenbaum, B. W. Colbry, D.R. Ditzel, R. D Freeman, and K.J. O'Connor, "A Pipelined 32b Microprocessor with 13 kb of Cache Memory," it Int. Solid State Circuit Conf., Dig. Tech. Pap., p. 34 (1987).



## Appendix: This is the Chapter Appendix Title

This is an appendix with a title.

$$\alpha\beta\Gamma\Delta \tag{A.1}$$

**Figure 3-A.1** This is an appendix figure caption.

**Table 3-A.1** This is an appendix table caption

| Date | Event   |
|------|---|
| 1867 | Maxwell speculated the existence of electromagnetic waves.              |
| 1887 | Hertz showed the existence of electromagnetic waves.                    |
| 1890 | Branly developed technique for detecting radio waves.                   |
| 1896 | Marconi demonstrated wireless telegraph.                                |
| 1897 | Marconi patented wireless telegraph.                                    |
| 1898 | Marconi awarded patent for tuned communication.                         |
| 1898 | Wireless telegraphic connection between England and France established. |

## Appendix

This is a Chapter Appendix without a title.

Here is a math test to show the difference between using Computer Modern math fonts and MathTimes math fonts. When MathTimes math fonts are used the letters in an equation will match TimesRoman italic in the text. (*g, i, y, x, P, F, n, f, etc.*) Caligraphic fonts, used for  $\mathcal{ABC}$  below, will stay the same in either case.

$$g_i(y|f) = \sum_x P(x|F_n) f_i(y|x) \mathcal{ABC} \tag{B.1}$$

where  $g_i(y|F_n)$  is the function specifying the probability an object will display a value  $y$  on a dimension  $i$  given  $F_n$  the observed feature structure of all the objects.

# APPENDIX A

## THIS IS THE APPENDIX TITLE

---

This is an appendix with a title.

$$\alpha\beta\Gamma\Delta \tag{A.1}$$

**Figure A.1** This is an appendix figure caption.

**Table A.1** Appendix table caption

| Alpha    | Beta    | Gamma    | Delta    |
|----------|---------|----------|----------|
| $\alpha$ | $\beta$ | $\Gamma$ | $\Delta$ |



## APPENDIX B

---

This is an appendix without a title.

Here is a math test to show the difference between using Computer Modern math fonts and MathTimes math fonts. When MathTimes math fonts are used the letters in an equation will match TimesRoman italic in the text. (*g, i, y, x, P, F, n, f, etc.*) Caligraphic fonts, used for *ABC* below, will stay the same in either case.

$$g_i(y|f) = \sum_x P(x|F_n) f_i(y|x) \mathcal{ABC} \quad (\text{B.1})$$

where  $g_i(y|F_n)$  is the function specifying the probability an object will display a value  $y$  on a dimension  $i$  given  $F_n$  the observed feature structure of all the objects.



## APPENDIX C

### ALTERNATE REFERENCE STYLES

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## REFERENCES

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1. Prokofyeva, Natalya and Boltunova, Victoria, "Analysis and Practical Application of PHP Frameworks in Development of Web Information Systems," *Procedia Computer Science*, **104**, 51–56 (2017).
2. R. W. Hamming, *Numerical Methods for Scientists and Engineers*, Chapter N-1, McGraw-Hill, New York, 1962.
3. J. Lee, K. Mayaram, and C. Hu, "A Theoretical Study of Gate/Drain Offset in LDD MOSFETs" *IEEE Electron Device Lett.*, **EDL-7**(3). 152 (1986).
4. A. Berenbaum, B. W. Colbry, D.R. Ditzel, R. D Freeman, and K.J. O'Connor, "A Pipelined 32b Microprocessor with 13 kb of Cache Memory," in Int. Solid State Circuit Conf., Dig. Tech. Pap., p. 34 (1987).





## Index

---

microelectronics, xxvii  
modern, xxvii