knowledge14
April 27–May 1, 2014 • Moscone Center • San Francisco, CA

Lab Guide

Technical Best Practices 201:

Avoid Pitfalls

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Lab instance: https://**<<name>>**.lab.service-now.com

Login / Passwords:

admin / Knowledge14

itil / Knowledge14

employee / Knowledge14

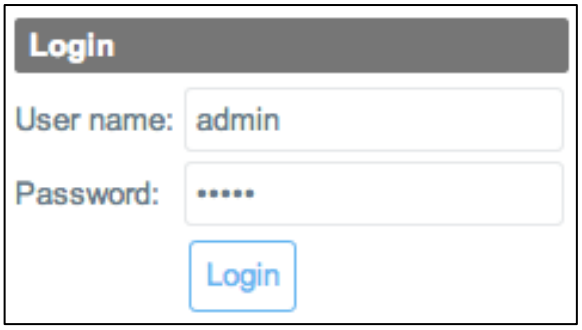
Lab Goal

Review the business rules your colleagues have done to look for bad practices and correct them using best practices.

Lab 1.1 Review Business Rules

Login to Your Instance

1. Login to the instance URL on the cover page using the provided **admin** credentials.



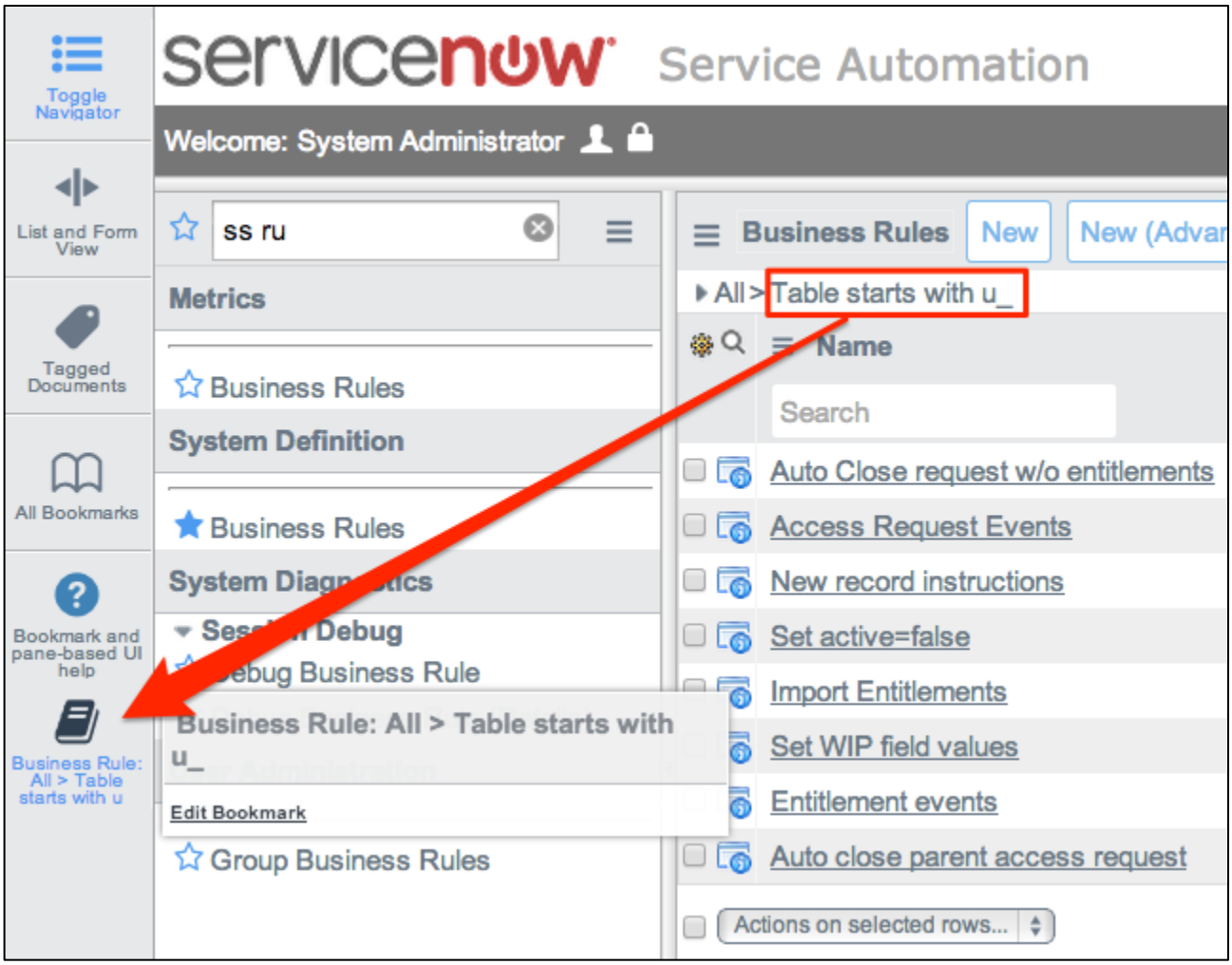
Add Business Rules to the Edge

2. Navigate to **System Definition> Business Rules**.

3. Filter the list of rules using the list filter where **Table | starts | with u_** .

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4. Click on the breadcrumb that reads **Table starts with u_** (shown right) and drag it to the edge for easy reference later.



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Review and Update First Business Rule

5. Open the business rule **Auto Close request w/o entitlements**.

6. Review the script and note any best practices that can be applied to this business rule.

7. Change the **When** field from **after** to **before**.

8. In the script field toolbar click the Format Code icon (shown below):



9. Remove or comment out the line:

```
current.update();
```

10. Add the following text to the **Description** field:

    Close this record automatically if there are no entitlement changes generated.

11. Click **Update**.

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Review and Update Second Business Rule

12. Open the business rule **Access Request Events**.

13. Review the script and note any best practices that can be applied to this business rule.

14. Explain why the single "if" statement in the script should not be moved to the Condition field in this case.

15. Change the **When** field from **after** to **async**.

16. In the script field toolbar click the Format Code icon (shown below):



17. Click **Update**.

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Review and Update Third Business Rule

