INDEX

$ (BuildVersion) property, 685
$() function, 412
* (asterisk), in tab, 15
? alias, for Debug.Print command, 629

A

absolute placement
  for controls, 299
  for HTML elements, 358
AccessDataSource control, in ASP.NET, 369
Accessibility property page, for ASP.NET
  Web Forms, 349
accessibility of website, 365
Account Settings dialog, 10
Action helper method, 394
action methods
  in ASP.NET MVC, 385–388
  comment on action trigger, 387
FormValues parameter type for, 401
  parameters, 400–403
Activate Historical Debugging link, 771
Add Area dialog, 403
Add Assertions dialog, 403
Add Connection dialog, 553
Add Entity dialog, 584
Add New Item dialog, 247, 372
  Service-Based Database template, 524
  template in, 252
  Test node, 762
Add New Project dialog, 125–126
  Installed templates hierarchy, 28
  template in, 252
  for Web Application, 351
Add New Web Site dialog, 29
ASP.NET Web Application options, 30
Add Reference context menu, 31
$ADDRESS variable for tracepoint, 653
Add Scaffold dialog, 385
Add Service Reference dialog, 32
Add Tab command, 41
Add View dialog, 389, 409
ADO.NET Entity Framework, 571–596
  adding business logic to entities, 595
  basics, 572–573
  database update from entity model, 595
  Entity Framework Core, 596
  Entity Framework Designer, 577–582
  getting started with, 573
  Plain Old CLR Objects (POCO), 596
Advanced Build Settings dialog, 680
Advanced Compile Options dialog, 666
Advanced Compiler Settings dialog, 674–676
  Build events, 676–678
  Compilation constants, 676
  Optimizations, 675
AdventureWorks2014 sample database, 573
AdventureWorksDB sample database, 384
AfterBuild event, 683
AJAX, 375–378
alias command, 96–97
aliases, for commands, 629–630
AllItemsAreNotNull assertion, 230
AllItemsAreUnique assertion, 230
Allowed Namespace Names list, 758
AmbientValue attribute, 48
Americans with Disabilities Act, Section
  508 Guidelines, 365
analysts – ASP.NET

analysts, adding in Solution Explorer, 34–35
anchoring controls, 290–291
anchor points, in WPF designer, 305
Anchor property, of control, 291
Android
code for, 462
debugging, 466–480
device log, 479–480
managing SDK, 478–479
Android emulator, 466–469
managing, 476–478
Settings dialog, 469–476
Android Virtual Device (AVD) Manager, 476–477
AnonymousTemplate view, 368
Apache Cordova, 485
basics, 486–487
creating project, 487–495
additional files and folders, 489–495
Merges folder, 488
plugins folder, 489
www folder, 489
debugging, 495–497
Apache Hadoop, 597–600
distributed file system, 598
HDInsight, 599–600
MapReduce, 598
Pig application, creating, 606–610
Apache Software Foundation, 486
app.config file, 138, 139
connection settings, 575
for SharePoint, 540
Appearance properties, for Windows Forms, 278
app.js file, for Node.js, 438
Appcon.png file, 540
Application element, StartupUri attribute, 296
Application Framework, 130–131
Application Insights, 704–706
ApplicationInsights.config file, 706
Application Install dialog, bypassing, 720
applications
developing first, 13–18
expiration date for, 702
instrumentation and analytics, 704–706
layers, 756
monitoring and management, 702–706
testing, 219
Web Platform Installer to manage, 735–739
application-scoped settings, 1339
applicationsname_TemporaryKey.pfx file, 333
Application Updates dialog, 722
Application XAML element, StartupUri attribute, 296
Apply Styles window, 362
AppManifest.xml file, 540–545
general information, 541
Permissions tab, 541–542
Prerequisites tab, 542–543
Remote Endpoints tab, 544–545
Supported Locales tab, 544
App model
project template for, 537–538
in SharePoint, 531, 533
development environment, 534
appName.dll file, 341
appName.exe file, 341
App Service, for publishing to Azure, 729
App Service Plan, 730
appsettings.json file, 422, 423
App.xaml file, 296, 333
Architecture menu, Generate Code Map for Solution, 759
AreaNameAreaRegistration class, 404
areas in MVC application, 403–406
AreEqual method, of Assert class, 230
AreSame method, of Assert class, 230
arithmetic overflow/underflow, check for, 680
.ascx extension, 389
.asmx file, request for routing engine to ignore, 397
ASP.NET
aging, 418–423
AJAX, 375–378
project.json vs. csproj, 418
ASP.NET Core, creating application, 419–423
ASP.NET Empty Web Site project template, 348
ASP.NET Framework, 415
ASP.NET MVC, 379
application, folder structure, 382–383
areas in application, 403–406
basics, 381–383
choosing model, 384
controllers and action methods, 385–388
scaffolding, 385–388
entity model creation, 573–588
project compatibility issues, 662–663
rendering UI with views, 388–395
request life cycle of application, 380
routina, 395–400
validation, 406–408
ASP.NET service host, URL of, 138
ASP.NET Web API, 386
ASP.NET Web Application projects
properties, 146–149
Package/Publish Web, 148–149
Web tab, 146–147
templates, 351–352
ASP.NET Web Forms, 345–378
project compatibility issues, 663
ASP. NET Web Forms Site project template, 348
.aspx file, 389
request for routing engine to ignore, 397
ASPX view, 389
assemblies
obfuscation of, 694
in Reference list, 137
versioning via MSBuild tasks, 685–687
AssemblyCleanup attribute, 233
AssemblyInfo file, 128–129, 685, 686, 698
AssemblyInitialize attribute, 233
assembly manifest file, 129
Assert class, 229–230
Assert.Inconclusive statement, 223–224, 229
association, 573

navigating for entities, 593–595
asterisk (*), in tab, 15
atom feeds, for Web Platform Installer, 736–738
attached properties, in XAML, 300
attributes, identifying tests using, 225–227
authentication, 575
configuring for SharePoint, 539
options for ASP Core, 420–421
of user, 367–368
for Web Application, 353
authentication mode, for application, 131
Auto Brace Complete, 83
Autohosting prerequisites, for SharePoint, 543
automated testing, 219
in Visual Studio Enterprise, 762–769
Web performance tests, 762–764
Automatically Open Smart Tags option, 280
auto-outlining, 79
Autos window, 632
Azure. See Windows Azure
Azure Access Control Service, 539
Azure Data Lakes, 600
tools for Visual Studio, 600–610
Azure Mobile App, 515–516
Azure node, in Server Explorer, 203
Azure subscription, for Application Insights, 705

background color, for main form, 258–260
backward compatibility, 662–664
BeforeBuild event, 683
big data, 598
bin\Debug directory, 715
binding capabilities in XAML, for code behind, 294
bindings, in Task Runner, 446
bin folder, for Node.js, 436–437
bitmap, custom for component or control, 40
BizTalk, project compatibility issues, 663
Blend for Visual Studio, 319
  project compatibility issues, 663
block selection, in code editor, 88
bookmarks, 175–177
Boolean display template, 411
bootstrapper project, 709
Bottle framework, 451
bottlenecks, 607–608
Bottle Web Project template, 451
bower.json file, 422, 429–430
  for Apache Cordova, 489
Bower Package Manager, 428–430
branching in Git, 783
Break All Processes When One Process
  Breaks option, 650
Break mode, threads paused, 633
breakpoints, 16, 223, 645–652
  adding conditions, 648–650
  in code window, 625–626
  deleting, 650–651
  disabling, 651
  in Disassembly window, 636
  exceptions and, 642
  filtering, 650
  function, 646–647
  hit count, 649
  in Immediate window, 628
  importing and exporting, 652
  labeling, 651–652
  performance impact, 649
  in script.R, 616
  setting, 646–647
  vs. tracepoints, 652
Breakpoints window, 626–627
Breaks attribute, 46
Build environment
  automatic notifications, 747–749
C# Build pages, 679–680
  customization, 669–687
    General options, 669–672
    manual dependencies, 672–673
  output from, 715
Build Events dialog, 676–678
  options for executing, 677, 678
build.json file, for Apache Cordova, 490
Build option, 26
Build property page, for ASP.NET Web Forms, 349
Build report, 789
Bundleconfig.json file, 422
Burn tool, in WiX toolkit, 708
business logic, adding to entities, 595

