

# Contents

Preface . . . . . xxix

Acknowledgments . . . . . xxxv

**Part I: Project Management Basics . . . . . 1**

---

**Chapter 1: The Nature of Projects . . . . . 3**

    Understanding Projects .....3

        Exploring project management .....4

            Critical path and slack .....4

            Durations and milestones .....7

            Resource-driven schedules and fixed-duration tasks .....8

            Diagrams that aid project management .....8

            Dependencies .....11

        Managing projects with project management software .....11

            What's required of you .....12

            What Microsoft Project can do to help .....13

    The Life Cycle of a Project .....14

        Identifying your goal and the project's scope .....14

        Planning .....15

        Revising .....16

        Tracking .....17

        Learning from your mistakes .....18

    Summary .....19

**Chapter 2: Exploring the Microsoft Project Environment . . . . . 21**

    Taking a First Look at Project .....21

        Starting Project .....22

            Working with the Project Guide .....23

            Examining the Gantt Chart view .....29

            Using Project menus .....31

            Examining the toolbars .....35

        Entering information .....36

        Changing views .....38

    What's New in Project 2007 .....39

    Summary .....40

**Part II: Getting Your Project Going 41**

**Chapter 3: Creating a New Project . . . . . 43**

- Gathering Information .....43
  - Determining detail tasks .....44
  - Establishing time limits .....45
  - Lining up your resources .....45
  - Looking at dependencies .....45
- Opening a Project File .....46
  - Opening a project file — the usual way .....46
  - Other ways to open or start projects .....46
- Establishing Basic Project Information .....49
- Looking at Project Calendars .....52
  - Setting calendar options .....53
  - Setting schedule options .....54
  - Creating a new calendar .....54
  - Adjusting the calendar .....57
- Entering Tasks .....61
- Adding Subtasks.....64
- Saving Project Files.....67
  - Saving files .....68
  - Saving files as templates .....69
  - Protecting files .....69
  - Closing Project .....70
- Working with a Project Outline .....70
  - Adjusting tasks in an outline .....70
  - Copying tasks.....73
  - Displaying and hiding tasks .....75
- Getting Help.....78
  - Using the Help system .....78
  - Finding online help .....81
- Summary .....82

**Chapter 4: Building Tasks . . . . . 83**

- Establishing Timing for Tasks .....83
  - Fixed-unit tasks .....84
  - Fixed-duration tasks .....84
  - Fixed-work tasks .....85
  - Effort-driven tasks .....86
- Assigning Task Timing .....86
  - Using the Gantt table .....86
  - Using the Task Information dialog box .....88
  - Using your mouse and the task bar.....90

Setting scheduling options .....91  
 Assigning a calendar to a task .....92  
 Creating milestones .....93  
 Timing for summary tasks .....94  
 Using Recurring Tasks .....95  
 Establishing Constraints and Deadline Dates .....99  
     Understanding constraints .....99  
     Using deadline dates.....99  
     Setting constraints and deadline dates .....100  
 Manipulating the Gantt Chart to View Timing .....102  
 Entering Task Notes .....105  
 Establishing Dependencies Among Tasks .....108  
     Understanding dependencies .....108  
     Understanding the interactions between constraints and dependencies .....108  
     Allowing for delays and overlap .....110  
     Dependency types .....112  
         Finish-to-Start (FS) .....112  
         Start-to-Finish (SF) .....113  
         Start-to-Start (SS) .....115  
         Finish-to-Finish (FF) .....116  
     Establishing dependencies .....117  
         Setting finish-to-start dependencies .....117  
         Setting other types of dependencies .....118  
 Viewing Dependencies .....120  
 Deleting Dependencies .....122  
 Summary .....122

**Chapter 5: Creating Resources and Assigning Costs . . . . . 123**

Understanding Resources .....123  
     How resources work .....124  
     How Project uses resource information to affect the schedule .....125  
     How Project gathers cost information .....125  
 Creating a Resource List .....126  
 Modifying Resource Information .....129  
     Assigning a communication method .....130  
     Specifying resource availability .....130  
     Specifying a booking type.....130  
     Creating a generic resource and assigning custom fields .....133  
     Creating a budget resource .....134  
     Adding notes to a resource .....135  
     Calendars and resources .....137  
         Modifying a resource’s working hours .....137  
         Blocking off vacation time .....139