18. Open the business rule **Import Entitlements**.

19. Review the script and note any best practices that can be applied to this business rule.

20. Add the following text to the **Description** field:

    Create entitlement records based on the recipient and model after fields.

21. Modify the script to wrap the current code in a function. The following script is one possible example:

```
/*
 * Copy the entitlements for the 'model after'
 *
 */
createEntitlements();

function createEntitlements() {

  var teu          = new TBPEntitlementUtils();
  var existingList = teu.getExistingEntitlements(current);

  teu.getEntitlementActions(current, existingList);
}
```

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Verification

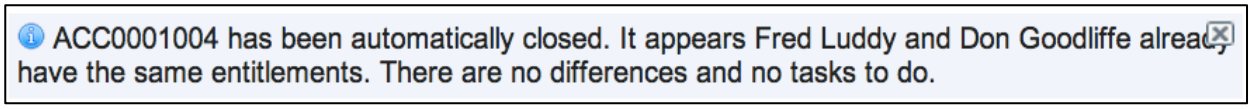
22. Navigate to **Access Request> Create New**

23. Fill out the form with the following answers:

    Who is the recipient of this request? **Fred Luddy**
    Choose a user to model this request after: **Don Goodliffe**
    Do you want to ADD this access to the requester or REPLACE their current access? **Add**
    When is this request due? **2014-06-10**
    Provide justification for requiring this access change: **Demo**

24. Click **Submit**.

25. Verify the following message is displayed at the top of the form:



Notes

If you finish early, examine the other business rules in the list for potential best practices opportunities. Note them here:

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Lab Goal

Convert a global business rule to a script include.

Lab 1.2 Global Business Rules

Copy/Deactivate a Global Business Rule

1. Navigate to **System Definition> Business Rules**.
2. Locate and open the **tbpUserFilter** business rule.
3. Set the **Active** field to **false** (unchecked).
4. Select and copy the entire contents of the **Script** field.
5. Click **Update**.

Create a Script Include

6. Navigate to **System Definition> Script Includes**.
7. Click **New**.
8. In the **Name** field, enter **tbpUserFilter**.

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9. In the **Description** field, enter:

   Advanced reference qualifier for the access request user fields.

