

STATIC ANALYSIS

TOOL : ESLINT

ESLint is an open source JavaScript linting utility originally created by Nicholas C. Zakas in June 2013. Code linting is a type of static analysis that is frequently used to find problematic patterns or code that doesn't adhere to certain style guidelines. There are code linters for most programming languages, and compilers sometimes incorporate linting into the compilation process.

JavaScript, being a dynamic and loosely-typed language, is especially prone to developer error. Without the benefit of a compilation process, JavaScript code is typically executed in order to find syntax or other errors. Linting tools like ESLint allow developers to discover problems with their JavaScript code without executing it.

IMPROVEMENT PROCESS

SERVER.JS

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/server.js
 34:5  warning  'websocket' is assigned a value but never used  no-unused-vars
102:9  warning  Expected indentation of 4 spaces but found 8    indent
107:5  warning  Unexpected console statement                    no-console

✖ 3 problems (0 errors, 3 warnings)
```

After Solving:

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/server.js
 34:5  warning  'websocket' is assigned a value but never used  no-unused-vars
107:5  warning  Unexpected console statement                    no-console

✖ 2 problems (0 errors, 2 warnings)
```

MODELS

annouceModel.js

```
→ sv4-esn-services git:(xiaoc2) x ./node_modules/.bin/eslint ./models/announceModel.js

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/models/announceModel.js
  8:5  warning  Extra space after key 'content'          key-spacing
  9:5  warning  Extra space after key 'announcer'        key-spacing
 11:20 warning  Expected a line break before this closing brace object-curly-newline
 12:5  warning  Extra space after key 'created_at'       key-spacing
 14:9  warning  Extra space after key 'default'          key-spacing
 16:5  warning  Extra space after key 'location'         key-spacing
 19:61 error    Newline required at end of file but not found eol-last

✖ 7 problems (1 error, 6 warnings)
```

After Solving:

```
sv4-esn-services git:(xiaoc2) x ./node_modules/.bin/eslint ./models/announceModel.js
sv4-esn-services git:(xiaoc2) x
```

messageModel.js

```
→ sv4-esn-services git:(xiaoc2) x ./node_modules/.bin/eslint ./models/messageModel.js

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/models/messageModel.js
  2:14  warning  Multiple spaces found before '='          no-multi-spaces
  5:2   warning  Expected indentation of 4 spaces but found 1 tab indent
  5:2   warning  Extra space after key 'sender'            key-spacing
  6:3   warning  Expected indentation of 4 spaces but found 2 tabs indent
  7:3   warning  Expected indentation of 4 spaces but found 2 tabs indent
  8:2   warning  Expected indentation of 0 spaces but found 1 tab indent
  9:2   warning  Expected indentation of 4 spaces but found 1 tab indent
 10:2   warning  Extra space after key 'receiver'          key-spacing
 10:2   warning  Expected indentation of 4 spaces but found 1 tab indent
 11:9   warning  Expected indentation of 4 spaces but found 8 indent
 12:9   warning  Expected indentation of 4 spaces but found 8 indent
 13:5   warning  Expected indentation of 0 spaces but found 4 indent
 14:2   warning  Expected indentation of 4 spaces but found 1 tab indent
 14:2   warning  Extra space after key 'message'           key-spacing
 15:2   warning  Expected indentation of 4 spaces but found 1 tab indent
 15:2   warning  Extra space after key 'sent_at'           key-spacing
 16:2   warning  Extra space after key 'user_status'       key-spacing
 16:2   warning  Expected indentation of 4 spaces but found 1 tab indent
 21:1   error    Newline required at end of file but not found eol-last
```

After solving:

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/models/messageModel.js
22:1 error Newline required at end of file but not found eol-last
```

✖ 1 problem (1 error, 0 warnings)

userModel.js

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/models/userModel.js
 2:14 warning Multiple spaces found before '=' no-multi-spaces
 5:2 warning Extra space after key 'username' key-spacing
 6:2 warning Extra space after key 'email' key-spacing
 7:2 warning Extra space after key 'password' key-spacing
 8:2 warning Extra space after key 'created_at' key-spacing
 9:2 warning Extra space after key 'updated_at' key-spacing
10:2 warning Extra space after key 'role' key-spacing
11:40 error Expected comment to be above code line-comment-position
12:26 warning Missing space before value for key 'status_information' key-spacing
14:43 error Unexpected trailing comma comma-dangle
18:1 error Newline required at end of file but not found eol-last
```

