

Index

A

Add statement, 100, 101, 105

AJAX, 10

Alias, 44

Allocation, 58

And operator, 74

Annotation fields

 bindingKey, 39

 defaultSelectCondition, 108, 109

 keyItems, 105

 tableNames, 105

Annotations

 Alias, 44

 BindService, 39

 Column, 105

 defined, 25

 DisplayName, 45, 117

 DisplayUse, 117

 field level, 45

 FileName, 102

 InputRequired, 45

 MaxSize, 61

 overview, 44–47

 syntax, 45–46

 ThrowNrfEOFExceptions, 111

 ValidationOrder, 117

 ValidatorFunction, 117

Apache

 Derby, 7, 200

 HTTP server, 10

Tomcat, 10, 164

AppendElement, 60, 72, 73

Application scope, 138

Application.xml, 164

Arrays

 dynamic, 60–61, 109–110

 literals, 60

 overview, 60–62

 structure field, 62

Assignment, 63–73

 array of records, 71–73

 compatibility, 76

 record with reference variable, 70–71

 reference variable to reference variable, 65–68

 reference variable to value variable, 68–69

 value variable to reference variable, 63–65

 value variable to value variable, 63

B

BasicRecord stereotype, 27

BasicTable stereotype, 32

Batch Message Processing program (BMP), 6

Binding

 actions, 114–115

 data, 113–115

BindingKey annotation field, 39

BindService annotation, 39

BIRT. *See* Business Intelligence and Reporting Tools

- BMP. *See* Batch Message Processing program
Build, 20
Build descriptor, 21, 175–177
Build parts, 21
Build path, 52
Business Intelligence and Reporting Tools (BIRT)
example, 121–125
overview, 13–14
Web site, 200
- C**
Call statement, 90
Called program, 35
Capabilities, 153–154
Case statement, 86–87
Cheat sheets, 153
CICS. *See* Customer Information Control System
Clean option, 21, 183
Close statement, 100
Cloudscape, 7
COBOL, generated, 2, 6, 7
Code integration, 14–15
Column annotation, 105
Commit, 99–100
Compatibility rules, 76
Compilation, 19
Compiler, 20
Complex types, 24
Component tree, 136–137
Conditional processing, 85–87
Console UI, 12
Constants, 55
Content assist, 180–181
Continue statement, 88
Controller, 134–135
Customer Information Control System (CICS), 6
file types, 8, 9
- Data dictionary, 25
Data items
defined, 25
overview, 26
Data Language/I (DL/I), 7
Data parts, 25
Data tables
compared to dictionaries, 33
defined, 25
overview, 32–33
Data types, 23–33
complex, 24
defined, 23
instances of, 24
primitive, 24, 25
reference, 57
value, 57
Databases
hierarchical, 7
relational, 7, 104–110
DB2 Universal Database (DB2 UDB), 7
Debugger, 2
Default package, 53
DefaultSelectCondition annotation field, 108
defaultSelectCondition annotation field, 109
Delegate parts, 41–43
Delete statement, 100
Deployment descriptor
EAR, 164
EGL, 38
Web, 163
Dictionaries
compared to data tables, 33
Dictionary parts, 25, 30–31
DisplayName annotation, 45, 117
DisplayUse annotation, 117
DL/I. *See* Data Language/I
Dynamic
access, 76–79
arrays, 60–61, 109–110
- E**
EAR deployment descriptor, 164
Eclipse, 2, 200

- EGL
- benefits of, 1–3
 - build, 20
 - build path, 52
 - compilation, 22
 - defined, 1–2
 - deployment descriptor, 148, 175, 178–179
 - integration with existing code, 14–15
 - JSF handler, 113–121
 - defined, 11
 - preferences, 154–155
 - runtime environments, 5–7
 - service, 4, 147, 150
 - supported technologies, 5–14
 - text reporting
 - example, 125–129
 - overview, 14
- Egxpath, 53
- Else statement, 86
- Enterprise Archive (EAR) file, 164
- Enterprise Generation Language (EGL)
- compilation, 19
 - data types, 23–33
 - logic parts, 33–39
 - prototype parts, 39–43
 - use in MDD, 28
 - user interface parts, 43–44
- Equality operator, 74
- Escape character, 103–104
- Exception handling, 91–97
- Exceptions record stereotype, 27
- Execute statement, 100
- Exit statement, 89
- Expressions
- name resolution, 74–76
 - overview, 73–74
- ExternalType parts, 41
- F**
- FastPath, 7
- Field-level annotations, 45
- File access, 101–104
- FileName annotation, 102
- Files
- Enterprise Archive (EAR), 164
- Java Archive (JAR), 164
- Web Archive (WAR), 163
- For statement, 87–88
- ForEach statement, 100, 107–109
- Form
- print, 14
 - text, 12
- Form parts, 43
- Forward statement, 90
- Framework, 11, 134
- Functions
- in logic parts, 33
 - invocation of, 88–89
 - parameter modifiers, 34–35
- G**
- Generalized Sequential Access Method (GSAM), 9
- Generatable
- defined, 32–33
 - logic parts, 33
- Generation
- COBOL, 2
 - defined, 2–3
 - Java, 2
 - overview, 19–22
- Get statement, 100, 101, 105
- Greater-than operator, 74
- GSAM. *See* Generalized Sequential Access Method
- H**
- Handlers, 35, 113–129
- HTML. *See* Hypertext Markup Language
- Hypertext Markup Language (HTML)
- generated, 2
 - transmitted, 131
- I**
- I/O object, 101
- IBM i, 6
- logical files, 9