10. Delete the entire contents of the **Script** field.

11. Paste the contents of the global business rule (in your copy buffer) to the **Script** field.

    Your script field should look like the following:

```
function tbpUserFilter() {

  return 'active=true';
}
```

12. Click **Submit**.

Validation

13. Navigate to **User Administration> Users**.

14. Locate and open the record for **annie.approver**.

15. Uncheck the **Active** field.

16. Click **Update**.

17. Navigate to **Access Request> Create New**.

18. In the field **Who is the recipient of this request?** Try entering the name “Annie Approver.”

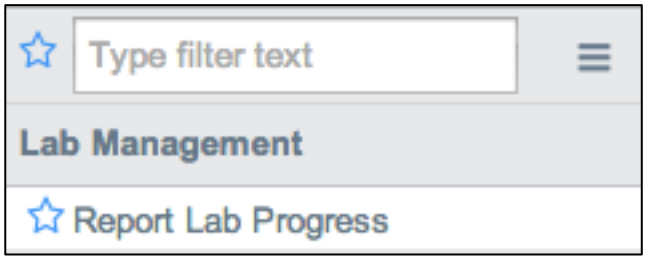
19. If her name fails to appear, and other names do (as you type characters starting with “A”) the conversion of a global business rule to script include was successful. Since her account is inactive and the script include displays only active accounts.

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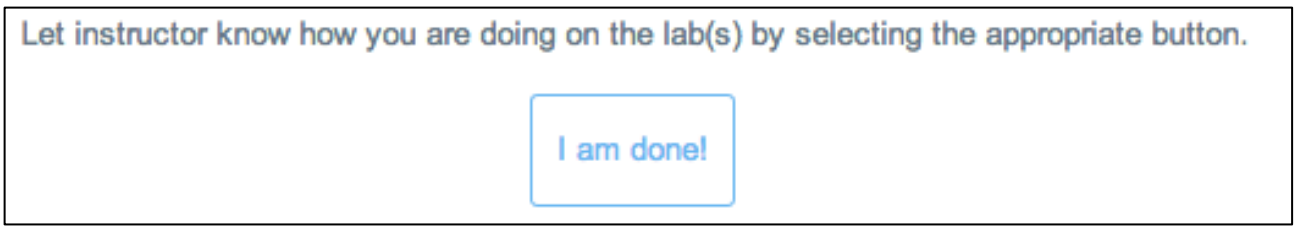
Notes

Progress Report

1. Navigate to **Lab Management> Report Lab Progress**.



2. Click **I am Done! I am Done!**



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Lab Goal

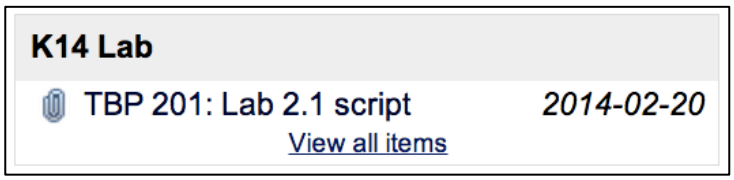
Convert a synchronous call to **g_form.getReference()** to an asynchronous **GlideAjax** call to improve performance.

Lab 2.1 Convert getReference to GlideAjax

Download the Script

1. Navigate to **Self-Service> Knowledge**.

2. Click the article **TBP 201: Lab 2.1 script** (under the K14 Lab topic). The file manager-ajax.txt will be downloaded to your local machine. Note the location.



Verify the Assigned to Mgr field Updates

3. Navigate to **Access Request> Entitlements> Open**.

4. Open the record **ENT0001012**.

5. Verify that the field **Assigned to Mgr** is updating as the **Assigned to** field changes. Change the **Assigned to** field to Beth Anglin (do not save or update the form). Does the **Assigned to Mgr** field say Jerrod Bennett?

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6. Change the **Assigned to** field from Beth Anglin to David Loo. Did the **Assigned to Mgr** field change to Bud Richman?

Note: A client script is making a call to the server and displaying the returned information.