## Contents

Using Resources and Tasks .....	141
Assigning resources to tasks .....	141
Assigning a budget resource .....	143
Getting help while selecting resources to assign .....	145
Some tips about resource assignments .....	148
Removing or replacing a resource assignment .....	150
Handling Unusual Cost Situations .....	151
Looking at the project's cost .....	151
Assigning fixed costs.....	152
Assigning a fixed cost to a task .....	152
Assigning a fixed resource cost to a task .....	153
Accounting for resource rate changes .....	155
Summary .....	158

## **Part III: Refining Your Project** **159**

---

### **Chapter 6: Understanding the Basics of Views . . . . . 161**

What Is a View? .....	161
Changing a table.....	162
Changing a Details section .....	164
Examining Indicators .....	165
Admiring the Views .....	166
Calendar .....	167
Detail Gantt .....	168
Gantt Chart .....	169
Leveling Gantt .....	170
Tracking Gantt .....	172
Multiple Baselines Gantt .....	174
Network Diagram .....	175
Descriptive Network Diagram.....	180
Relationship Diagram .....	181
PERT analysis views .....	182
PERT Entry Sheet .....	183
Optimistic Gantt .....	184
Expected Gantt .....	185
Pessimistic Gantt .....	186
PERT Weights .....	186
Resource Allocation .....	188
Resource Form .....	189
Resource Graph .....	190
Resource Name Form .....	191
Resource Sheet .....	192
Resource Usage.....	194

Rollup views .....	195
Using the summary task bar .....	196
Using the Rollup_Formatting macro .....	198
Switching rollup views .....	201
Task Details Form.....	203
Task Entry .....	204
Task Form .....	205
Task Name Form .....	206
Task Sheet .....	207
Task Usage .....	208
Printing Your Project .....	209
Summary .....	213

**Chapter 7: Using Views to Gain Perspective . . . . . 215**

Customizing Views.....	215
Changing tables .....	215
Changing row height and column width.....	215
Hiding and inserting columns.....	217
Adding fields to a usage view .....	218
Switching tables .....	220
Creating new tables or editing existing tables .....	221
Working with views .....	224
Adding views .....	225
Creating a combination view.....	227
Ordering Tasks in a View .....	229
Sorting tasks .....	229
Creating WBS codes .....	232
Renumbering WBS codes .....	235
Defining outline numbers.....	238
Filtering Views to Gain Perspective .....	242
Applying a filter to a view.....	246
Creating custom filters .....	247
Using AutoFilters .....	248
Using grouping.....	249
Summary .....	253

**Chapter 8: Modifying the Appearance of Your Project . . . . . 255**

Changing Project's Looks .....	255
Using the Gantt Chart Wizard .....	257
Formatting Elements One by One .....	261
Working with text.....	261
Formatting selected text .....	261
Applying formatting to categories of text .....	263

## Contents

Changing taskbars .....	265
Formatting taskbars .....	265
Changing the layout of the Gantt Chart .....	270
Changing gridlines .....	272
Changing network diagrams .....	273
Formatting network diagram nodes .....	273
Modifying node box styles .....	274
Formatting fields that appear on nodes .....	275
Changing the layout of the network diagram .....	278
Formatting the Calendar view.....	280
Formatting the Calendar entries .....	281
Changing the Calendar layout.....	282
Inserting Drawings and Objects .....	284
Copying pictures .....	284
Using visuals in schedules .....	291
Inserting visual objects .....	291
Using the Drawing toolbar .....	294
Modifying graphics and drawings.....	297
Summary .....	298
<b>Chapter 9: Resolving Scheduling Problems . . . . .</b>	<b>299</b>
Resolving Scheduling Conflicts.....	299
Adding resources to tasks .....	300
Using overtime .....	301
Adding time to tasks.....	302
Adjusting slack .....	303
Changing task constraints.....	304
Adjusting dependencies .....	307
Splitting a task .....	309
Using the Critical Path to Shorten a Project .....	311
Identifying the critical path.....	312
Shortening the critical path.....	315
Using Multiple Critical Paths .....	317
Summary .....	320
<b>Chapter 10: Resolving Resource Problems . . . . .</b>	<b>321</b>
Understanding How Resource Conflicts Occur.....	321
Spotting Resource Conflicts .....	322
Using views to spot resource conflicts.....	323
Using filters to spot resource conflicts.....	325
Resolving Conflicts.....	327
Changing resource allocations .....	327
Switching resources .....	328
Adding a task assignment to a resource.....	330
Adding or deleting a resource assignment .....	330