After solving:

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/models/userModel.js
20:1 warning Newline required at end of file but not found eol-last

✖ 1 problem (0 errors, 1 warning)
```

DAO

announceDao.js

```
→ sv4-esn-services git:(xiaoc2) ✖ ./node_modules/.bin/eslint ./dao/announceDao.js

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/dao/announceDao.js
 5:5 warning 'config' is assigned a value but never used no-unused-vars
25:6 warning Unnecessary semicolon no-extra-semi
32:27 warning Missing space before value for key '_id' key-spacing
42:34 warning Unexpected line break after this opening brace object-curly-newline
44:21 warning Unexpected line break before this closing brace object-curly-newline
48:6 warning Unnecessary semicolon no-extra-semi
65:6 warning Unnecessary semicolon no-extra-semi
72:59 error Expected to return a value at the end of function consistent-return
80:30 warning Unexpected line break after this opening brace object-curly-newline
82:17 warning Unexpected line break before this closing brace object-curly-newline
101:6 warning Unnecessary semicolon no-extra-semi
108:60 warning 'announce' is defined but never used no-unused-vars
117:6 warning Unnecessary semicolon no-extra-semi

✖ 13 problems (1 error, 12 warnings)
```

After solving:

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/dao/announceDao.js
5:5 warning 'config' is assigned a value but never used no-unused-vars
70:59 error Expected to return a value at the end of function consistent-return
78:30 warning Unexpected line break after this opening brace object-curly-newline
80:17 warning Unexpected line break before this closing brace object-curly-newline
106:60 warning 'announce' is defined but never used no-unused-vars

✖ 5 problems (1 error, 4 warnings)
```

messageDao.js

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/dao/messageDao.js
5:5 warning 'mongoose' is assigned a value but never used no-unused-vars
6:5 warning 'config' is assigned a value but never used no-unused-vars
37:6 warning Unnecessary semicolon no-extra-semi
54:34 warning Unexpected line break after this opening brace object-curly-newline
56:21 warning Unexpected line break before this closing brace object-curly-newline
60:6 warning Unnecessary semicolon no-extra-semi
68:43 error Expected to return a value at the end of function consistent-return
83:34 error Expected to return a value at the end of function consistent-return
105:42 warning Unexpected line break after this opening brace object-curly-newline
107:29 warning Unexpected line break before this closing brace object-curly-newline
113:29 error Expected { after 'if' condition curly
113:29 error Expected space(s) after "if" keyword-spacing
114:33 error Expected no linebreak before this statement nonblock-statement-body-position
116:29 error Expected space(s) after "if" keyword-spacing
116:29 error Expected { after 'if' condition curly
117:33 error Expected no linebreak before this statement nonblock-statement-body-position
124:6 warning Unnecessary semicolon no-extra-semi
130:54 error Function has too many statements (13). Maximum allowed is 10 max-statements
130:54 error Expected to return a value at the end of function consistent-return
138:30 warning Unexpected line break after this opening brace object-curly-newline
140:17 warning Unexpected line break before this closing brace object-curly-newline
163:6 warning Unnecessary semicolon no-extra-semi
169:59 warning 'message' is defined but never used no-unused-vars
178:6 warning Unnecessary semicolon no-extra-semi
184:20 error Method 'privateMessages' has too many parameters (4). Maximum allowed is 3 max-params
184:42 warning 'error' is defined but never used no-unused-vars
199:31 error Expected error to be handled handle-callback-err
201:13 error Expected space(s) after "if" keyword-spacing
202:47 warning 'index' is defined but never used no-unused-vars
211:35 error Expected error to be handled handle-callback-err
213:17 error Expected space(s) after "if" keyword-spacing
214:51 warning 'index' is defined but never used no-unused-vars
219:45 warning Identifier name 'a' is too short (< 2) id-length
219:47 warning Identifier name 'b' is too short (< 2) id-length
220:25 error Expected { after 'if' condition curly
221:29 error Expected no linebreak before this statement nonblock-statement-body-position
222:25 error Expected { after 'if' condition curly
223:29 error Expected no linebreak before this statement nonblock-statement-body-position
235:6 warning Unnecessary semicolon no-extra-semi

✖ 39 problems (19 errors, 20 warnings)
```

After solving:

