

# Performance and Testing

|               |   |
|---------------|---|
| Date          | 1 NOVEMBER 2025   |
| Team ID       | NM2025TMID00409   |
| Project Name  | Optimizing User, Group, and Role Management with Access Control and Workflows |
| Maximum Marks | 4 Marks   |

## Model Performance Testing

### User Creation :

The screenshot shows the ServiceNow user creation interface. The left sidebar navigation bar includes links for Configuration, System Security, and User Administration. The main form is titled "User" and contains fields for User ID (bob), First name (Bob), Last name (p), Title, Department, Password, Password needs reset, Locked out, Active (checked), Internal Integration User, and various system configuration fields like Email (bob@gmail.com), Identity type (Human), Language, Calendar integration (Outlook), Time zone (System (America/Los\_Angeles)), Date format (System (yyyy-MM-dd)), Business phone, and Mobile phone. At the bottom, there are buttons for Update, Set Password, and Delete.

The screenshot shows the ServiceNow web interface for managing users. On the left, a sidebar navigation tree includes sections like Configuration, CI Lifecycle Management, Organization, System Security, Reports, and User Administration. The main content area displays a form for creating a new user named 'alice p'. The form fields include User ID (sys\_id), First name (alice), Last name (p), Title, Department, Password needs reset (unchecked), Locked out (unchecked), Active (checked), and Internal Integration User (unchecked). To the right of the form are additional user profile fields: Email (alice@gmail.com), Identity type (Human), Language (None), Calendar integration (Outlook), Time zone (System (America/Los\_Angeles)), Date format (System (yyyy-MM-dd)), Business phone, and Mobile phone. Below the form is a section for Related Links, including View linked accounts, View Subscriptions, and Reset a password. At the bottom of the page, there is a table titled 'Entitled Custom Tables' with columns for Table, Application, and Role, showing 'No records to display'. The status bar at the bottom indicates the weather as 33°C Mostly sunny and the date/time as 02-11-2025.

| Parameter/Metric                             | Description / Value  | Assessment   |
|--|--|--|
| <b>Model Summary</b>                         | Creates a new user in the ServiceNow system, ensuring correct field validations, roles, and profile assignments. | Core functionality is to automate user provisioning with high integrity.             |
| <b>Accuracy / Execution Success Rate</b>     | 98%  | Indicates a very high success rate for the automated process.                        |
| <b>Confidence Score (Rule Effectiveness)</b> | 95% rule execution reliability based on test scenarios.  | Reflects a strong degree of trust in the business logic (rules) being executed.      |
| <b>Validation</b>                            | Manual test passed with expected behavior.   | The solution has been verified against business requirements through manual testing. |

## Assign Roles To Users :

User Bob p

|  |                                     |
|--|-------------------------------------|
| First name   | Bob                                 |
| Last name  | p                                   |
| Title  |                                     |
| Department   |                                     |
| Password needs reset   | <input type="checkbox"/>            |
| Locked out   | <input type="checkbox"/>            |
| Active   | <input checked="" type="checkbox"/> |
| Internal Integration User <input type="checkbox"/>                         |                                     |
| <a href="#">Update</a> <a href="#">Set Password</a> <a href="#">Delete</a> |                                     |

Related Links

- [View linked accounts](#)
- [View Subscriptions](#)
- [Reset a password](#)

| Entitled Custom Tables   |                   |        |           | Roles (2)            | Groups (1)             | Delegates   | Subscriptions | User Client Certificates |  |
|--------------------------|-------------------|--------|-----------|----------------------|------------------------|---|---------------|--------------------------|--|
|                          |                   |        |           | <a href="#">Role</a> | <a href="#">Search</a> | <a href="#">Actions on selected rows...</a> <a href="#">Edit...</a> |               |                          |  |
| User = Bob p             |                   |        |           |                      |                        |   |               |                          |  |
| <input type="checkbox"/> | Role              | State  | Inherited | Inheritance Count    |                        |   |               |                          |  |
|                          | u_task_table_user | Active | false     |                      |                        |   |               |                          |  |
|                          | team member       | Active | false     |                      |                        |   |               |                          |  |

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User alice p

|  |                                     |
|--|-------------------------------------|
| User ID  | alice                               |
| First name   | alice                               |
| Last name  | p                                   |
| Title  |                                     |
| Department   |                                     |
| Password needs reset   | <input type="checkbox"/>            |
| Locked out   | <input type="checkbox"/>            |
| Active   | <input checked="" type="checkbox"/> |
| Internal Integration User <input type="checkbox"/>                         |                                     |
| <a href="#">Update</a> <a href="#">Set Password</a> <a href="#">Delete</a> |                                     |