7. Click **Update**.

Create the Script Include

8. Navigate to **System Definition> Script Includes**.

9. Open the record named **TBPAjax**.

10. What parameters does the **getManager** function expect from the client script? Hint: Look for calls to gs.getParameter(). Note them here:

11. Explain the purpose of the following statement. Hint: What type of field is our new **Assigned to mgr** field on the **Entitlement** table?

```
answer = usr.manager + ':' + usr.manager.getDisplayValue();
```

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Review and Update the Client Script

12. Navigate to **System Definition> Client Scripts**.

13. Locate and open the record **Get Assigned To Manager**.

14. Review the script and note any best practices that can be applied to this client script.

15. Remove or comment out the following lines in the script field.

```
var at = g_form.getReference('assigned_to');
if (at)
  g_form.setValue('u_assigned_to_mgr', at.manager);
```

16. Open the **manager-ajax.txt** file you downloaded in step 2 with your favorite text editor.

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17. Copy and paste the contents of that script (below) in to the script field between lines 13 and 14:

```
var ga = new GlideAjax('TBPAjax');

ga.addParam('sysparm_name', 'getManager');
ga.addParam('sysparm_user_id', g_form.getValue('assigned_to'));
ga.getXML(parseManager);

function parseManager(response) {

   var answer = response.responseXML.documentElement.getAttribute("answer");
   var token = answer.split(':');

   g_form.setValue('u_assigned_to_mgr', token[0], token[1]);
}
```

18. In the script field toolbar click the **Format Code** icon (shown below):



19. Click **Update**.

Validation

20. Navigate to **Access Request> Entitlements> Open**.

21. Open the record **ENT0001012**.

22. Verify that the client script still works with the new **GlideAjax** code by changing the **Assigned to** field to Beth Anglin (do not save or update the form). If the **Assigned to Mgr** field says Jerrod Bennett, then your GlideAjax solution is working perfectly.

Notes

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Lab Goal

Demonstrate the use of a display business rule to set up the **g_scratchpad** object and client script to use the contents of the same **g_scratchpad**.

Lab 2.2
Use g_scratchpad

Inspect the Client Script

1. Navigate to **System Definition> Client Scripts**.
2. Locate the **Justification Attention** record and drag it to the Edge for quick reference later.
3. Open the **Justification Attention** record.
4. Review the script and note any best practices that can be applied to this client script.

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Create the Business Rule

5. Navigate to **System Definition> Business Rules**.

6. Click **New**.

7. Create a new record with the following information:

   Name: **Entitlement g_scratchpad**
   Table: **Entitlement [u_entitlement]**
   Order: **100**
   Active: **true** (checked)
   When: **display**
   Description: **Populate the g_scratchpad for the state and approval values**
   Condition: (blank)
   Script:

```
g_scratchpad.approval = current.getValue('approval');
g_scratchpad.state    = current.getValue('state');
```

8. Click **Submit**.

Update the Client Script

9. Open the **Justification Attention** client script using the icon on the Edge.

10. Remove or comment out the following two lines:

```
var stateVal = document.getElementById('sys_readonly.u_entitlement.state').value;
var approVal = document.getElementById('sys_readonly.u_entitlement.approval').value;
```

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11. Add the following two lines at line 3 (note the spelling of 'approVal' variable):

```
var stateVal = g_scratchpad.state;
var approVal = g_scratchpad.approval;
```

12. Click **Update**.

Validation

13. Navigate to **Access Request> Entitlements> Open**.

14. Open record number **ENT0001004**.

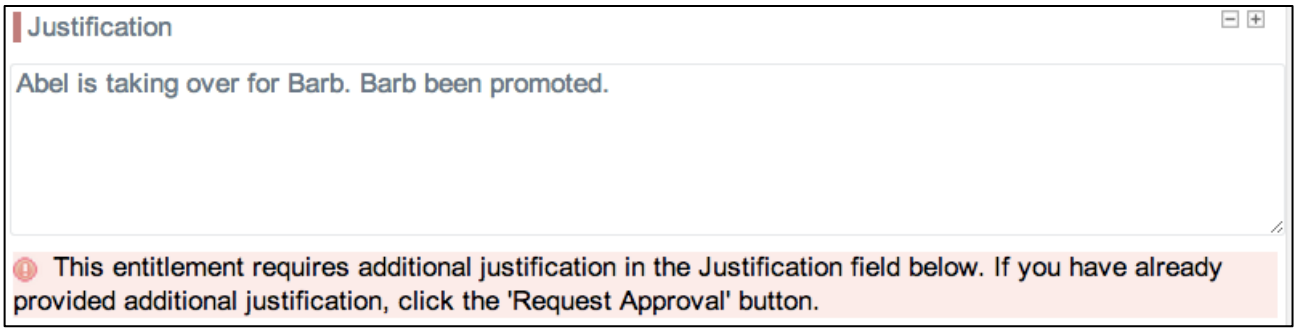
15. Scroll down to the **Approvers** related list.