C
  Build pages, 679–680
  code snippets in, 181–183
  compiler, Xamarin and, 462
  sample MSBuild project, 681–683
  C# Console Application project, project
    properties dialog, 665
C++
    and IntelliSense, 158
    log file verbosity for project, 672
  CAB file, 771
  $CALLER variable for tracepoint, 653
  call stack, 632
  $CALLSTACK variable for tracepoint, 653
  Call Stack window, 637
  call statement, for pre- or post-build event
    action, 677
  Candle, in WiX toolkit, 708
  Canvas control (WPF), 300
  categories, for command search, 68–69
  category attribute, 47
  category editors in WPF, 309
  C/C++ code analysis tool, 146
  CD, installing from, 717
  cellular service, attributes, 471
  central repository, moving local commits to, 783
  certificate
    self-signed, 546
    for SharePoint authentication, 539
    from well-known certificate authority, 719
  Change Authentication dialog, 420
  ChangePassword control, 368
  changes
copying to Toolbox, 38
creating, 186
distributing, 191–192
IntelliSense for, 173–174
reviewing, 186–191
for SQL statements, 556
surrounding code with, 184
in Visual Basic, 183–184
Code Snippets dialog, 173–174
Code Snippets Manager, 184–185
code stubs, 220
code window, 625–626
CollectionAssert class, 229, 230
color, 62–63
  background, for main form, 258–260
of code editor lines, 78
of status bar, 16
on Web Forms, 360
Color dialog, opening, 257–258
Column and Row Styles dialog, 289
ColumnDefinitions property, of Grid control, 301–302
COM components, adding to Toolbox, 43
command-line interface, for installing npm packages, 443
commands
  listing, 96
search for, 67
command window, 96–97
  installing NuGet packages, 37–38
commenting source code, 88
comments in XML, IntelliSense and, 174
commit character, 160
committing, in Git, 782
commit to source control, initiating, 269
compilation machine, MSBuild as, 681–687
compilation of projects, 346
  constants for, 676
completion mode, for IntelliSense, 161–162
complex properties, 583
  creating, 583–584
component file, in DirectoryRef element, 713
Component Group, 710
ComponentGroup element, 712, 713
components
  adding to Toolbox, 42–43
  arranging in Toolbox, 40–41
  choosing for install, 6–7
  service-based, 286
compute emulator, in Windows Azure, 504–505
collectors, listing in Servers node, 204
  conceptual model, 572
  hierarchy, 580
configuration, exporting, 72
Configure Continuous Delivery dialog, 744–745
Configure Data Source wizard, 369
Configure ListView dialog, 371
config.xml file
  for adding plugins, 489
  for Apache Cordova, 490
connected services, adding in Solution Explorer, 33–34
connections
  creating, 575
  of project to database, 562–563
to Team Services or GitHub, 781.
  See also Synchronization Services
connection string, 589
container controls, 287–290
Contains assertion, 230
content, testing, 233–238
ContentPlaceHolder components, in master page, 373
Content property, 14
context menu, 13
  for class, 25
  of open item, 61–62
for running test case, 223
for Solution Explorer nodes, 27
Continuous Delivery (CD), 741–750
  automatic Build notifications, 747–749
Heads Up Code Analysis, 746–747
nomenclature, 742–743
setup, 744–746
tools, 743–749
continuous integration (CI), 742–743
controller
  in ASP.NET MVC, 385–388
  in MVC architecture, 380
Controllers folder, 422
controls
  absolute placement for, 299
  adding and positioning, 281–287
  automatic positioning of multiple, 282–283
  binding property on, 313
  container, 287–290
  data types for, 280
  docking and anchoring, 290–291
  locking design, 284–285
  name of, 14
  navigating event handler, 303–304
  nudging, 279
  properties, 285–286
    type for, 316
  reordering in grid, 316
  tab order and layering, 284–285
  visual appearance, 317
  on Web Forms
    formatting, 359–360
    positioning, 357–358
  in WPF, 298–299
control templates, 317
Convert to Local Value option, in WPF, 310
Convert to New Resource option, in WPF, 311
Cookiecutter extension, for Python, 455–457
copying and pasting, to add control, 281
copying code snippets to Toolbox, 38
Cordova Plugin Simulation page, 496
costs of load tests, 767
CPUs
  multiple, 637
  type, and solution configuration file, 123
CPU Usage graph, 772
Create action method, 401–402
Create App Service dialog, 731
  Services tab, 731–733
Create Data Binding option, 310
Create New SQL Server Database dialog, 520
Create Project Configuration option, 123
CreateUserWizard component, 367
credentials, for remote access permissions for
  Mac, 481
credential store, 10
Cross Platform App template, for Xamarin, 463
CRUD (Create/Read/Update/Delete) operations, 386, 589–593
create operations, 593
data retrieval, 590–591
delete operations, 593
saving data, 592
update operations, 592
.csproj file, 124
CSS Properties window, 363
CSS tools, 360–364
  Cordova use of, 486
CSWebSite Property Pages, for ASP.NET Web Forms, 349
Ctrl+Tab window, 61
CurrentStatus_NullPaidUpToDate_TemporaryStatus method, 234–237
CurrentStatus property, 220–221
Custom Expression, in WPF, 310
customizations, 10
Customize dialog, resetting toolbar and file
  extensions association, 53
CVS, 266

D

Dark tool, in WiX toolkit, 708
Data Analytics and Processing workload, 602
database
  update from entity model, 595
  updating entity model with changes, 587–588
  of web applications, 148
database connectivity, 551
  adding connection to Server Explorer, 553–554
database project, publishing, 565
databases, code-first approach to design, 574
database tools, 551–569  
   Data Sources window, 557  
   editing data, 559–560  
   Redgate data tools, 560–569  
   SQL Server Object Explorer, 558–559  
   windows in Visual Studio 2017, 552–559  
   relationship editing, 556  
   Server Explorer, 552–557  
   table editing, 554–555  
   views, stored procedures, functions, 556–557  

data binding  
   drag-and-drop, 315  
   in WPF, 312–317  
   and XAML Intelligence, 169  
Data components, in Web Forms, 368–372  
Data Connection node, in Server Explorer, 203  
DataGrid control, ItemsSource property, 590  
DataGridview control, 287  
data helper controls, in Web Forms, 372  
data lake, 600  
Data Lake Tools, Job Playback in, 607  
data sciences, goal of, 611  
data set, viewing, 618  
DataSource attribute, 235  
Data Source Configuration Wizard, 522, 524  
Data Sources controls, in ASP.NET, 369  
Data Sources window, 557  
   Add New Data Source, 315  
DataTips, 626  
data types, for controls, 280  
Data View controls, in ASP.NET, 369–371  
DDL Base Address option, 675  
debug_source command, 616  
Debug and Release build configuration, build settings for, 131  
DEBUG constant, 133–134  
   defining, 676  