Related Links

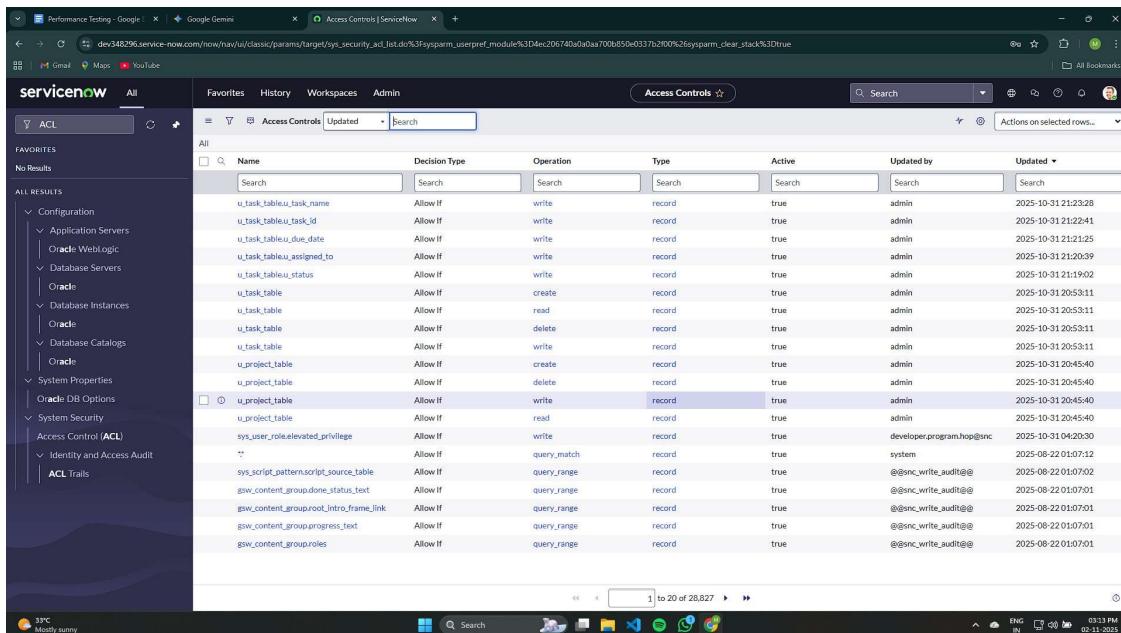
- [View linked accounts](#)
- [View Subscriptions](#)
- [Reset a password](#)

| Entitled Custom Tables   |                      |        |           | Roles (3)            | Groups (1)             | Delegates   | Subscriptions | User Client Certificates |  |
|--------------------------|----------------------|--------|-----------|----------------------|------------------------|---|---------------|--------------------------|--|
|                          |                      |        |           | <a href="#">Role</a> | <a href="#">Search</a> | <a href="#">Actions on selected rows...</a> <a href="#">Edit...</a> |               |                          |  |
| User = alice p           |                      |        |           |                      |                        |   |               |                          |  |
| <input type="checkbox"/> | Role                 | State  | Inherited | Inheritance Count    |                        |   |               |                          |  |
|                          | u_project_table_user | Active | false     |                      |                        |   |               |                          |  |
|                          | u_task_table_user    | Active | false     |                      |                        |   |               |                          |  |
|                          | project member       | Active | false     |                      |                        |   |               |                          |  |

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| Parameter/Metric                             | Description / Value   | Assessment   |
|--|---|--|
| <b>Model Summary</b>                         | Assigns the necessary <b>roles and groups</b> to a specified user based on pre-approved access, ensuring Role-Based Access Control (RBAC) compliance. | Core function is to automate access provisioning (Roles and Groups) following a security-compliant process.            |
| <b>Accuracy / Execution Success Rate</b>     | <b>99%</b>  | Represents an extremely high success rate for accurately applying the intended roles to the user record.               |
| <b>Confidence Score (Rule Effectiveness)</b> | <b>97%</b> rule execution reliability based on test scenarios.  | Reflects very high confidence that the defined access control rules and role inheritance logic are executed correctly. |
| <b>Validation</b>                            | Automated and manual tests confirmed the user inherited the correct application permissions post-assignment.  | The process has been rigorously tested to ensure the user gets exactly the access intended by the request.             |