16. Right-click next to the word "Requested" in the State column and click **Justification Required**.



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17. When the form refreshes, verify the alert appears and the **Justification** field is highlighted on the Entitlement form.

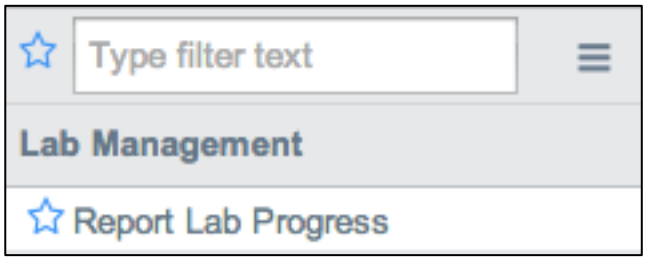


Notes

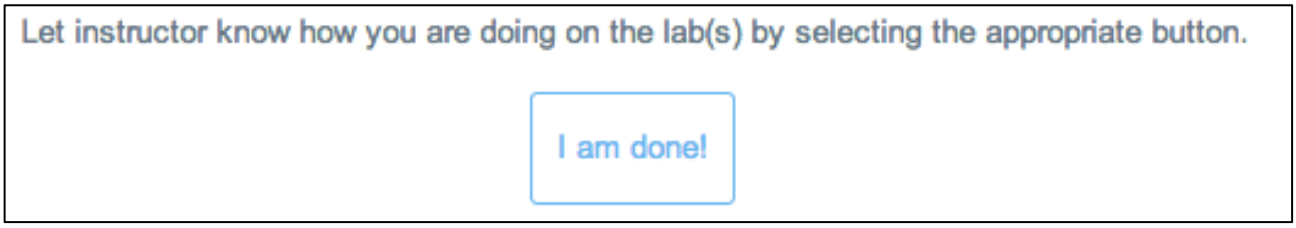
If you finish early, review other client scripts (and catalog client scripts) that use tables u_access_request and u_entitlement for best practices opportunities.

Progress Report

1. Navigate to **Lab Management> Report Lab Progress**.



2. Click **I am Done!**



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Lab Goal

Create a property and use it in a script to replace a hard coded sys_id.

Lab 3.1
Hard coded sys_ids

Review the Business Rule

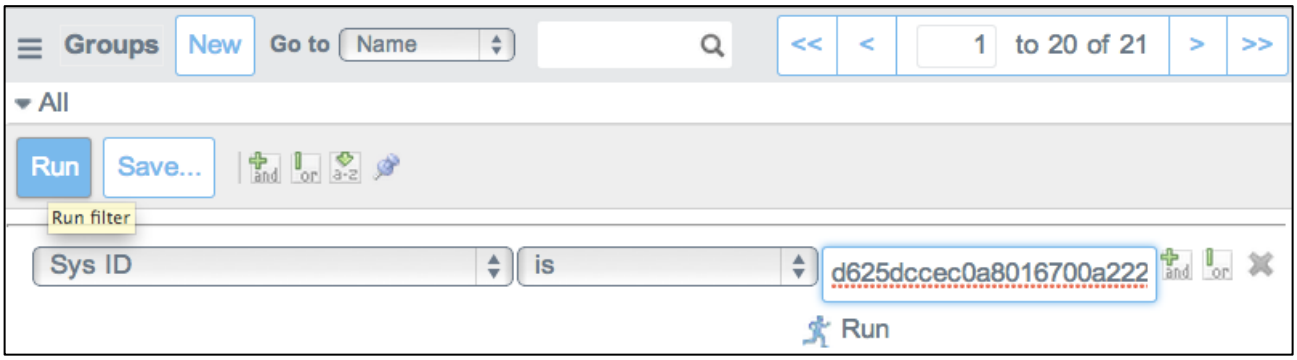
1. Click on the **Business Rules** list icon that you placed on the Edge earlier.
2. Locate the **Set WIP field values** business rule and drag it to the Edge for easier reference later.
3. Open the **Set WIP field values** business rule.
4. Review the script and note any best practices that can be applied to this business rule.
5. Select and copy the sys_id value (**d625dccec0a8016700a222a0f7900d06**).