debugging  
   Apache Cordova, 495–497  
   with delayed signing, 701–702  
   Edit and Continue, 656–657  
   execution control, 654–656  
   generating information, 675  
   mobile applications using .NET, 466–484  
      Android apps, 466–480  
      iOS, 480–484  
      in Universal Windows Platform, 466  
   moving execution point, 656  
   R script, 616–618  
   rude edits, 657  
   Run to Cursor, 656  
   settings, 135–136  
   stepping through code, 654–655  
   Stop Applying Changes option, 657  
   in Visual Studio Enterprise, 761–775  
   with WPF Visualizer, 324–326.  
   See also breakpoints  
debugging windows, 625–643  
   Autos window, 632  
   Breakpoints window, 626–627  
   code execution window, 632–634  
   code window, 625–626  
   DataTips, 626  
   Disassembly window, 635–636  
   Exception Assistant screen, 640  
   Immediate window, 628–630  
   Locals windows, 632  
   Memory windows, 634–636  
   Modules window, 633–636  
   Output window, 627–628  
   parallel, 637–640  
   Processes window, 634  
   QuickWatch window, 630–631  
   Registers window, 636  
   Threads window, 633  
   watch windows, 630–632  
Debug.Print statement, 98  
   ? alias for, 629  
Debug Source Files section, of solution properties, 121  
Decimal display template, 411  
decompilers, 691–692  
default build for project, 747  
default configuration string, 524  
DefaultDescription constant, 49  
default locations, of projects, 69  
default presets, restoring configuration, 72  
DefaultSwitch switch, values, 207
default value, of properties, 45
DefaultValue attribute, 47–48
definition of method, viewing, 90–91
deleting
   aliases, 97
   breakpoints, 650–651
   folders for snippets, 185
   row or column in Grid control, 307
table from Mapping Details tool window, 581
dependencies, 440
generating, 757
   manual, in Build, 672–673
   only building on run, 670–671
   verification, 754–758
   Dependency Diagram for, 755–756
Dependency Behavior drop-down, 36, 37
Dependency Graph, 759
dependency properties, in WPF, 317
deploying applications, 17
   with ClickOnce, 141, 142, 716–722
   phases, 143
   Web Application projects, 725–739
   publishing, 726–729
DeploymentItem attribute, 235
deployment manifest, of ClickOnce application, 718
Description attribute, 46
   for test method, 226
   design time layout, 16–17
detector control, 703
Developer News feed, 52
developers
   hierarchical relationship of identities, 10
   Microsoft accounts for, 9
Developmental packages, in Node.js, 441
development languages, choices, 449
device log, for Android, 479–480
DevOps, 743
Diagnostic Tools window, 772–774
   IntelliTrace, 770
Directory Fragment section
   in setup project, 710
   of WiX file, 711–712
DirectoryRef element, 713
   INSTALLFOLDER Id, 713
directory reference, defining, 713
disabling breakpoints, 651
Disassembly window, 635–636
DisplayFor helper, 410
DisplayName attribute, 46
display templates, 409–411
distributed file system, for Apache Hadoop, 598
distributing code snippets, 191–192
Django framework, 451
Dock as Tabbed Document option, 13
docking
   controls, 290–291
   windows, 54–57
Dock property, of control, 289, 291
documentation
   MSDN Library, 101
   XML, for Visual Basic, 132
Document Colors list, 360
DoesNotMatch assertion, 230
domain-driven design (DDD), 596
Dotfuscator, 693–698
   smart obfuscation feature, 700
dotnet restore command, 417
drag-and-drop placement of elements, 38
DropDownList1_SelectedIndexChanged method, 376
drop-down lists, in code editor, 78
duplicating Solution Explorer, 86
duration for load test, 765
DVD-ROM, installing from, 717
Dynamic Data templates, 409–411

E

Edit action method, 402–403
Edit Conditions option, 642
editing data in database, 642–643
Edit menu, Advanced, Comment Selection, 88
duplicate Solution Explorer, 86
either, Properties window, 614
element space, 59–65
   fonts and colors, 62–63
   full-screen mode, 64–65
navigating open items, 59–62
tracking changes, 65
visual guides, 63–64
Edit RoleGroups command, 368
dit templates, 411
Email Address display template, 411
empty model option, in Entity Framework, 574
emulator. See Android emulator
Encapsulate Field refactoring action, 193–194
Encode method, 394
endpoints
for entities, 586
for Windows Azure, 516–517
EndedWith assertion, 230
entities, 572
adding business logic to, 595
adding properties, 583
creating, 584–585
creating complex, 583–584
creating/modifying, 582–585
creating/modifying associations, 585–587
inheritance, 587
navigating associations, 593–595
Entity Data Model Wizard, 573–577, 582
Entity Framework. See ADO.NET Entity Framework
Entity Framework Core, 596
Entity Framework Designer, 577–582
zooming in and out, 578
Entity Key property, 583
entity model, 572, 614–615
creating, 573–588
exporting visual representation as image, 579
querying, 588–595
CRUD (Create/Read/Update/Delete) operations, 589–593
getting object context, 589
LINQ to entities overview, 588
updating database from, 595
updationg with database changes, 587–588
validation, 587
entity set, 572
environment variables, 135

Error List window, 99, 587
Live Dependency Validation and, 757–758
error message, 408
from invalid break condition, 648
error report, from Html.ValidationSummary call, 407
errors
in Build or Deployment, action for, 671
when building applications, 145
Error window, 670
Event Command Line dialog, 677
event handlers
automatic generation, 164
for click event, 16
creating for control events, 311–312
for Pick Color button, 257–258
Properties window and wiring, 44
Event logs, in Server Explorer, 205–207
Events timeline, in IntelliTrace, 772
Event Viewer, 205
Exception Assistant screen, 640
exception information, writing, 206
Exception Settings window, 641–642
executable, in DirectoryRef element, 713
execution control, 654–656
execution path, 632
execution point
moving when debugging, 656
in running application, 626
.exe files, 124, 709
ExpectedException attribute, 231–232
expiration date for application, 702
exporting
breakpoints, 652
settings, 72–75
Export Template Wizard, 249–251, 253
Extended Controls dialog
Battery tab, 472
Cellular tab, 471
Directional Pad tab, 474
Fingerprint tab, 474
Location tab, 469
Phone tab, 472–473
Virtual sensors tab, 474–475
ExtendedProjectTemplateExample, 261
Extensible Application Markup Language.

See XAML (Extensible Application Markup Language)

extension methods, 141
Extensions and Updates dialog, 34
Extensions and Updates window, 263
External Tools collection, Heat in, 712
Extract Interface refactoring action, 194–195
Extract method, 192–193

F#

F#, project compatibility issues, 663
farm solution in SharePoint, 532
development environment, 534
templates, 537
features
of installation elements, 711
in WiX, 711
fetching incoming commits, 783
File Checksum Integrity Verifier, 739
File element, 716
file extensions, as search option, 105
file format, for saving entity model image, 579
File references, 137
files
Find/Replace in, 104–110
previewing in Solution Explorer, 25–26
File System option, for deployment target connection, 727
filtering
breakpoints, 650
searches, 104
steps, 655
Find All References window, 89
Find in Files dialog, 105–106
Find/Replace in files, 104–110
regular expressions, 106–108
FirstCloudApplication project, 504
fixed-width fonts, 63
Flask microframework, 451
floating windows, in code editor, 84–86
Float option for windows, 13
FlowLayoutPanel control, 288–289
folders
of bookmarks, creating, 176
opening, 24
for snippets, 185
for source code, 118
Folder view, 22
Font dialog, 285
fonts, 62–63
foreign key columns, in Entity Framework, 577
foreign key properties, for entities, 586
Format menu
Align, 283
Make Same Size, Width, 282
formatting source code, 80–81
Formatting toolbar
Target Rule selector, 363–364
for Web Forms, 359
forms
adding button and textbox, 14.
See also Web Forms
FormValues parameter type, for action methods, 401
fragments, Heat to create, 712–715
frames, in call stack, 632
framework versions, selecting different, 28
FTP option, for deployment target connection, 727
FTP site location type, 349
full-screen view, for editor space, 64–65, 89
full trust applications, applications published as, 720
functional programming language, R as, 614
function breakpoints, 646–647
functions, for databases, 556–557
$FUNCTION variable for tracepoint, 653
fuzzy matching, 169

G

Gantt chart view, 608–609
GenerateMagicNumber method, 691, 694
Generate Method Stub refactoring, 200–201
Generate Type dialog, 165
Geolocation section, in Cordova Plugin
  Simulation page, 496
gestures, two-finger, 336
Git, 266
  adding solution to, 267–268
  branching, 783
  committing, 782
  history details, 272
  staged commit, 269
  syncing, 783–784
GitHub, 685
  connecting to, 781
Git repository, New Project dialog for, 779
Global.asax.cs file, 396
Global.asax file, 383
Global Assembly Cache (GAC), 43, 532
Global Cordova, 492
Go to Definition, in code editor, 89
GPX (GPS exchange) format, 470
Grid control (WPF), 300–301
  in WPF designer, 305
GridSize property, 279
GridView control, 370
group name, for properties, 47
groups, creating in Toolbox, 41
grunt, 444–445
grunt-contrib-uglifyify package, 445
gruntfile.js file, 445–446
guidelines, for control positioning, 281–282
GUID parameter, 254
GUIDs, for WiX product, 710–711
gulp, 444–445