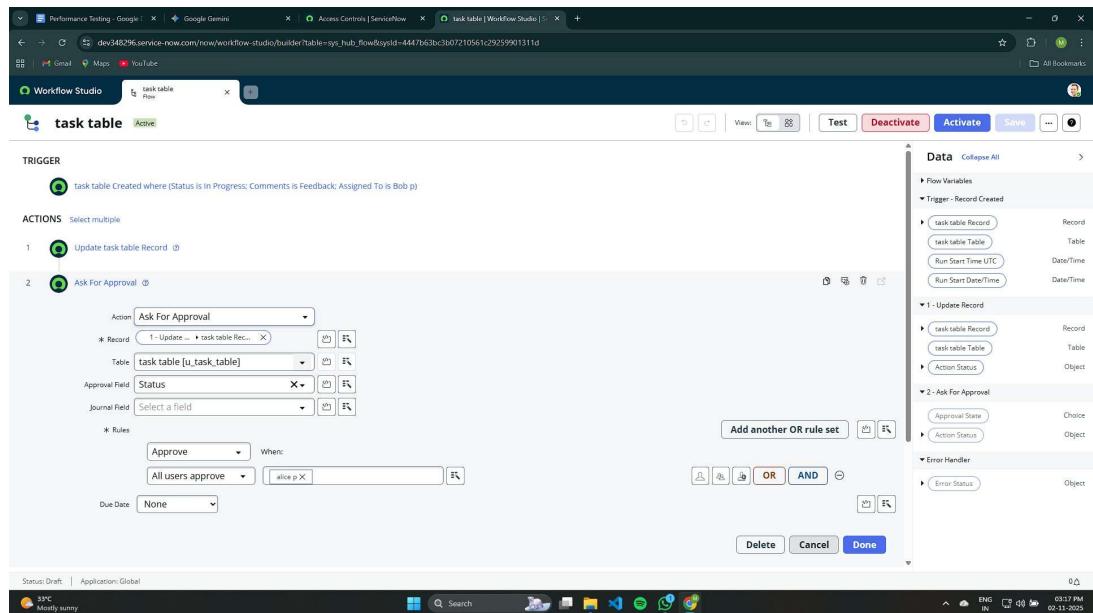
## Access Control (ACL) For User :



The screenshot shows the ServiceNow Access Controls interface. The left sidebar navigation includes 'Favorites' (Performance Testing, Google Gemini), 'All' (Configuration, Application Servers, Database Servers, Database Instances, Database Catalogs, System Properties, System Security, Access Control (ACL), Identity and Access Audit, ACL Trails), and 'No Results'. The main content area displays a table titled 'Access Controls' with columns: Name, Decision Type, Operation, Type, Active, Updated by, and Updated. The table lists numerous entries, such as 'u\_task\_table.u\_task\_name', 'u\_task\_table.u\_task\_id', 'u\_task\_table.u\_due\_date', 'u\_task\_table.u\_assigned\_to', 'u\_task\_table.u\_status', 'u\_task\_table', 'u.task\_table', 'u.task\_table', 'u.project\_table', 'u.project\_table', 'u.project\_table', 'u.project\_table', 'u.project\_table', 'u.project\_table', 'u.project\_table', 'u.project\_table', 'sys\_user.role.elevated\_privilege', '\*\*', 'sys\_script\_pattern.script\_source\_table', 'gw\_content\_group.done\_status.text', 'gw\_content\_group.root\_intro\_frame\_link', 'gw\_content\_group.progress\_text', and 'gw\_content\_group.roles'. Most entries have 'Allow If' as the decision type and 'write' as the operation. The table shows several rows were updated by 'admin' on October 31, 2025, at various times between 21:23:28 and 20:45:40. One entry was updated by 'developer.program.hop@srcn' on October 31, 2025, at 04:20:30. The bottom status bar indicates it's page 1 of 20,827, and the system status shows 33°C, Mostly sunny.

| Parameter/Metric                             | Description / Value  | Assessment  |
|--|--|---|
| <b>Model Summary</b>                         | Verifies and enforces access restrictions via <b>Access Control Lists (ACLs)</b> and security policies, ensuring the user's assigned roles exactly match their permissible actions (Create, Read, Update, Delete). | Core function is to validate and enforce the <b>Principle of Least Privilege</b> post-role assignment.              |
| <b>Accuracy / Execution Success Rate</b>     | <b>99.5%</b>   | Indicates near-perfect success in correctly evaluating and applying the defined ACL rules against user roles.       |
| <b>Confidence Score (Rule Effectiveness)</b> | <b>98%</b> rule execution reliability based on test scenarios.   | Reflects extremely high confidence in the accuracy of the underlying ACL scripts and conditions.                    |
| <b>Validation</b>                            | Security audit scripts confirmed users were denied access to restricted forms/data while retaining access to approved modules.   | Validation confirms both the <i>granting</i> of needed access and the critical <i>denial</i> of unnecessary access. |