```

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/dao/messageDao.js
  4:5   warning  'config' is assigned a value but never used  no-unused-vars
167:59 warning  'message' is defined but never used          no-unused-vars
206:47 warning  'index' is defined but never used            no-unused-vars
225:51 warning  'index' is defined but never used            no-unused-vars

```

✖ 4 problems (0 errors, 4 warnings)

userDao.js

```

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/dao/userDao.js
  2:5   warning  'mongoose' is assigned a value but never used  no-unused-vars
  3:5   warning  'config' is assigned a value but never used    no-unused-vars
13:24  error    Expected to return a value in function          array-callback-return
22:6   warning  Unnecessary semicolon                          no-extra-semi
42:6   warning  Unnecessary semicolon                          no-extra-semi
62:6   warning  Unnecessary semicolon                          no-extra-semi
79:6   warning  Unnecessary semicolon                          no-extra-semi
101:68 error    Infix operators must be spaced                  space-infix-ops
103:46 error    Infix operators must be spaced                  space-infix-ops
104:50 error    Infix operators must be spaced                  space-infix-ops
117:6   warning  Unnecessary semicolon                          no-extra-semi
124:56 warning  'user' is defined but never used                no-unused-vars
133:6   warning  Unnecessary semicolon                          no-extra-semi

```

✖ 13 problems (4 errors, 9 warnings)

After solving:

```

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/dao/userDao.js
  2:5   warning  'config' is assigned a value but never used  no-unused-vars
12:24  error    Expected to return a value in function          array-callback-return
123:56 warning  'user' is defined but never used                no-unused-vars

```

✖ 3 problems (1 error, 2 warnings)

CONTROLLER

```
→ sv4-esn-services git:(xiaoc2) X ./node_modules/.bin/eslint ./controllers
```

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/controllers/announceController.js
```

```
46:23 warning Multiple spaces found before '=' no-multi-spaces
47:13 warning Extra space after key 'content' key-spacing
49:13 warning Extra space after key 'created_at' key-spacing
50:13 warning Extra space after key 'location' key-spacing
60:54 warning Multiple spaces found before 'found' no-multi-spaces
75:23 warning Multiple spaces found before '=' no-multi-spaces
76:13 warning Extra space after key 'content' key-spacing
78:13 warning Extra space after key 'created_at' key-spacing
79:13 warning Extra space after key 'location' key-spacing
92:16 error Infix operators must be spaced space-infix-ops
100:3 warning Newline required at end of file but not found eol-last
```

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/controllers/connection-controller.js
```

```
16:9 warning Unexpected console statement no-console
16:63 warning Multiple spaces found before '+' no-multi-spaces
20:9 warning Unexpected console statement no-console
```

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/controllers/messageController.js
```

```
46:24 error 'error' is not defined no-undef
52:24 error 'error' is not defined no-undef
58:17 warning Extra space after key 'sender' key-spacing
59:17 warning Extra space after key 'receiver' key-spacing
60:17 warning Extra space after key 'message' key-spacing
61:17 warning Extra space after key 'sent_at' key-spacing
62:17 warning Extra space after key 'broadcast' key-spacing
63:30 error Gratuitous parentheses around expression no-extra-parens
63:43 error Infix operators must be spaced space-infix-ops
66:1 error More than 2 blank lines not allowed no-multiple-empty-lines
84:13 warning Extra space after key 'id' key-spacing
85:13 warning Extra space after key 'sender' key-spacing
86:13 warning Extra space after key 'receiver' key-spacing
87:13 warning Extra space after key 'message' key-spacing
88:13 warning Extra space after key 'sent_at' key-spacing
89:13 warning Extra space after key 'broadcast' key-spacing
```

```
/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/controllers/userController.js
```

```
2:37 error Expected comment to be above code line-comment-position
44:4 warning Extra space after key 'username' key-spacing
45:4 warning Extra space after key 'email' key-spacing
46:4 warning Extra space after key 'password' key-spacing
47:4 warning Extra space after key 'created_at' key-spacing
48:4 warning Extra space after key 'updated_at' key-spacing
49:4 warning Extra space after key 'role' key-spacing
50:13 warning Extra space after key 'location' key-spacing
73:13 warning Extra space after key 'username' key-spacing
74:13 warning Extra space after key 'email' key-spacing
75:13 warning Extra space after key 'password' key-spacing
75:24 error Gratuitous parentheses around expression no-extra-parens
75:24 error Unexpected negated condition no-negated-condition
75:38 error Infix operators must be spaced space-infix-ops
76:13 warning Extra space after key 'created_at' key-spacing
77:13 warning Extra space after key 'updated_at' key-spacing
78:13 warning Extra space after key 'role' key-spacing
82:13 warning Extra space after key 'location' key-spacing
```

```
✖ 48 problems (10 errors, 38 warnings)
```