Scheduling overtime .....	331
Redefining a resource's calendar .....	332
Assigning part-time work .....	334
Controlling when resources start working on a task .....	336
Delaying tasks by leveling resource workloads .....	337
Letting Project level resource loads .....	337
Making adjustments to leveling.....	340
Contouring resources .....	342
Setting a contour pattern .....	343
Contouring a resource's availability .....	345
Pooling resources .....	346
Summary .....	346

**Part IV: Tracking Your Progress** **347**

---

**Chapter 11: Understanding Tracking . . . . . 349**

Understanding the Principles of Tracking.....	349
Estimates versus actuals .....	350
Making adjustments as you go .....	350
Using Baselines.....	352
What is a baseline? .....	352
Setting a baseline .....	353
Changing the Baseline .....	356
Adding a task to a baseline .....	356
Using interim plans .....	357
Clearing a baseline or interim plan .....	359
Viewing Progress with the Tracking Gantt View .....	359
Interpreting the Tracking Gantt view .....	360
The Task Variance table .....	362
The Task Cost table .....	363
The Task Work table.....	364
Understanding Tracking Strategies .....	365
Tackling the work of tracking.....	365
Keeping track of tracking .....	366
Summary .....	366

**Chapter 12: Recording Actuals . . . . . 367**

Organizing the Updating Process .....	367
Understanding Calculation Options .....	368
Updating Tasks to Reflect Actual Information.....	371
Setting actual start and finish dates.....	372
Recording actual durations .....	373
Setting the Percent Complete value.....	374
Setting work completed .....	376
Setting remaining durations .....	377

## Contents

Using Actuals and Costs .....	379
Using the Cost table for tasks .....	380
Using the Cost table for resources .....	381
Overriding resource cost valuations .....	381
Techniques and Tips for Updating .....	384
Tracking work or costs regularly .....	384
Accelerating the updating process .....	387
Letting Project reschedule uncompleted work .....	389
Reviewing Progress .....	390
Using the Tracking Gantt view .....	391
Using the Work table for tasks .....	392
Using the Work table for resources .....	393
Viewing progress lines .....	393
Summary .....	395
<b>Chapter 13: Reporting on Progress . . . . .</b>	<b>397</b>
Creating Text Reports .....	398
Looking at the big picture .....	401
Project Summary .....	401
Top Level Tasks .....	401
Critical Tasks .....	401
Milestones .....	403
Working Days .....	404
Generating reports on costs .....	404
Cash Flow .....	405
Earned Value .....	406
Budget .....	408
Overbudget reports .....	408
Producing reports on time .....	410
Unstarted Tasks .....	410
Tasks Starting Soon .....	410
Tasks in Progress .....	413
Completed Tasks .....	413
Should Have Started Tasks .....	414
Slipping Tasks .....	414
Preparing reports on work assignments .....	415
Who Does What .....	415
Who Does What When .....	415
To Do List .....	418
Overallocated Resources .....	418
Reporting on workloads .....	419
Task Usage .....	420
Resource Usage .....	420



Customizing reports .....	423
Custom reports .....	423
Customizing an existing report .....	425
Visual Reporting.....	429
Task Usage reports .....	430
Cash Flow Report .....	431
Earned Value Over Time Report .....	431
Resource usage reports .....	432
Cash Flow Report .....	432
Resource Availability Report .....	433
Resource Cost Summary Report .....	434
Resource Work Availability Report .....	435
Resource Work Summary Report .....	436
Assignment Usage reports.....	437
Baseline Cost Report .....	437
Baseline Report .....	438
Baseline Work Report .....	439
Budget Cost Report.....	440
Budget Work Report .....	441
Summary reports .....	442
Critical Tasks Status Report.....	442
Task Status Report .....	443
Resource Remaining Work Report.....	444
Resource Status Report .....	445
Customizing visual report templates .....	446
Summary .....	449