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Identify the Group

6. Navigate to **User Administration> Groups**.

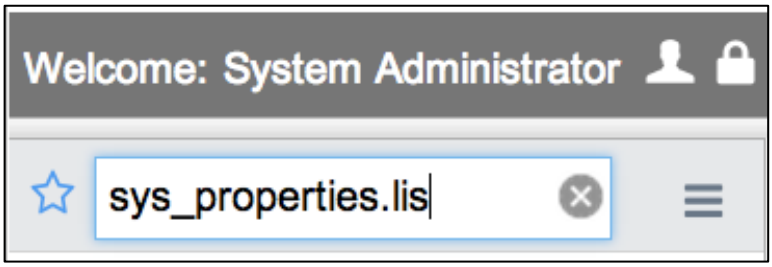
7. Use the list filter to find the group that matches the sys_id in the script (image below).
   Ex: **Sys ID | is | d625dccec0a8016700a222a0f7900d06** (click **Run**).



8. What is the name of the group?

Create a Property

9. In the navigation menu filter, type **sys_properties.list**.



10. Click **New**.

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11. Enter the following information the form:

    Name: **tbp.default.assignment_group**
    Description: **Default assignment group for new entitlements when they reach 'Work in Progress' state**
    Type: **String**
    Value: **(enter the name you noted in step 8)**

12. Click **Submit**.

Update the Business Rule

13. Navigate back to the **Set WIP field values** business rule.

14. Change the following script statement:

```
current.assignment_group = 'd625dccec0a8016700a222a0f7900d06';
```

    To the following:

```
current.assignment_group.setDisplayValue(gs.getProperty('tbp.default.assign
ment_group'));
```

15. Click **Update**.

Validation

16. Navigate to **Access Request> Entitlements> Open**.

17. Open record **ENT0001005**.

18. Scroll down to the **Approvers** related list.

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19. Right-click next to the word “Requested” and click **Approve**.

20. Verify the Entitlement is now in **Work in Progress** state.

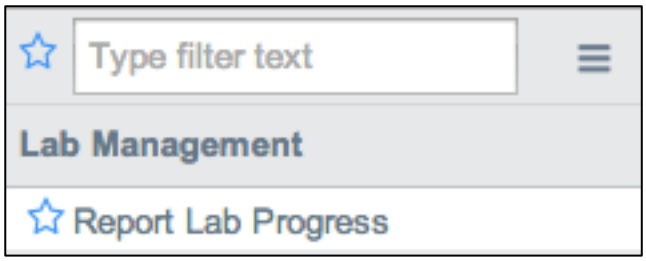
21. Verify the Assignment Group is set to **Service Desk**.

22. If it did not, check that the property name used in the business rule matches the one you created in sys_properties list **exactly**.

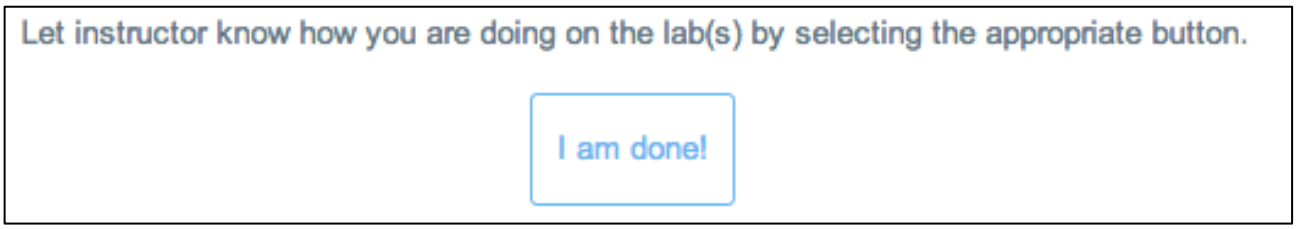
Notes

Progress Report

23. Navigate to **Lab Management> Report Lab Progress**.



24. Click **I am Done!**



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Lab Goal

Improve scalability by replacing a call to getRowCount() with GlideAggregate.