- IBM i, *continued*
 physical files, 9
IBM Toolbox for Java, 13
Identifiers
 local, 33
 private, 36
 program global, 33
 run-unit global, 36
If statement, 86
Import statement, 51
IMS Connector for Java, 13
IMS. *See* Information Management System
In operator, 74
Indexed files, 8
Inequality operator, 74
Information Management System (IMS), 6
 BMP, 6
 FastPath, 7
 Message Processing Program (MPP), 6
 message queues, 9
Informix, 7
InputRequired annotation, 45
InsertElement, 60, 73
Instance, 24
Integrating code, 14–15
Interface code, 13
Interface parts
 derived from WSDL, 149–150
 overview, 40–41
IR files, 20
Isa operator, 31
- J**
- Java Archive (JAR) files, 164
Java Database Connectivity (JDBC), 7
Java Platform, Enterprise Edition (JEE)
 application client, 6
 defined, 6
 Enterprise JavaBean stateful session bean, 6
 platforms, 6
 Web application, 6
Java Platform, Standard Edition (JSE)
 defined, 5
- platforms, 5
Java wrapper, 14–15
JavaScript
 defined, 10
 generated, 2
JavaServer Faces (JSF), 131–141
 component tree, 136–137
 life cycle, 138–141
 overview, 11–12, 134–141
 specification, 200
 tags, 135–136
JSF handler, 113–121
 defined, 11
JSF. *See* JavaServer Faces
- K**
- Key fields, 105
KeyItems annotation field, 105, 108
- L**
- Less-than operator, 74
Libraries, system, 90–91
Library parts, 35, 36–37
Link Editor icon, 166–167
Local identifiers, 33
Localhost, 161
Logic parts, 33–39
Logical data models, 17
Logical files, 9, 102
Logical tiers, 132–133
Logical unit of work, 99–100
Loop control, 87–88
- M**
- Machine name, 160–161, 167
Main program, 35
MatchInvalidTable stereotype, 32
MatchValidTable stereotype, 32
MaxSize annotation, 61
MDD. *See* Model Driven Development
Message Processing program (MPP), 6
Message queues
 IMS, 9

WebSphere MQ, 7
 Microsoft SQL Server, 7
 Model, 137–138
 Model Driven Development (MDD), 17, 28
 Model of format, 35
 Model, View, Controller (MVC), 133–134
 Modifiers, 34–35
 Move statement, 67–68, 83–85
 MPP. *See* Message Processing program
 MsgTable stereotype, 32
 MVC. *See* Model, View, Controller

N

Name resolution, 74–76
 Native programs, 14
 Network communication, 13
 New operator, 58
 Non-structured records, 28
 Not operator, 74

O

OnConstruction function, 118
 OnException blocks, 92–94
 OnPrerender function, 118
 Open statement, 100, 107–109
 Operators
 and, 74
 equality, 74
 greater than, 74
 in, 74
 inequality, 74
 isa, 31
 less than, 74
 new, 58
 not, 74
 or, 74
 Or operator, 74
 Oracle, 7

P

Packages
 default, 53
 overview, 50–53

Page Data view, 119–121, 182–183
 Page Designer, 164–165, 182–183
 Parameter modifiers, 34–35
 Parts
 Build descriptor, 21, 175–177
 DataItem, 25, 26
 DataTable, 25, 32–33
 Delegate, 41–43
 Dictionary, 25, 30–31
 ExternalType, 41
 Form, 43
 FormGroup, 44
 Handler, 35, 113–121
 Interface, 40–41
 Library, 35, 36–37
 Program, 35
 Record, 25, 27–30
 Resource associations, 102–103
 Service, 35, 37–39
 static, 25

Physical data models, 17
 Physical files, 9, 102
 Port number, 160–161, 167
 Portal, 16
 Precedence rules, 74
 Preferences, 153–155
 capabilities, 153–154
 EGL, 154–155
 Web browser, 154
 Prepare statement, 100
 Primitive types, 24, 25
 Print form, 14, 44
 Private identifiers, 36
 Program
 called, 35
 main, 35
 parts, 35
 Program-global identifiers, 33
 Projects, 158
 Propagation, 94–95
 Property field, 45
 Prototype parts, 39–43