**Chapter 14: Analyzing Financial Progress. . . . . 451**

Understanding Earned Value .....	451
Understanding earned value fields .....	452
Using the Physical % Complete method to calculate earned value .....	454
Setting the date for earned-value calculations .....	455
Using earned value tables .....	457
Using the Earned Value table for tasks .....	457
Using the Earned Value table for resources .....	458
Using the Earned Value Cost Indicators and Earned Value Schedule Indicators tables .....	459
Evaluating Cost Information.....	461
Charting earned value .....	462
Using PivotTables for analysis.....	469
Making Adjustments During the Project .....	474
Changing the schedule .....	475
Modifying resource assignments .....	475
Summary .....	476

**Part V: Working in Groups** **477**

**Chapter 15: Coordinating Multiple Projects Outside Project Server . . . . 479**

- Consolidating Projects ..... 479
  - Setting up to use consolidation..... 480
  - Inserting a project..... 482
  - Using inserted projects and their source files ..... 488
  - Consolidating all open projects: A shortcut ..... 489
  - Moving subprojects within a consolidated project ..... 490
- Understanding Consolidated Projects and Dependencies ..... 491
  - Linking tasks across projects..... 491
  - Changing links across projects ..... 493
  - Consolidated projects — to save or not to save..... 494
- Viewing Multiple Projects ..... 496
- Viewing the Critical Path across Projects ..... 497
- Sharing Resources Among Projects ..... 500
  - Creating a resource pool and sharing the resources..... 501
  - Opening a project that uses a resource pool ..... 502
  - Updating information in the resource pool ..... 503
  - Quit sharing resources ..... 504
- Summary ..... 506

**Chapter 16: Preparing to Use Project Server . . . . . 507**

- Understanding Project Server and Project Web Access ..... 507
- What's New in Project Server 2007..... 510
- Planning the Project ..... 512
  - Assessing requirements..... 512
    - Identify the people who will approve the Project Server design..... 512
    - Identify staff members to interview ..... 512
    - Create a requirements definition questionnaire ..... 513
    - Conduct interviews..... 513
    - Calculate ROI ..... 514
  - Designing the system ..... 514
    - Assessing the technology environment ..... 514
    - Addressing special needs ..... 514
    - Establishing and enforcing organizational standards ..... 514
    - Training ..... 517
  - Developing a strategy for implementation and configuration ..... 517
- Avoiding the Pitfalls ..... 518
- Summary ..... 519

<b>Chapter 17: Installing and Configuring Project Server . . . . .</b>	<b>521</b>
Reviewing Requirements .....	521
Meeting software requirements .....	522
Software requirements for servers .....	522
Software requirements for client computers .....	522
Meeting hardware requirements .....	522
Hardware requirements for servers .....	523
Hardware requirements for client computers .....	523
Assessing the network environment .....	523
Considering software/hardware scenarios .....	524
The Small Server Farm .....	525
The Medium Server Farm .....	525
The Large Server Farm .....	525
Installing Peripheral Software .....	525
SQL Server and Analysis Services .....	526
Checking the SQL version .....	526
Internet Information Services (IIS) .....	527
Enabling IIS .....	527
Checking the IIS mode .....	529
Installing .NET Framework 3.0 .....	530
Setting Up Windows Security Accounts .....	530
Windows SharePoint Services Service account .....	531
The Application Pool security account .....	531
Site Collection Owner account .....	531
Shared Service Provider Administrator account .....	532
Project Server Instance Administrator account .....	532
Creating an account .....	532
Installing Project Server and Windows SharePoint Services .....	534
Connecting to Project Server through Project Web Access .....	540
Troubleshooting Your Installation .....	541
Summary .....	541
<b>Chapter 18: Project Server and the Administrator . . . . .</b>	<b>543</b>
Double-Checking Settings .....	544
Specifying Project Server features for your organization .....	546
Managing Windows SharePoint Services .....	548
Managing Security Settings .....	550
Managing security templates .....	550
Managing groups .....	552
Working with categories .....	554
Managing Users .....	557