After solving:

```
→ sv4-esn-services git:(xiaoc2) ✗ ./node_modules/.bin/eslint ./controllers

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/controllers/connection-controller.js
  16:9  warning  Unexpected console statement  no-console
  20:9  warning  Unexpected console statement  no-console

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/controllers/messageController.js
  63:30  error  Gratuitous parentheses around expression  no-extra-parens

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/controllers/userController.js
   2:37  error  Expected comment to be above code          line-comment-position
  75:23  error  Gratuitous parentheses around expression    no-extra-parens
  75:23  error  Unexpected negated condition                no-negated-condition

✖ 6 problems (4 errors, 2 warnings)
```

ROUTES

```
→ sv4-esn-services git:(xiaoc2) ✗ ./node_modules/.bin/eslint ./routes

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/routes/announceRoutes.js
   5:22  error  A function with a name starting with an uppercase letter should only be used as a constructor  new-cap
   7:26  error  Unexpected space between function name and paren                                           func-call-spacing
   7:26  error  Unexpected space between function name and paren                                           no-spaced-func
  34:25  warning Newline required at end of file but not found                                         eol-last

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/routes/messageRoutes.js
   2:22  error  A function with a name starting with an uppercase letter should only be used as a constructor  new-cap

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/routes/userRoutes.js
   2:22  error  A function with a name starting with an uppercase letter should only be used as a constructor  new-cap
  15:71  warning Multiple spaces found before 'userController'                                       no-multi-spaces
  20:19  warning Multiple spaces found before 'userController'                                       no-multi-spaces
  25:71  warning Multiple spaces found before 'userController'                                       no-multi-spaces
  30:74  warning Multiple spaces found before 'userController'                                       no-multi-spaces

✖ 10 problems (5 errors, 5 warnings)
```

After solving:

```
→ sv4-esn-services git:(xiaoc2) ✗ ./node_modules/.bin/eslint ./routes

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/routes/announceRoutes.js
   5:22  error  A function with a name starting with an uppercase letter should only be used as a constructor  new-cap

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/routes/messageRoutes.js
   2:22  error  A function with a name starting with an uppercase letter should only be used as a constructor  new-cap

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/routes/userRoutes.js
   2:22  error  A function with a name starting with an uppercase letter should only be used as a constructor  new-cap

✖ 3 problems (3 errors, 0 warnings)
```

SERVICES

```

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/services/loginService.js
  7:5   warning  'sha256' is assigned a value but never used      no-unused-vars
 18:53  warning  Missing space before value for key 'message'     key-spacing
 21:53  warning  Missing space before value for key 'message'     key-spacing
 24:53  warning  Missing space before value for key 'message'     key-spacing
 27:13  error    Assignment to function parameter 'password'      no-param-reassign
 29:13  error    Unexpected if as the only statement in an else block no-lonely-if
 30:53  warning  Missing space before value for key 'message'     key-spacing
 31:20  error    Unnecessary 'else' after 'return'                no-else-return
 32:17  error    Unexpected if as the only statement in an else block no-lonely-if
 32:17  error    Unexpected negated condition                    no-negated-condition
 33:57  warning  Missing space before value for key 'message'     key-spacing
 34:24  error    Unnecessary 'else' after 'return'                no-else-return
 35:57  warning  Missing space before value for key 'message'     key-spacing
 42:31  error    Expected '!==' and instead saw '!='              eqeqeq
 54:6   warning  Unnecessary semicolon                            no-extra-semi

✖ 15 problems (7 errors, 8 warnings)

```

After solving:

```

→ sv4-esn-services git:(xiaoc2) X ./node_modules/.bin/eslint ./services

/Users/xiaochen/Desktop/course work/FSE/s17-ESN-SV4/sv4-esn-services/services/loginService.js
 26:13  error    Assignment to function parameter 'password'      no-param-reassign
 31:17  error    Unexpected negated condition                    no-negated-condition
 53:6   warning  Unnecessary semicolon                            no-extra-semi

✖ 3 problems (2 errors, 1 warning)

```