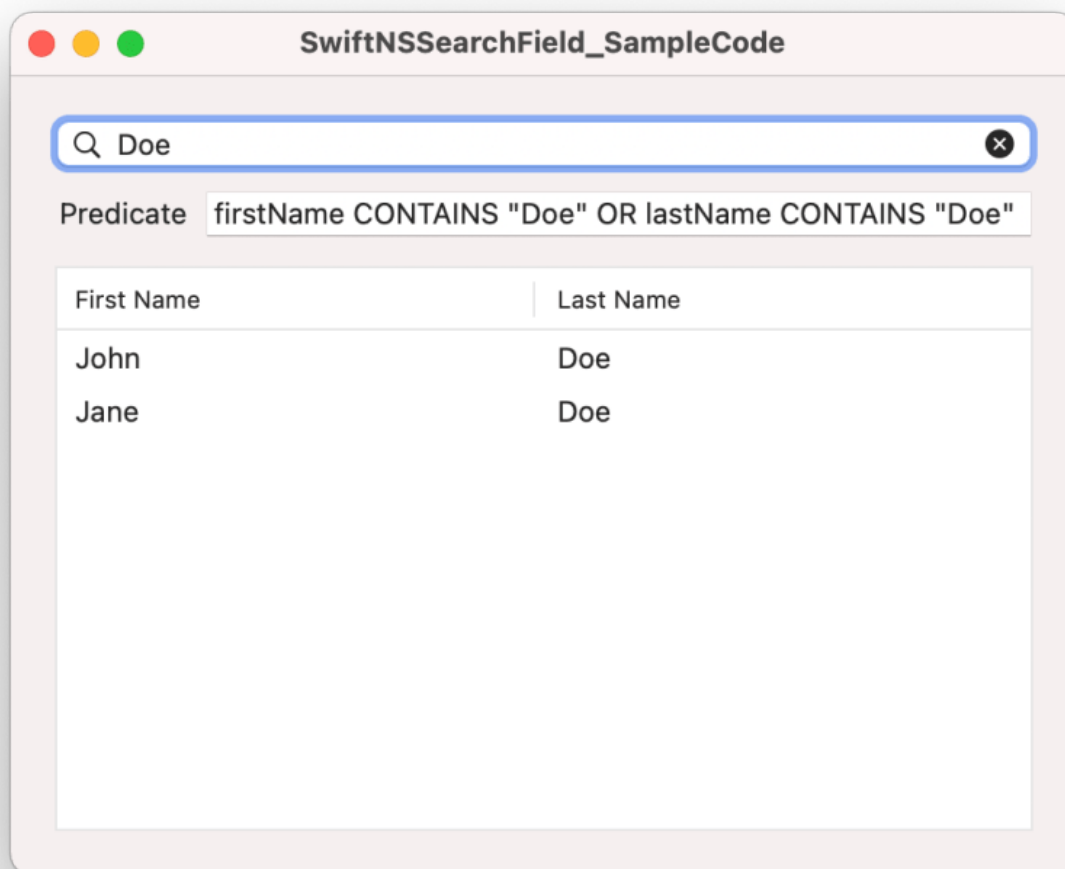# Swift NSSearchField for NSTableView using NSArrayController Sample Code

🌐 **ddas.tech**/swift-nssearchfield-for-nstableview-using-nsarraycontroller-sample-code/
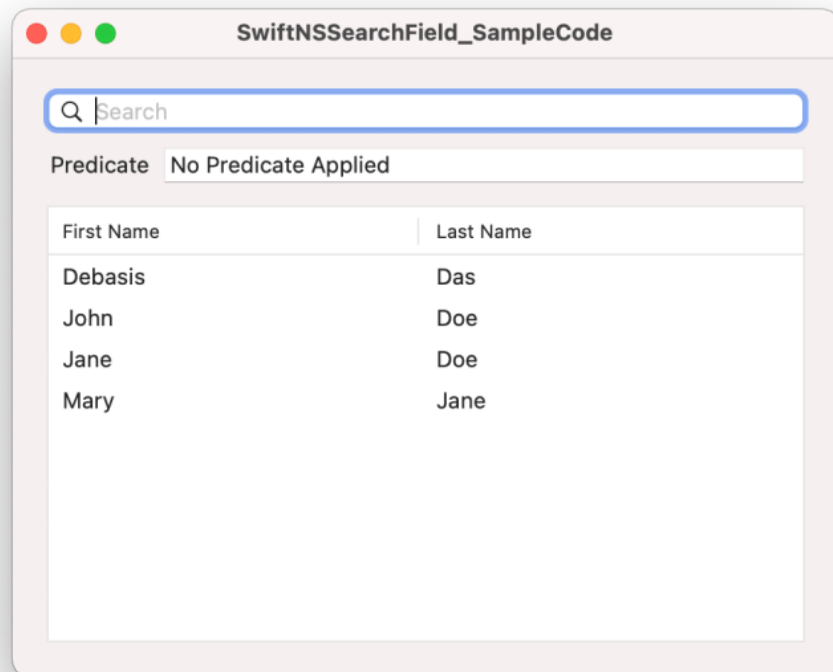
September 4, 2022
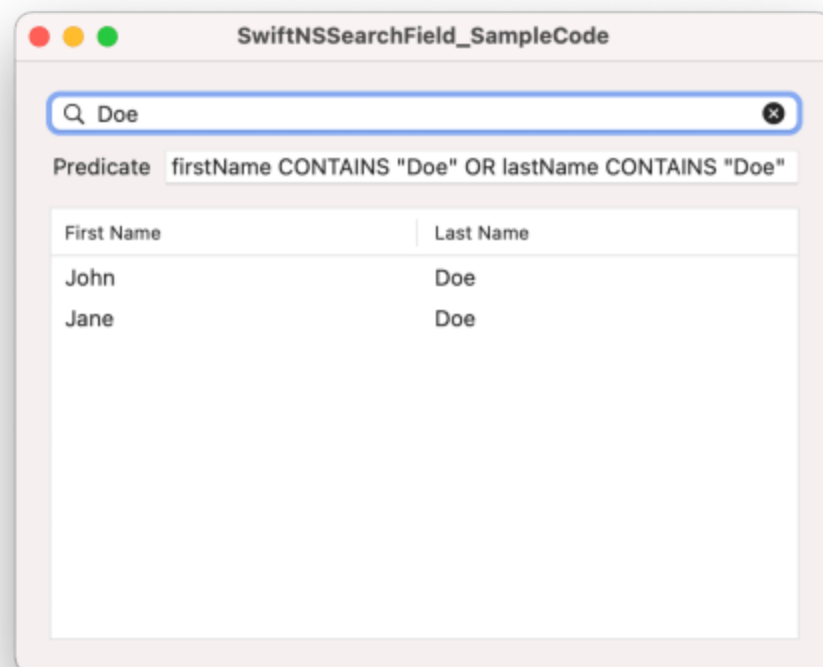