## Contents

Working with Views .....	560
Working with the Enterprise Global Template .....	562
Working with the Enterprise Global .....	562
Defining Enterprise custom fields .....	564
Creating Enterprise calendars .....	567
Setting Up and Editing Enterprise Resources .....	568
Creating the Enterprise Resource Pool .....	569
Editing resources in the Enterprise Resource Pool.....	570
Importing Projects .....	572
Managing Timesheet and Task Settings.....	574
Financial Periods .....	574
Timesheet Periods.....	575
Timesheet classifications .....	576
Timesheet Settings and Defaults .....	577
Task Settings and Display .....	579
Close Tasks to Update .....	581
Setting Up Administrative Time .....	582
Customizing Project Web Access .....	583
Control the appearance of the Quick Launch pane .....	583
Selecting the Gantt taskbar styles and timescales .....	584
Selecting grouping formats .....	585
Housekeeping Chores .....	586
Checking in enterprise projects and resources .....	586
Managing information in the Project Server databases .....	588
Backing up and restoring .....	589
Schedule backups .....	589
Make a backup .....	590
Restore a backup.....	590
Managing the Queue .....	591
Managing the OLAP cube .....	593
Migrating the Analysis Services Repository .....	593
Configuring the cube .....	596
Establish cube building settings .....	597
Checking cube building status .....	598
Enabling users to view the cube .....	599
Managing operations .....	602
Alerts and reminders.....	603
Configuring the server-side event handler.....	604
Synchronizing the Enterprise Resource Pool with an Active Directory Group .....	605
Working with Project Workspaces .....	606
Summary .....	608

<b>Chapter 19: Project Server and the Project/Resource Manager . . . . .</b>	<b>611</b>
Connecting to Project Server .....	611
Creating a Project Server logon account .....	611
Logging on to Project Server .....	614
Creating a Web-Based Project .....	614
Understanding the structure of the Project Server database.....	614
Reviewing a project's Web-based options .....	615
Storing a draft project in the Project Server database .....	616
Publishing project information .....	617
Working with Web-Based Projects .....	617
Opening a project stored in the Project Server database .....	618
Understanding the Open dialog box .....	618
Opening a draft project or a published project .....	619
Closing a project stored in the Project Server database .....	620
Managing the local cache .....	620
Viewing Project Server pages in Project Professional .....	622
Using activity plans and proposals .....	623
Assigning Resources to Projects .....	626
Adding enterprise resources to your project .....	627
Replacing generic resources with real resources .....	628
Notifying resources of assignments .....	629
Using the Resource Substitution Wizard .....	629
Assigning resources using Project Web Access .....	633
Tracking Progress .....	638
Establishing a tracking method.....	638
Setting up status reports .....	640
Receiving updates from team members.....	642
Working with issues and risks .....	645
Tracking issues .....	646
Tracking risks .....	650
Managing deliverables .....	651
Summary .....	654
<b>Chapter 20: Project Server and the Day-to-Day User . . . . .</b>	<b>655</b>
Logging on to Project Web Access .....	655
Reviewing the Home Page .....	656
Customizing the Home Page .....	657
Viewing Information .....	660
Working with your tasks.....	661
Entering time on tasks .....	663
Submitting task updates .....	664
Adding tasks .....	665
Reassigning a task .....	667

## Contents

Working with your timesheet .....	668
Entering time .....	670
Saving timesheet entries .....	670
Reporting administrative time .....	671
Project Web Access and Microsoft Outlook .....	672
Integrating the Outlook Calendar with Project Web Access .....	672
Setting up integration .....	672
Setting integration options .....	674
Importing Project Web Access assignments into Outlook .....	675
Updating Project Web Access with Outlook information.....	677
Working with Documents .....	678
Reporting Status .....	681
Summary .....	683
<b>Chapter 21: Project Server and the Executive . . . . .</b>	<b>685</b>
Reviewing Your Portfolio .....	685
Identifying Trends and Potential Problems .....	690
Summary .....	693
<b>Part VI: Advanced Microsoft Project</b>	<b>695</b>
<hr/>	
<b>Chapter 22: Customizing Microsoft Project . . . . .</b>	<b>697</b>
Using Custom Fields .....	697
Customizing data entry .....	698
Creating a custom field .....	698
Using a custom field for data entry .....	700
Using formulas in custom fields .....	702
Modifying the Interface .....	707
Setting levels of Undo .....	707
Windows taskbar icons.....	708
Saving Project files .....	710
Using the Organizer .....	712
Making changes to toolbars .....	713
Combining or separating toolbars .....	713
Adding and deleting tools from a toolbar .....	717
Creating custom toolbars .....	718
Changing and editing button images.....	720
Customizing project menus .....	723
Adding menus .....	723
Assigning new commands.....	725
Deleting commands and menus .....	727
Summary .....	727