R

RangeChkTable stereotype, 32
Rational Business Developer (RBD)
 defined, 1
 development platforms, 4
 Web site, 199
Rational products, 15–18
 Rational Application Developer, 16
 Rational Build Forge, 18
 Rational ClearCase, 18
 Rational ClearQuest, 18
 Rational Data Architect, 17
 Rational Developer for System i, 16
 Rational Developer for System i for SOA
 Construction, 16–17
 Rational Developer for System z, 16
 Rational Function Tester, 17–18
 Rational Software Architect, 17
 Rational Software Modeler, 17
RBD workbench, 3
Record parts, 25, 27–30
Record stereotypes, 27–28
Reference
 compatibility, 76
 types, 57
 variables, 56
Relational databases, 104–110
Relative files, 8
RemoveElement, 60
Replace statement, 100
Report production, 13–14
Representational State Transfer (REST), 4
Request scope, 137
Resource associations, 102–104
REST. *See* Representational State Transfer
Return statement, 89
Rich UI
 handlers, 129
 overview, 10
 Web site, 199
Rollback, 99–100
Run unit
 global identifiers, 36
 overview, 35–36

Runtime Data Source, 174

S

Scope
 application, 138
 request, 137
 session, 137
Sequential files, 8
Service client bindings, 148
Service parts, 35, 37–39
Service-oriented architecture (SOA)
 overview, 143–147
 support for, 4, 147–150
Session scope, 137
Set statement, 85
SetError, 119
Set-value blocks
 nested, 49–50
 with annotations, 45
 with reference variables, 59
 with runtime values, 48–50
Simple property, 45
SOA. *See* Service-oriented architecture
SOAP, 4
Software Development Kit (SDK)
 defined, 3
 eglpath, 53
 example, 3–4
Sources of information, 199–200
SQL
 database connections, 155
 defined, 7
 statements, 106–107
SQLRecord stereotype, 27, 104–110
Standard output, 34
StartTransaction, 35
Statements
 add, 100, 101, 105
 call, 90
 case, 86–87
 close, 100
 continue, 88
 delete, 100
 else, 86

- execute, 100
 - exit, 89
 - for, 87–88
 - forEach, 100, 107–109
 - forward, 90
 - get, 100, 101, 105
 - if, 86
 - import, 51
 - move, 67–68, 83–85
 - open, 100, 107–109
 - prepare, 100
 - replace, 100
 - return, 89
 - set, 85
 - throw, 97
 - transfer, 90
 - try, 92–94
 - use, 53–54
 - while, 88
 - Static access, 76–79
 - Static part, 25
 - Stereotypes
 - data table, 32
 - defined, 28, 47
 - record, 27–28
 - syntax, 47–48
 - Structured records, 28–30
 - Structure-field arrays, 62
 - SysLib.commit, 100
 - SysLib.rollback, 100
 - SysLib.setError, 119
 - System libraries, 90–91
- T**
- TableNames annotation field, 105
 - Technology domains, 5
 - Text form, 12, 43
 - Text reporting
 - example, 125–129
 - overview, 14
 - Text UI
 - overview, 12
 - Throw statement, 97
 - ThrowNrfEofExceptions, 111
- Transfer of control
 - out of a program, 90
 - within a program, 88–89
 - Transfer statement, 90
 - Transport protocol, 38
 - Try statement, 92–94
 - Tutorial, 157–198
- U**
- UML. *See* Unified Modeling Language
 - Unified Modeling Language (UML), 28
 - Use statement, 53–54
 - User interface parts, 43–44
- V**
- ValidationOrder annotation, 117, 119
 - ValidatorFunction annotation, 117
 - Value types, 57
 - Value variables, 56
 - Value-binding expression, 136
 - Variables
 - arrays, 60–62
 - assignment, 63–73
 - dynamic access, 76–79
 - initialization, 57–58
 - local, 33
 - overview, 56–58
 - private, 36
 - program global, 33
 - reference, 56
 - run-unit global, 36
 - static access, 76–79
 - value, 56
 - VgLib.startTransaction, 35
 - View, 135–137
 - Views and perspectives, 155–156
 - Virtual Storage Access Method (VSAM), 8
- W**
- WAS. *See* WebSphere Application Server
 - Web applications, 131–132
 - Web Archive (WAR) file, 163
 - Web browser preference, 154

Web deployment descriptor, 163
Web service, 4, 147
Web Services Description Language (WSDL), 148–150
 defined, 4
Web transaction, 12
Web.xml, 163
WebSphere Application Server (WAS)
 add and remove projects, 183–184
 restart EAR, 197
 start, 162
WebSphere MQ, 7
WebSphere Unit Test Environment, 4
Welcome page, 151–153
While statement, 88
Wizard, 2
Workspace, 151
WriteStdOut, 34
WSDL. *See* Web Services Description Language