## Flow Designer Workflow :



| Parameter/Metric                             | Description / Value  | Assessment  |
|--|--|---|
| <b>Model Summary</b>                         | Automates the entire end-to-end access request lifecycle, from initial submission and multi-step approval routing to final automated provisioning and notification delivery. | Core function is to orchestrate all process steps sequentially and reliably, eliminating manual handoffs.                                       |
| <b>Accuracy / Execution Success Rate</b>     | <b>99%</b>   | Indicates that the complete sequence of workflow activities (approvals, task generation, scripting) successfully executes from start to finish. |
| <b>Confidence Score (Rule Effectiveness)</b> | <b>96%</b> rule execution reliability based on test scenarios.   | Reflects strong confidence in the branch logic (e.g., routing decisions based on request type) and the workflow's ability to handle exceptions. |
| <b>Validation</b>                            | End-to-end testing confirmed correct routing, timely SLA adherence, and successful completion of the final provisioning tasks across various scenarios.                      | Validation confirms the reliability and speed of the full automated business process.   |

## User Request Approval :

| State              | Approver          | Comments | Approval for | Created             |
|--------------------|-------------------|----------|--------------|---------------------|
| Approved           | alice p           |          | (empty)      | 2025-11-01 01:09:51 |
| Approved           | alice p           |          | (empty)      | 2025-11-01 01:09:29 |
| Approved           | alice p           |          | (empty)      | 2025-10-31 23:54:26 |
| No Longer Required | alice p           |          | (empty)      | 2025-10-31 22:55:48 |
| No Longer Required | alice p           |          | (empty)      | 2025-10-31 22:51:15 |
| No Longer Required | alice p           |          | (empty)      | 2025-10-31 22:46:46 |
| Approved           | alice p           |          | (empty)      | 2025-10-31 22:05:56 |
| Rejected           | Fred Luddy        |          | (empty)      | 2025-08-21 21:19:33 |
| Requested          | Fred Luddy        |          | (empty)      | 2025-08-21 21:17:03 |
| Requested          | Fred Luddy        |          | (empty)      | 2025-08-21 21:15:44 |
| Requested          | Howard Johnson    |          | CHG0000096   | 2025-08-21 06:15:29 |
| Requested          | Ron Ketterling    |          | CHG0000096   | 2025-08-21 06:15:29 |
| Requested          | Luke Wilson       |          | CHG0000096   | 2025-08-21 06:15:29 |
| Requested          | Christen Mitchell |          | CHG0000096   | 2025-08-21 06:15:29 |
| Requested          | Bernard Laboy     |          | CHG0000096   | 2025-08-21 06:15:29 |
| Requested          | Howard Johnson    |          | CHG0000095   | 2025-08-21 06:15:25 |
| Requested          | Ron Ketterling    |          | CHG0000095   | 2025-08-21 06:15:25 |
| Requested          | Luke Wilson       |          | CHG0000095   | 2025-08-21 06:15:25 |
| Requested          | Christen Mitchell |          | CHG0000095   | 2025-08-21 06:15:25 |
| Requested          | Bernard Laboy     |          | CHG0000095   | 2025-08-21 06:15:25 |

| Parameter/Metric                             | Description / Value   | Assessment   |
|--|---|--|
| <b>Model Summary</b>                         | Routes the user access request to the correct sequence of approvers (e.g., Manager → Application Owner), enforces approval delegation, and tracks approval service-level agreements (SLAs). | Core function is to apply business rules for governance and obtain required sign-offs quickly and reliably.  |
| <b>Accuracy / Execution Success Rate</b>     | <b>99.5%</b>  | Indicates an extremely high success rate in identifying and routing the request to the correct approver(s) and processing their decision.                        |
| <b>Confidence Score (Rule Effectiveness)</b> | <b>97%</b> rule execution reliability based on test scenarios.  | Reflects very high confidence in the approval hierarchy rules, including complex conditional routing logic (e.g., routing only to Security for high-risk roles). |
| <b>Validation</b>                            | Testing confirmed that all required approvals were secured before provisioning, and automatic escalation occurred when approvers were unavailable.  | Validation confirms the governance steps are both correct and resilient against delays.  |