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In this post we will create a sample swift application and will filter the visible records in a NSTableView by using a text from NSSearchField.

Using the search string, we will create a filter predicate and will apply the same to the NSArrayController which backs the data visible on the screen in the NSTableView.

The NSArrayController will maintain the backup data in the form of its content and the NSArrayController->arrangedObjects will return the filtered contents.

NSTableView without any filter applied

Search String applied to all the columns of the NSTableView.

Lets begin with creating a contact class and we will create some sample data using the Contact Class

```
class Contact : NSObject{
    @objc var firstName : String = ""
    @objc var lastName: String = ""

    convenience init(fName:String, lName:String) {
        self.init()
        self.firstName = fName
        self.lastName = lName
    }
}
```

For the sample application, we have added the code to the AppDelegate itself, you can use this code in your NSViewController or NSWindowController sub classes as well.

```swift
import Cocoa
@main
class AppDelegate: NSObject, NSApplicationDelegate, NSTableViewDelegate,
NSTableViewDataSource, NSSearchFieldDelegate {

    @IBOutlet var window: NSWindow!
    @IBOutlet weak var tableView:NSTableView!
    @IBOutlet weak var searchField:NSSearchField!
// The predicate text field is added to display the predicate that will be applied
// to the content of the NSArrayController
    @IBOutlet weak var predicateTextField: NSTextField!


    var contacts:[Contact] = []
    var contactsArrayController:NSArrayController = NSArrayController()


    func applicationDidFinishLaunching(_ aNotification: Notification) {

//Begin Sample Data Creation
        let contact1 = Contact(fName: "Debasis", lName: "Das")
        let contact2 = Contact(fName: "John", lName: "Doe")
        let contact3 = Contact(fName: "Jane", lName: "Doe")
        let contact4 = Contact(fName: "Mary", lName: "Jane")
        contacts.append(contact1)
        contacts.append(contact2)
        contacts.append(contact3)
        contacts.append(contact4)
// End Sample Data Creation

        self.tableView.delegate = self
        self.tableView.dataSource = self
        self.searchField.delegate = self

        self.contactsArrayController.content = self.contacts
        self.tableView.reloadData()
    }


    func numberOfRows(in tableView: NSTableView) -> Int {
        if let contacts = self.contactsArrayController.arrangedObjects as? [Contact]{
            return contacts.count
        }
        else{
            return 0
        }
    }

    func tableView(_ tableView: NSTableView, viewFor tableColumn: NSTableColumn?,
row: Int) -> NSView? {
        if let contacts = self.contactsArrayController.arrangedObjects as? [Contact]{
            let contact = contacts[row]
```

```swift
            var result:NSTableCellView
            result  = tableView.makeView(withIdentifier: (tableColumn?.identifier)!,
owner: self) as! NSTableCellView
            switch tableColumn?.identifier.rawValue {
            case "firstName":
                result.textField?.stringValue = contact.firstName
            case "lastName":
                result.textField?.stringValue = contact.lastName
            default:
                result.textField?.stringValue = "Default Val"
            }
            return result

        }
        return nil
    }

    func controlTextDidChange(_ obj: Notification) {
        if let searchString = (obj.object as? NSSearchField)?.stringValue{
            if searchString != ""{
                let predicate = NSPredicate(format: "firstName contains %@ OR
lastName contains %@ ",searchString,searchString)
                self.predicateTextField.stringValue = predicate.description
                self.contactsArrayController.filterPredicate = predicate
            } else{
                self.predicateTextField.stringValue = "No Predicate Applied"
                self.contactsArrayController.filterPredicate = nil
            }
            self.tableView.reloadData()
        }

    }

}
```

You can download the code from
https://github.com/debasisdas1/ddas.tech/tree/main/Swift/SwiftNSSearchField_SampleCode