Hadooop. See Apache Hadoop
HBase in Hadoop environment, 598
HDInsight, 597
  cluster costs, 600
Heads Up Code Analysis, 746–747
Heads Up Display, 82
Heat, in WiX toolkit, 708
  to create fragments, 712–715
Height property, for Windows Forms, 277
Hello World example, 13–18, 417
  with R Tools, 614–615
help, 110–112
  configuring, 112
  navigating and searching, 112
  helper subroutine, 187
  hidden files, 119
HiddenGenius class, mixed obfuscation, 700
HiddenInput display template, 411
hit count, for breakpoints, 649
Hive in Hadoop, 598
  creating application, 602–606
  creating database table, 601
Hive Query Language (HQL), 602
Honor Instrumentation Attributes, 703
Honor Obfuscation Attributes option, 698
HQL (Hive Query Language), 602
HTML
  standards-compliant, 364
  table in views, 393
  validation tools, 364–365
HTML5, Cordova use of, 486
HTML Designer, 354–356
Html display template, 411
HTML elements on Web Forms
  formatting, 359–360
  positioning, 357–358
Html helper property, 394
HtmlValidationMessage helper, 408
Html.ValidationSummary call, error report from, 407
HttpMethodConstraint, 399–400

Id attribute, 710–711
Ignore attribute, for test method, 226–227
IL. See Microsoft Intermediary Language (MSIL; IL)
ilc.out directory, 341
ILDasm. See Microsoft .NET Framework IL Disassembler (ILDasm)
Immediate window, 97–98, 628–630
Import and Export Settings wizard, 67, 72
importing
breakpoints, 652
in Code Snippet Manager, 191
settings, 72–75
stored procedures into entity model, 577
Index method, 386, 388
Infrastructure as a Service, 516
Inline Temporary Variables refactoring action, 196–197
Inline Variable Declarations, 199
INotifyPropertyChanged interface, 24
Insert Table dialog, 359–360
InsertTamperCheckAttribute attribute, 703
installer, 707
installers element, 739
installing
npm packages, 442
NuGet packages, 37–38, 426–427
with service installer, 716
Visual Studio 2017, 3–9
Web Platform Installer for, 735–739
WiX Build tools, 708.
See also Windows Installer XML (WiX) Toolset
Install New npm Packages dialog, 440–441
install-package command, 152
Install-Package MSBuildTasks command, 685
Integer Overflow Checks, removing, 675
integrated development environment (IDE), 3
IntelliSense, 96, 110, 155–177
adding, 174
in Bower Package Manager, 430
C#-specific options, 172–173
and C++, 158
code snippets, 173–174
for CSS, 364
feedback on bad code, 156–158
generating from usage, 164–165
in Immediate window, 628
for JavaScript, 166–169, 374
context, 167
list members, 161
and NuGet package install, 427–429
options, 170–173
parameter information, 165–166
quick tip, 166
for SQL commands, 565
stub completion, 162–164
suggestion mode, 161–162
word and phrase completion, 158–165
in context, 159–160
XAML, 169–170
IntelliTest, 242–244, 774–775
IntelliTrace, 769–774
data collection types, 771
IntelliTraceCollection.cab file, 771
interface implementation, IntelliSense engine generation, 162
intermediate language (IL), 339
internal compiler error reporting, 680
internal method, 165
Introduce explaining variable refactor, 197
InvokeMember method, 241
iOS
C# code for devices, 462
debugging, 480–484
IronPython, 451
IRouteConstraint interface, 399
IsAjaxRequest extension method, 413
IsEnabled property, in WPF, 299
IServiceCRMCacheSyncContract interface, 528
IsFalse method, of Assert class, 230
IsInstanceOfType method, of Assert class, 230
IsNull method, of Assert class, 230
IsSubsetOf assertion, 230
itemname parameter, 254
items, 112
adding in Solution Explorer, 27–31
in MSBuild schema, 684
ItemsSource property, of DataGrid control, 590
item templates, 248–252, 371
iterations for load test, 765
IWizard, 255–261
JavaScript

Cordova use of, 486
IntelliSense, 166–169
code context, 167
mobile applications using, 485–498
referencing another file, 168–169
rich client-side development with, 374–375
server-side. See Node.js
Job Playback, in Data Lake Tools, 607
Job Summary screen, 605, 606–607
jQuery, 412–413, 440
jscompat.js file, 488
JScript, 167
JSON, 442
JustCompile, 691, 694
just-in-time (JIT) compiler, 339, 689

K

Kafka, 599
Keep Modified Files Open After Replace All option, 109–110
keyboard shortcuts, 66–67, 167
for adding controller to project, 386
for Add View dialog, 390
for bookmarks, 176
for Code Snippets Manager, 184–185
for commenting code block, 88
for Find, 102
for help, 110
for Insert Snippet list, 181
for IntelliSense smart tag, 158
for navigating code, 82
overriding predefined, 171
for playing information about function call, 166
for Quick Replace, 103
KML (Keyhole Markkup Language) format, 470

L

labeling breakpoints, 651–652
Language attribute, for installation, 711
language packs, choosing for install, 7
language version, for C#, 680
Launching Application dialog, 718
launchSettings.json file, 424
Layer Diagram, for dependency validation, 755–756
Layer Explorer window, 757
layering, for controls, 284
layout controls, in WPF, 299–302
LayoutMode property, 278
layout of controls and HTML elements, 355
layout properties, for Windows Forms, 278
LayoutTemplate, 371
lazy loading, 594
least privilege, best practice of, 165
legacy projects, modifying, 29
Light, in WiX toolkit, 708
light bulb icon, 157, 163
LightSwitch, project compatibility issues, 663
line-level tracking, 65
line numbers for code, 64, 82–83
LinqDataSource control, 369
LINQ to entities overview, 588
LINQ-to-SQL model, 384
Listeners collection, 206–207
ListView control, 370–371
Lit tool, in WiX toolkit, 708
Live Dependency Verification, 754
Live Unit Testing, 238–239
Live Visual Tree window, 308
Load Test Designer, 765
Load Test Monitor, Performance view, 766
load tests, 764–767
costs of, 767
local IIS server, for Web Site project, 348
Local Resource option, in WPF, 310
LocalStorage property, 504
Locals windows, 632
Location property, for Windows Forms, 278
logcat, 479–480
log files, 771
  verbosity, 672
LoggedInTemplate view, 368
logging, by My namespace, 206
Login control, 367
login page, for Microsoft account, 9
LoginStatus control, 367–368
LoginView object, 368
low-impact installer, 3