<b>Chapter 23: Using Macros to Speed Your Work . . . . .</b>	<b>729</b>
Using Macros .....	729
Recording Macros.....	730
Running Macros .....	734
Using Shortcuts to Run Macros .....	735
Assigning a macro to a toolbar button .....	735
Assigning a macro to a menu command .....	739
Assigning a keyboard shortcut to a macro.....	745
Summary .....	746
<b>Chapter 24: Customizing Microsoft Project</b>	
<b>Using VBA and Active Scripting . . . . .</b>	<b>747</b>
Example One: Creating a Filter to See Critical Tasks and Resource Assignments .....	748
Recording a macro to create a filter for critical tasks .....	748
Editing the macro to show only specified resources .....	751
Testing the code .....	752
Example Two: Creating a UserForm Object to Adjust Work .....	756
Designing the UserForm .....	757
Creating a UserForm.....	757
Adjusting the size of the UserForm .....	758
Adding controls to the UserForm .....	759
Adding code to the UserForm.....	765
Adding code to display resource names .....	765
Adding code to the OK button to change work.....	767
Adding code to the Cancel button .....	770
Adding a sub procedure to show the UserForm .....	771
Example Three: Customizing the Project Guide .....	772
Content of the Project Guide XML document .....	774
Project Guide XML document elements .....	774
Defining the Project Guide for a project .....	778
Customizing the Project Guide to create a new project .....	778
Adding a new task to the Tasks goal area .....	779
Creating a custom HTML page .....	780
Deploying the customized Project Guide .....	784
Summary .....	784
<b>Chapter 25: Importing and Exporting Project Information . . . . .</b>	<b>785</b>
Understanding General Importing and Exporting Concepts .....	785
Exporting Information .....	786
Saving reporting information in an OLAP Cube or an Access database .....	786
Exporting to Office files .....	788
Sending Project data to Excel .....	789
Sending Project data to Microsoft Word .....	793

# Contents

Exporting Project information to a graphic image .....	795
Exporting to text files .....	797
Importing Information .....	798
Inserting another project .....	799
Importing Office files .....	799
Bringing Excel workbook information into Project .....	799
Bringing Access database information into Project .....	801
Bringing Outlook task lists into Project .....	802
Bringing Word document information into Project .....	803
Importing other files .....	808
Importing Microsoft Project Exchange files .....	809
Importing text files .....	810
Troubleshooting .....	810
Project imports incorrect times in data from Microsoft Excel .....	811
Linked or embedded objects don't import or export .....	811
The export file contains more or less information than expected .....	812
Project imports invalid information .....	812
The values of imported information change .....	812
The imported project is empty .....	812
Project displays imported information in the wrong fields .....	813
Summary .....	813
<b>Chapter 26: Project Case Studies . . . . .</b>	<b>815</b>
Case 1 .....	815
Problem statement .....	816
Problem solution .....	816
Business benefits .....	818
Problem solvers .....	819
Case 2 .....	819
Problem statement .....	819
Problem solution .....	820
Problem solvers .....	820
Case 3 .....	820
Problem statement .....	820
Problem solution .....	821
Problem solvers .....	821
Case 4 .....	822
Problem statement .....	822
Problem solution .....	822
Problem solver .....	823
Case 5 .....	824
Problem statement .....	824
Problem solution .....	824
Problem solvers .....	825



Case 6 .....825  
     Problem statement .....826  
     Problem solution .....826  
     Problem solvers .....827  
 Case 7 .....827  
     Project statement .....827  
     Project solution .....827  
     Problem solvers .....828  
 Summary .....828

**Part VII: Appendixes 829**

---

**Appendix A: What’s on the CD-ROM . . . . . 831**  
**Appendix B: Project Management Worksheet . . . . . 839**  
**Appendix C: Available Fields and Functions for Custom Field Formulas. . . 849**  
**Appendix D: Project Management Resources. . . . . 865**

**Glossary . . . . . 875**

**Index . . . . . 881**

**End-User License Agreement . . . . . 923**