Lab 4.1 Row Counting

Review and Update the Script Include

1. Navigate to **System Definition> Script Includes**.
2. Locate and open the **TBPEntitlementUtils** script include.
3. Locate the function **countActiveEntitlements** (line 310).
4. Review the script and note any best practices that can be applied to this function?

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5. Update the function to be like the following sample. Comments at the end of the lines are for your direction and do not need to be entered.

```
countActiveEntitlements : function(accessId) {

    var entGr = new GlideAggregate(this.entitlementTable); // Update
    var count = -1;                                        // New

    // Count how many records are still active
    entGr.addAggregate('COUNT');                           // New
    entGr.addQuery('u_request', accessId);
    entGr.addActiveQuery();
    entGr.query();

    if (entGr.next())                                      // New
        count = entGr.getAggregate('COUNT');               // New
//    var count = entGr.getRowCount();                     // Comment or
remove

    return count;

    },
```

6. Click **Update**.

Validation

7. Navigate to **Access Request> Open**.

8. Locate and open **ACC0001003**.

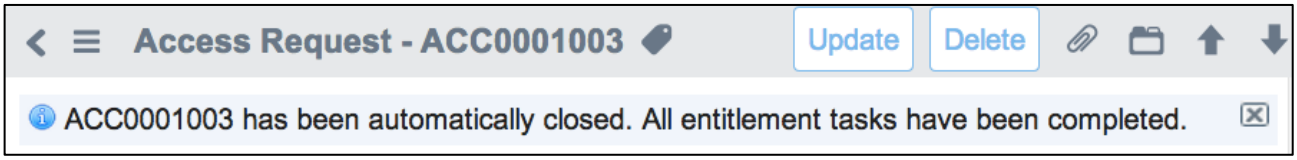
9. In the **Changes** related list, click and open record **ENT0001019**.

10. Click **Mark Complete**.



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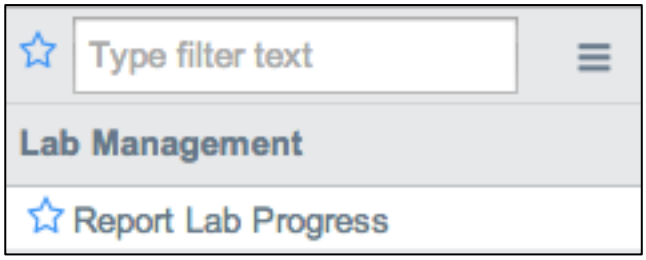
11. Verify you received the following message:



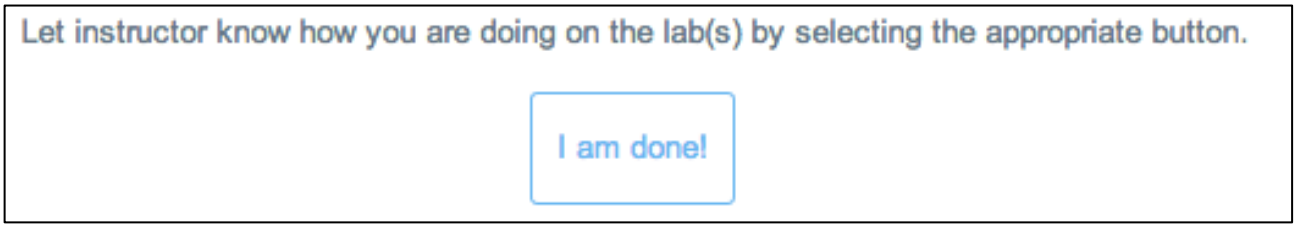
Notes

Progress Report

12. Navigate to **Lab Management> Report Lab Progress.**



13. Click **I am Done!**



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Additional Resources

http://wiki.servicenow.com/index.php?title=Business_Rules_Best_Practices

http://wiki.servicenow.com/index.php?title=Business_Rules_Best_Practices#Use_Script_Includes_Instead_of_Global_Business_Rules

http://wiki.servicenow.com/index.php?title=Client_Script_Best_Practices#Example:_Asynchronous_GlideAjax

http://wiki.servicenow.com/index.php?title=Client_Script_Best_Practices#Example:_g_scratchpad

http://wiki.servicenow.com/index.php?title=Coding_Best_Practices#Do_Not_Use_Hard-Coded_Values

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