Mac device, for debugging, 480
MachineName property, 212, 214, 254
MainPage.xaml file, 333
MainWindow class, XAML file for, 297
MainWindow.xaml file, 296, 305
MajorUpgrade element, for installation, 711
managed solution, in SharePoint, 532
Manage NuGet Packages option, 36
Manage Styles window, 360–361
Manage Windows Layouts dialog, 58
Manufacturer attribute, for installation, 711
Map mode feature, of scrollbar, 92
Mapping Details tool window, 580, 581
mapping in Entity Framework, 572, 573
MapReduce, 598
MapRoute method, 397
margin handles, for HTML elements, 358
margins, for HTML elements, 358
master branch, in Git, 783
master pages, in Web Application projects,
  372–374
Matches assertion, 230
MathematicalGenius class, IL vs. source
code, 690–691
MaximumSize property, for Windows Forms,
  278
McCarthy, Bill, Snippet Editor, 186
MediaTemplate element, 711
Memory Usage graph, 772
Memory windows, 634–636
Menu web control, 366
merging changes, in Git, 783–784
Message Queues node, 207–210
meta data proxy class, 407
method stubs, generating, 165, 200
Metro Apps, 327
microservices, 513
Microsoft Azure App Service, as publish
target, 729
Microsoft Azure strategy, 415
Microsoft.DependencyValidation.Analyzers
  Nuget package, 757
Microsoft Intermediary Language (MSIL; IL),
  689
instructions, 635
Microsoft Live account, 9
Microsoft Message Queue ( MSMQ) Server,
  208
Microsoft .NET Framework IL Disassembler
  (ILDasm), 690
Microsoft.SharePoint.Client.DLL, 536
Microsoft Synchronization Services for
  ADO.NET, 519–529
Microsoft Web Application Gallery, 736
  including application in, 736
Microsoft.WindowsAzure.StorageClient
  .dll, 505
MinimumSize property, for Windows Forms,
  278
miscellaneous files, listing in Solution
  Explorer, 70
Miscellaneous Files folder, 119
mobile applications using JavaScript,
  485–498
mobile applications using .NET, 461–484
deployment, 466–484
model, 754
model binders
to create new Product instance, 402
validation errors and, 406
Model Browser tool window, in Entity
  Framework Designer, 580
modeling, project compatibility issues, 663
Model Namespace, in Entity Framework,
  577
Model-View-Controller (MVC) architectural
  pattern, 379, 380–381
Model-View-ViewModel (MVVM) pattern, 169, 294, 315, 339
Modify Style dialog, 361–362
Modules window, 633–634
Mono, 416
Xamarin and, 462
moving execution point, when debugging, 656
mrt100_app.dll file, 341
MSBuild, 681–687
assembly versioning via tasks, 685–687
Options property page, for ASP.NET Web Forms, 349
Visual Studio use of, 681–683
MSBuild Project Build Output Verbosity, 671
MSBuild schema, 126, 684–685
MSDN Library, 101
.MSI (Microsoft Installer) file, 708, 709
MSIL. See Microsoft Intermediary Language (MSIL; IL)
.MSM (installation module) file, 708
.MSP (patch) file, 708
.MST (transforms) file, 708
multiline editing, in code editor, 88
MultilineText edit template, 411
multitargeting, 661
My.Application.Info namespace, 129
My.Application.Log.WriteEntry method, 206
My.Application.Log.WriteException method, 206
MyControl component, 40
My namespace, 142
My Projects pages, Build Configuration options, 670

namespace, in XAML file, 298
naming convention, for test cases, 222
navigating
Class view for, 99
in code editor, 81–82, 89, 95
tools for, 366–367
help, 112
open items, 59–62
in region, outline, or code block, 80
Navigation Bar, for code editor, 78
navigation menu, Configuration Options,
   Analytics mode, 703
navigation properties, 583
nested layers in application, 756
nested master pages, 373–374
.NET application, building Windows installer for, 707
.NET class, XAML element and, 297
.NET Core, 381, 415–431
   basics, 416–417
   project compatibility issues, 662
.NET Core project category, 125
.NET Framework libraries, 31
mobile applications using .NET, 461–484
optimization of download package, 666
RegEx engine, 106
upgrading to 4.6.2, 665–666
.NET native compilation, 339–341
.NET Standard Library, 416
.NET Standard template, 125
New Cross Platform App dialog, 464
New Function Breakpoint dialog, 647
New Project dialog, 13, 247
   for Apache Cordova, 487
   for ASP Core, 419
   Azure Data Lakes, HIVE, 602–603
   Cloud node, 502, 514
   for Git repository, 779
JavaScript, Mobile Apps, 486
Modeling Project, 754–755
Pig, Pig application, 606
Python project templates, 450–451
R mode, 612
Service Fabric, 514

Name property, for controls, 308
names
   of components, changing, 41
   of controls, 14
   for repository, 746
   for window layout, 58
SQL Server node, 561
Starter Kits, 262–263
for Windows Apps, 331
for WPF, 295
New Service Fabric Service dialog, 514–515
news feed, 11
New Solution Explorer, 86
New Web Site dialog, 347
NextPreviousPagerField object, 372
NGEN tool, 339–340
Node.js, 433–447
  getting started with, 433–440
  web vs. console application, 435
Node.js Tools for Visual Studio (NTVS), 434
Node Package Manager, 440–444
nonproportional fonts, 63
nonvisual components, 39
“no-repro” bug, 769
npm folder, for Node.js, 436
N-Tiers, Synchronization Services over, 528–529
nudging control, 279
NuGet Package Manager (NuGet), 35, 150–151, 424–428
  installing package, 426–427
NuGet Package Manager Console, 151–152
NuGet packages, 150–152
  adding in Solution Explorer, 36–38
  command window for installing, 37–38
  dependencies, 425
  IntelliSense and install, 427–429
  WPF Toolkit, 298
null checks, reducing code for, 199–200
NumericPagerField object, 372
  .nupkg file, 150–152

ObfuscationAssemblyAttribute attribute, 698
ObfuscationAttribute attribute, 698–700
Object Browser, 99–100
Object Data Source control, in ASP.NET, 369
Object display template, 411
object relational impedance mismatch, 571
Object-Relational Mapping (ORM) manager, 451
objects, getting context, 589
Office 365 APIs, 34
Office 365 Developer Program, 534
Office 2007, project compatibility issues, 663
Office 2010, project compatibility issues, 663
Office/SharePoint project category, 124–125
offline help, 112
Online Help, 112
Online templates, 28, 263
OODA Loop, 743
Opacity property, for Windows Forms, 278
open-source tools, 415
Optional package, in Node.js, 441
Option Compare, 131
Option Extract, 131
Option Infer, 131
Options dialog, 51
Data UI Customization, 280
Environment
  Documents, 119
  Documents, Show Miscellaneous Files, 70
  Find and Replace, 104
  Fonts and Colors, 62–63
  Import and Export Settings node, 72
  Keyboard node, 66–67, 96, 170–171, 176
  Startup node, 52
  Tabs and Windows, 55
HTML Designer node, 356
language group, General tab, 172
  NuGet Package Manager pane, 151
Projects and Solutions, 69–70

Obfuscatio
partial views, 408–409
Pascal casing, 169
Password edit template, 411
PasswordRecovery control, 368
passwords, user management of, 368
paste function (R), 614, 616
Peek Definition command, 90–91
performance counters, 210–213
permissions
modifying for ClickOne application, 142
for SharePoint application, 542
PhoneGap, 486
phrases, IntelliSense for completing, 158–165
Pick Color button, event handler for, 257–258
$PID variable for tracepoint, 653
Pig application, creating, 606–610
pinch gesture, 330
pinch/zoom touch mode, 336
pinned state for window, 12, 54
pipeline for Continuous Delivery, set up, 744
Plain Old CLR Objects (POCO), 596
platformOverrides.js file, 488
Plot History window, 621, 622
plotting windows, 620–622
$PNAME variable for tracepoint, 653
polyfill, 488
Portable Class Libraries, 327
in Xamarin, 464
Position window, for HTML elements, 357
PostBuildEvent entry, 683
Post-Build Event script, 678
PowerShell script, for testing SharePoint
Online, 535
PreBuildEvent entry, 683
prepare process, in Apache Cordova, 488
preventative control, 703
preview tip, in code editor scrollbar, 92
print function (R), 614
PrintGreeting method, 166
Priority attribute, for test method, 226
private assembly, vs. class library, 698
private members, testing, 240–241
Processes window, 634
Product section, in setup project, 710
PropertyGroup nodes, in MSBuild schema, 684
property markers, 309
property names, changing, 582–583
proportional fonts, 63
provider-hosted application, 533
public folder, for Node.js, 437
PublicKeyToken, 262
public methods, obfuscation of, 695
Publish Azure Application Settings dialog, 510
Publish dialog, 726
Connection tab, 727
Settings tab, 728
Web Deploy Package option, 736
publishing
application, 17
to Azure, 729–733
database project, 565
Web Application projects, 726–729
Publish Wizard, 717
databases for, 728
to update existing application, 721
pushing changes to Git repository, 783–784
Pyro, in WiX toolkit, 708
Python, 449–457
Cookiecutter extension, 455–457
environment, 452–454
search paths, 455
Python framework, 451
Python Package Index (PyPI), 454
PYTHONPATH variable, 455
Python Tools for Visual Studio (PTVS), 450

