

## State Variable Default Visibility

### Description

Labeling the visibility explicitly makes it easier to catch incorrect assumptions about who can access the variable.

### Remediation

Variables can be specified as being public, internal, or private. Explicitly define visibility for all state variables.

### Example:

*Code:*

```
1 pragma solidity 0.4.24;
2
3 contract TestStorage {
4
5     uint storeduint1 = 15;
6     uint constant constuint = 16;
7     uint32 investmentsDeadlineTimeStamp = uint32(now);
8
9     bytes16 string1 = "test1";
10    bytes32 private string2 = "test1236";
11    string public string3 = "lets string something";
12
13    mapping (address => uint) public uints1;
14    mapping (address => DeviceData) structs1;
15
16    uint[] uintarray;
17    DeviceData[] deviceDataArray;
18
19    struct DeviceData {
20        string deviceBrand;
21        string deviceYear;
22        string batteryWearLevel;
23    }
24
25    function testStorage() public {
26        address address1 = 0xbccc714d56bc0da0fd33d96d2a87b680dd6d0df6;
27        address address2 = 0xae905fdd3ed851e48d22059575b9f4245a82b04;
28
29        uints1[address1] = 88;
30        uints1[address2] = 99;
31
32        DeviceData memory dev1 = DeviceData("deviceBrand", "deviceYear",
33        "wearLevel");
34
35        structs1[address1] = dev1;
36
37        uintarray.push(8000);
38        uintarray.push(9000);
39
40        deviceDataArray.push(dev1);
41    }
```

carbon

*Explanation:*

Like function visibility, the visibility should be assigned to the state variable. Otherwise, the variable will be considered public and may be accessed using the web3 `getStorageAt()` API through the storage block.

In the above example, line no 5,7,9,14,16,17 state variable are not assigned any visibility value.