Q

QueryExtender control, 372
querying
entity model, 588–595
work items, 784–786
Quick Clusters layout, 759
Quick Find/Replace, 102–104
Quick Launch, 68–69
QuickWatch window, 630–631
Razor view, 389
read-only properties, in Properties window, 44
ReadOnly property, 212
ReadyRoll Core, 560–565
ReadyRoll pane, 563–564
ReadyRoll SQL Server Database Project, 561
Rebuild option, 26
Recent projects list, 11
project pinned to, 52
Reenskaug, Trygve, 380
refactoring, 192–201
Change Signature, 195–196
Encapsulate Field, 193–194
Extract Interface, 194–195
Extract method, 192–193
Generate Method Stub, 200–201
Inline Temporary Variables, 196–197
Inline Variable Declarations, 199
Introduce explaining variable refactor, 197
Remove and Sort Usings, 201
Rename refactor, 193, 197–198
Simplify Object Initialization, 198
tools, 179
Use “throw” expression, 199–200
reference highlighting, 82
Reference Library Controls group, 40
Reference Manager dialog, 31
Browse tab, 137
Reference property page, for ASP.NET Web Forms, 349
references
adding in Solution Explorer, 31–32
to another JavaScript file, 168–169
to extend Visual Basic My namespace, 141
references directive, 168–169
reflection model, obfuscation and, 700
regions, navigating, 80
RegisterArea method, of
ShopAreaRegistration class, 404
Registeredorganization parameter, 254
RegisterRoutes method, 396–397
Registers window, 636
regular expressions, 102, 105, 106–108
for obfuscation, 696
for restraint on parameters, 399
relationship editing, for database, 556
relative positioning, for HTML elements, 358
Release mode, project build in, 122
release pipeline, 742
Remote Desktop, enabling capabilities, 510–511
remote desktop, logging in, 334
Remove and Sort Usings, 201
Rename dialog, Exclusions tab, 696
Rename Item command, 41
Rename refactor, 197–198
REPL (Read-Eval-Print loop), 615
reports
Build report, 789
ersors from Html.ValidationSummary call, 407
internal compiler errors, 680
repository
list of defined builds for, 749
names for, 746
New Project dialog for Git, 779
source control, 777
Reset Toolbox command, 41
res folder, for Apache Cordova, 489
Resolve Conflicts screen, 270–271
Response URL Validation Rule, 764
Results window, for searches, 108–109
RESX file, resource editor for, 26
.Rhistory file, 612
rich client-side development, 374–378
with JavaScript, 374–375
Rich Internet applications, project
compatibility issues, 663
R Interactive window, 613–614, 615
R language, 611
basics, 612
roles in Azure project, 503
communication between, 505–508
rolled-back application, 722
root certificate store, adding test certificate, 719–720
rootnamespace parameter, 254
rotate mode, 336
routes folder, for Node.js, 437
routimg, 395–400
RowDefinitions property, of Grid control, 301–302
R script, debugging, 616–618
R Server, 599
R Tools for Visual Studio, 612–622
plotting windows, 620–622
workspaces, 619
rude edits, 657
rule in code analysis, 145
rulers, in WPF designer, 305
ruleset, 145
running Visual Studio 2017, 9
RunStarted method, 260
run time layout, 16–17
run-time monitoring, Dotfuscator for, 702
Runtime Visual Tools toolbar, 307
Run to Cursor, 656

safeHTML polyfill library, 488
safeitemname parameter, 254
$safeitemrootnode$ parameter, 254
$safeitemrootnode$ token, 249
safeprojectname parameter, 254
scaffolding option for controller, 385–388
sandbox solution, in SharePoint, 532
saving
data in entity model, 592
window layout, 57–59
scalar properties, 583
scenario, for load test, 765
schema validation, 365
scope
for searches, 103
in Sync Framework, 525–526
Scope to This option, 24
screen resolution, 329
screenshots, for Windows Simulator, 337
Script.Hql file, 603–604
scripting, Python and, 449
ScriptManager AJAX control, 377
script.R file, 612
scrollbar in code editor, 91–94
searches, 101
for commands, 67
Find/Replace in files, 104–110
regular expressions, 106–108
in help, 112
in Model Browser tool window, 580
Quick Find/Replace, 102–104
Results window, 108–109
in Toolbox, 41
in WPF Properties window, 308
in WPF Visualizer, 324
security
best practice of least privilege, 165
warnings during deployment, 718
Select a Master Page dialog, 373
self-signed certificate, 546
semantic zoom, 330
serialization assemblies, generating, 676
Server Explorer, 12, 203–213
database windows, 552–557
Data Connections node, 215, 520
Event logs, 205–207
HDInsight node, 600
performance counters, 210–213
server connections, 204–215
Services node, 213–215
SharePoint connections, 215
ServerForm designer, 522
service-based components, 286
ServiceConfiguration.location.cscfg file, 504
ServiceControl element, 716
ServiceController component, 214
ServiceDefinition.csdef file, 504
Service Fabric, 513–515
ServiceInstall element, 716
service installer, 716
service-oriented architecture (SOA), 513
service references, adding in Solution Explorer, 32–33
Service Reference Settings dialog, 33
Service Unavailable message, 110
settings
for breakpoints, 646
synchronizing across machines, 74–75
Settings.settings file, 139
Setup.exe bootstrap file, 717
setup project, 709–710
sections in, 710
Sgen.exe command-line tool, 676
SharedListeners collection, 206–207
SharePoint, 531–547
application models, 531
authentication configuration for, 539
connections, 215
creating project, 536–545
development environment, 533–536
execution models, 532–533
project compatibility issues, 663
running application, 545–547
SharePoint Foundation, vs. SharePoint server, 534
SharePoint-hosted application, 533
SharePoint Online, PowerShell script for
testing, 535
SharePoint Online Management Shell, 536
SharePoint server, vs. SharePoint Foundation, 534
ShopAreaRegistration class, RegisterArea
method of, 404
ShouldSerializePropertyName function, 48
ShowGrid, 279
ShowInTaskbar property, for Windows
Forms, 278
sideloading, 535
signing, debugging with delayed, 701–702
Silverlight
project compatibility issues, 664
theme, converting WPF, 318
SiteMapDataSource control, 369
SiteMapPath web control, 366
sitemap provider, 366
Size property, for Windows Forms, 277
sizing controls, 281
S language, 612
smart indenting, 80–81
Smart tags, 286–287
SnapLines layout mode, 278, 281
Snap mode, in Windows app, 330
snap regions, in WPF designer, 305
SnapToGrid layout mode, 278–279
snippets. See code snippets
software. See applications
Software and Services (S+S), 519
Software as a Service (SaaS), 519
Solution Explorer, 12, 14, 22–38, 118–119
common tasks, 26–38
adding analyzers, 34–35
adding connected services, 33–34
adding NuGet packages, 36–38
adding projects and items, 27–31
adding references, 31–32
adding service references, 32–33
config.xml file in, 490
Android tab, 493–494
Common tab, 490
Plugins tab, 492
Toolset tab, 490–491
Windows platform settings, 492–493
context menu, 123
duplicating, 86
folders for Node.js, 436–437
Manage NuGet Packages option, 424
Message Queues node, 207–210
Properties node, 17
removing project active status from, 681
ServerForm designer, 522
Set StartUp Projects, 545
Solution view vs. Folder view, 24–25
source control and, 268–269
toolbar, 23
toolbars, 53
Track Active Item, 69–70
Solution node, visibility, 22
Solution Properties dialog, 22
Configuration Properties node, 122
solutions, 112
configuration properties, 122–124
file format, 119–120
navigating through projects and files, 24
options, 69–70
properties, 120–124
structure, 118–119
source code
cloning, 760
code maps, 758–760
commenting/uncommenting, 88
folders for, 118
formatting, 80–81
line numbers for, 64
management, 265–272
navigating, with Peek Definition command, 90–91
navigating block, 80
protecting, 690
stepping through, 654–655
Source Code Control (SCC) API, 266, 268
source code repositories, selecting, 266–267
source control, 266–267
accessing, 267–272
changes, 269–270
merging changes, 270–271
state of code in, 748
source control repository, 777
source value, of properties, 48
Spark, 599
SplitContainer control, 287–288
split view
in code editor, 83–84
in HTML Designer, 355
in WPF designer, 302–303
SQL Azure, 511–512
SqlDataSource control, in ASP.NET, 369
SQL Object Explorer, 564
SQL Prompt Core, 560, 565–567
SQL Search, 560, 567–569
SQL Server database, 148
SQL Server Database Project template, 561
SQL Server Express database
project compatibility issues, 664
for user authentication, 367
SQL Server Management Studio (SSMS), 558
SQL Server Object Explorer, 558–559
SQL Server Report Project, project
compatibility issues, 664
SQL statements, snippets for, 556
StackPanel control (WPF), 300, 302
staged commit, in Git, 269
staging files, in Git, 782
Standard package, in Node.js, 441
Starter Kits, 262–263
Start Options property page, for ASP.NET
Web Forms, 349
Start page, 11, 52–53
StartPosition property, for Windows
Forms, 278
StartsWith assertion, 230
Startup.cs file, 423
startup project
for new solution, 671
only building on run, 670–671
options when defining, 120–122
in Solution Explorer, 22
StartupUri attribute, of Application
element, 296
status bar, color of, 16
step filtering, 655
stepping through code, 654–655
stored procedures
for databases, 556–557
importing into entity model, 577
store model, 572
Storm in Hadoop environment, 598
StringAssert class, 229, 230
String display template, 411
strongly named assemblies, obfuscation and,
700–701
Structure Visualizer, in code editor, 94
stub completion, 162–164
styles, in XAML, 317
Subscription class, 220
test method to instantiate object, 221
Subversion, 266
.suo files, 119
SyncException, 528
Sync Framework, 524
Synchronization Services, 519–529
going started with, 524–528
occasionally connected applications, 520
over N-Tiers, 528–529
Server Direct, 520–524
synchronizing settings, across machines,
74–75
syncing in Git, 783–784
SyncProvider base class, custom provider class derived from, 528
System.ComponentModel.Component class, 286
System.ComponentModel.DataAnnotations assembly, 407
System.ComponentModel.DataAnnotations .ScaffoldColumnAttribute, 410
System Resource option in WPF, 310
System.Threading.Tasks namespace, 637
System.Threading.Tasks.Task class, 640
System.Web library, 418
System.Web.Mvc.Controller base class, 386
System.Web.Routing assembly, 396

Tab groups in code editor, creating, 86–87
Tabify/Untabify Selected Lines commands, 81
TabIndex property, 284
table editing, for database, 554–555
TableLayoutPanel container, 289–290
tables
creating in Hive, 601
in Mapping Details tool window, 581
tablet devices, orientation, 329
tab order, for controls, 284
tabs
* (asterisk) in, 15
in Visual Studio 2017, 12
TabStop property, 284
tag_navigator breadcrumb, 356
Tallow/Heat, in WiX toolkit, 708
to create fragments, 712–715
Tamper Defense, in application monitoring, 702, 703–704
TamperTester, 703–704
Target elements, in MSBuild schema, 684–685
Target Framework project property, 665
task lists, 177
Task Parallel Library (TPL), 637, 639
Task Runner Explorer, 444–447
Tasks, in MSBuild schema, 685
Tasks menu, 287
Tasks window, 639–640
Team Explorer
Builds, 788
Changes tab, Heads Up Code Analysis, 746
New Work Item, 786
Sync option, 783
and version control, 782–784
window, 779–781
Team Foundation Build, 787–789
Team Foundation Server (TFS), 266, 778
team members, sharing settings, 73
Team Services, 777–790
connecting to, 781
web site, 749, 789
work item tracking, 784–787
tear away windows, in code editor, 84–86
Telrik, 691
templates, 11
for Apache Cordova, 489
ASP.NET Web Forms Site project, 348
code files with using statements, 201
creating, 247–255
custom parameters, 255
Dynamic Data, 409–411
extending, 255–262
file location, 69
ItemTemplate, 371
item templates, 248–252
LayoutTemplate, 371
locations, 255
for .NET Core applications, 416
Online, 263
parameters, 254–255
for projects, 124, 252
project setup, 255
structure, 253–254
for Web Application, 351–352
for Web Site project, 347
WPF Application, 14
for Xamarin, 463
TestCategory attribute, for test method, 226
TestClass attribute, 225
test classes, 233
TestCleanup attribute, 233
TestContext object, WriteLine method, 237
test-driven development (TDD), 156, 596
    IntelliSense and, 161
Test Elements, 761
Test Explorer window, 223
testing
    in Visual Studio Enterprise, 761–775
        automated testing, 762–769
coded UI tests, 768
generic tests for, 769
load tests, 764–767
ordered tests for, 769
Web performance tests, 762–764.
    See also unit testing
TestInitialize attribute, 233
Test Load Agent, 767
Test Manager, 761
TestMethod attribute, 225
test minutes per month, user limits, 767
Test project category, 125
text controls, vertical alignment, 282
Text Visualizer, 641
themes, 317–318
    changing, 319
    for IDE, 59
think time, for load test, 765
threads
    application execution of multiple, 638
    in Node.js, 434
Threads window, 633
$TID variable for tracepoint, 653
tiles for Windows Apps, 330
Timeout attribute, for test method, 227
time parameter, 255
Timer control, 378
$TNAME variable for tracepoint, 653
toolbars
    buttons on, 53
    resetting file extensions association, 53
    viewing, 53–54
Toolbox, 12, 14, 38–43

adding components to, 42–43
adding control from, 281
component arrangement in, 40–41
displaying, 281
for Entity Framework Designer, 580
removing items from, 42–43
storing code blocks in, 180
WPF Interoperability tab, 322
ToolboxBitmap attribute, 40
Tools for Apache Cordova (TACO), 486
tooltips, 166
    for code preview, 92, 93
    for code problem, 156
    from CSS properties, 361
    for R script variable, 616
tool windows, 12
touchable controls, 330
TRACE constant, 133–134
    defining, 676
tracepoints, 652–653
    vs. breakpoints, 652
tracking changes, 65
Treat All Warnings as Errors option, 674
TreeView control, 366
Trusted Publishers store, adding certificate, 720–721
Trusted Root Certificate Authorities store, 720
two-finger gestures, 336

UI Test App, for Xamarin, 463
UML diagrams, 754
uncommenting source code, 88
uninstalling application, 722
unit testing, 219–245
    asserting facts, 229–232
    and CodeLens, 228–229
    custom properties, 239–240
default behavior for method, 224
    for existing classes, 221–222
ExpectedException attribute, 231–232
Universal Windows Platform (UWP) – View menu

identifying using attributes, 225–227
initializing and cleaning up, 232–233
IntelliTest, 242–244
live, 238–239
private members, 240–241
project for MVC framework, 382
test cases, 220–229
testing content, 233–238
warning on use, 244
writing output, 237–238
Universal Windows Platform (UWP), 328
adding components to Toolbox, 43
components, 327–342
debugging, 466
unpinned state for window, 12, 54
Unreferencable Namespaces, 758
unsaved changes, * (asterisk) for, 15
unstaged changes, in version control, 782
update operations
ClickOnce for, 716–722
for entity model, 592
UpdatePanel control, for Web Forms, 375–377
UpdateProgress control, 377–378
for Web Forms, 375
Update Wizard, 587–588
UpgradeCode GUID, 711
upgrade wizard, 29
upgrading
to .NET Framework 4.6.2, 665–666
with Visual Studio 2017, 661–667
from recent Visual Studio versions, 662–666
Url display template, 411
usage tracking, for application, 702
user account, 420
creating, 367
User Account Control (UAC), 129–130
user authentication, 367–368
Userdomain parameter, 255
user interaction, adding to template, 255–262
user interfaces
coded task, 663
coded tests, 768
rendering with MVC views, 388–395

Validate On Build property, for conceptual model, 587
validation
of entity model, 587
of HTML, 364–365
validation errors, model binders and, 406
value converter, 314
Variable Explorer, 618
variables
displaying values, 98
inline declarations, 199
unrecognized, 713
.vbproj file, 124
verbosity
of build output, 71, 671
of MSBuild project log files, 672
VeriSign, 719
Version attribute, for installation, 711
version control
Git for, 778
Team Explorer and, 782–784
versions of Visual Studio, upgrading from, 662–666
Version stamp, 120
Version task, in MSBuildTasks library, 685
version tracking, 266
Vertical Scrollbar mode, 92
ViewBox control, 301
View menu, 12, 53
Full Screen, 64
Server Explorer, 204
Tab Order, 284
Toolbox, 281
ViewModel class, template from, 249
views
for databases, 556–557
HTML table in, 393
in MVC architecture, 380
partial, 408–409
rendering UI with, 388–395
routes to generate URLs, 398
Views folder, 422
for Node.js, 437
virtual directory, for web project install, 733
virtual environment, 453
virtual machines
in Windows Azure, 516–517
virtual network, in Windows Azure, 517
Visibility property, in WPF, 299
vision impairment, 365
Visual Basic, code snippets in, 183–184
Visual Basic projects, Compile page, 673–678
Visual Basic Windows Forms project
settings, 127
  Application Framework, 130–131
  Application tab, 128–131
  Build Events tab, 134–135
  Build tab, 133–134
  Code Analysis tab, 143–146
  Compile section, 131–132
  Debug tab, 135–136
  My Extensions tab, 141–142
  Publish tab, 143
  Reference Paths tab, 140
  References tab, 136–137
  Resources tab, 137–138
  Security tab, 142–143
  Services tab, 138–139
  Settings tab, 139–140
  Signing tab, 140
  User Account Control (UAC), 129–130
Visual C++, project compatibility issues, 664
visual controls, resizing, 277
Visual Extension (VSIX) package, 53
visual guides, in editor space, 63–64
Visual Studio 2017
and cloud, 9–11
footprint, 4
installing, 3–9
integrated development environment (IDE), 11–18
project types not supported, 664–665
running, 9
window layout, 53–59
Visual Studio 2017 Community, 753
Visual Studio 2017 Professional, 753
Visual Studio Enterprise, 753–760
Code Cloning, 760
code maps, 758–760
dependency verification, 754–758
testing and debugging, 761–775
Visual Studio Online (VSO), 778.
  See also Visual Studio Team Services (VSTS)
Visual Studio Team Services (VSTS), 765, 778
  .vscontent file, 191–192
  .vsi file, 191
  .vsk files, 67
  .vstemplate file, 253

WaitForStatus method, 215
warm-up time, for load test, 765
warnings, when building applications, 145
watch windows, 630–632
WCF (Windows Communication Foundation)
services, 664
applications providing, 125
Web Application projects
adding master pages, 372–374
creating, 351–354
deploying, 725–739
  publishing to Azure, 729–733
  Windows Installer package for, 733–734
properties, 146–149
vs. Web Site projects, 150, 346–347
web.config file
  and authentication, 367
for Node.js, 438
upating, 728
Web Content Accessibility Checker, 365
Web controls, 366–372
  navigation components, 366–367
  user authentication, 367–368
Web.debug.config file, for Node.js, 438
Web Deploy option, for deployment target connection, 727
Web Deploy Package option, 729
  for deployment target connection, 727
Web Forms
  Data components, 368–372
  data helper controls in, 372
  design, 354–365
      color, 360
      CSS tools, 360–364
      formatting, 359–360
      HTML Designer, 354–356
      positioning controls and HTML elements, 357–358
webnamespace parameter, 255
Web Performance and Load Test project, 762
Web Platform Installer, 735–739
  extending, 736–739
  user interface, 739
Web project category, 124
Web references, 32
web roles
  in Azure project, 503
  passing data between worker roles and, 505
web server controls, ClientIDMode property for, 375
Web Service Gateway Interface (WSGI), 451
website, installing from, 717–718
WebSite element, 734
Web.sitemap file, 366
Web Site projects, 149–150
  creating, 347–350
  local IIS server for, 348
  vs. Web Application projects, 29, 150, 346–347
Web Test Designer, 762
Web Test Recorder, 762
WebVirtualDir element, 734
weighted proportion, for columns/rows, 306
whitelist, 490
white space, 64
Width property, for Windows Forms, 277
window layout, for code editor, 77–78
Window menu, 59
  Float, 84–86
  Move to Next Tab Group, 87
  Move to Previous Tab Group, 87
windows
  closing, 12
  docking, 54–57
  floating, in code editor, 84–86
  layout in Visual Studio, 53–59
      saving, 57–59
  viewing, 53–54
Windows 10 devices, delivering application to all, 328
Windows Apps
  basics, 328–331
      content as priority, 329
      layout and readability, 329
  and cloud, 330–331
  creating, 331–338
  semantic zoom, 330
  snap and scale, 329–330
  tiles, 330
Windows Azure, 501–518
  application deployment, 508–511
  Azure Mobile App, 515–516
  compute emulator, 504–505
  endpoints for, 516–517
  platform, 502–510
  pre-configured clusters for Hadoop, 599
  project compatibility issues, 664
  publishing to, 729–733
  Service Fabric, 513–515
  SQL Azure, 511–512
  virtual machines, 516–517
  virtual network in, 517
Windows Azure Connect, 517
Windows Azure Service Bus, 517
Windows Azure Traffic Manager, 517
Windows Communication Foundation (WCF) services, 664
applications providing, 125
Windows Forms, 276–278
adding controls, 281
applications, 275–291
design preferences, 278–280
dragging resource node into, 206
hosting control in WPF, 322–323
hosting WPF control in, 320–322
interoperability with WPF, 319–323
project compatibility issues, 664 vs. WPF, 294
Windows Forms Designer node, 280
WindowsFormsHost control, 323
Windows installer, building for .NET application, 707
Windows Installer package, for web applications, 733–734
Windows Installer XML (WiX) Toolset, 707–716
building installer, 709–712
components, 708
installing, 708
ServiceControl element, 716
ServiceInstall elements, 716
Windows Phone applications, 462, 664
Windows Runtime components, 338–339
Windows Service, installer for, 716
Windows Simulator, 334–338
device characteristics, 336–337
interaction mode, 336
network simulation, 337–338
screenshots, 337
two-finger gestures, 336
Windows Store Apps, 327, 664
Window Style properties, for Windows Forms, 278
Windows Universal App Platform (UAP) project category, 125
Windows Workflow, 664
WixIIIsExtension assembly, adding reference in setup project, 734
words, IntelliSense for completing, 158–165
word wrap, in code editor, 82
WorkerRole class, 504
worker roles
in Azure project, 503
passing data between web roles and, 505
Workflow project category, 125
WorkItem attribute, for test method, 226
work items in Team Services
adding, 786–787
querying, 784–786
state of, 787
tracking, 784–787
types, 786
workloads in Visual Studio 2017, 4–6
workspaces in R Tools, 619
WPF (Windows Presentation Foundation), 293–326, 664
basics, 294–295
controls, 53, 298–299
data binding, 312–317
getting started with, 295–302
hosting control in Windows Forms, 320–322
hosting Windows Forms control, 322–323
interoperability with Windows Forms, 319–323
layout controls, 299–302
WPF Application
creating, 14
property grid, 43
WPF designer, 296–297, 302–317
zooming, 303
WPF Visualizer, debugging with, 324–326
WriteLine method, of TestContext object, 237
wrox.com, code downloads, 21
wwwroot folder, 422
.wxs file, 713
for web project install, 733–734

Xamarin, 416, 461, 462
creating Forms project, 463–466
XAML (Extensible Application Markup Language), 294
Canvas control, 300
defining complex values in, 301
element for new resource, 311
fundamentals, 297–298
IntelliSense, 169–170
XAML editor, 303–304
XBAP file, 296
XML
  comments
    IntelliSense and, 174
    and JavaScript functions, 374–375
documentation for Visual Basic, 132
tags, IntelliSense for, 162–164
XmlDataSource control, 369
XML files
  for deployment manifest of ClickOnce application, 718
  for snippet, 181
XML scheme files, 126
XmlSerializer, 676

Y

YARN in Hadoop environment, 598
year parameter, 255

Z

.zip file, 191
  for deployment target connection, 727
  for template, 253
zooming
  in code editor, 82
  semantic, 330
  WPF designer, 303
z-order of controls, 284