Automated Network Request Management in ServiceNow

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1. Introduction

Level 1 Testing represents the **initial and foundational testing phase** of the *Automated Network Request Management in ServiceNow* project. This phase focuses on validating the **internal automation logic** implemented using ServiceNow's Flow Designer before exposing the system to end users or performing full end-to-end execution.

The purpose of this phase is to ensure that all automated workflows are **logically correct, stable, and error-free**, thereby reducing risks in later testing stages. By isolating and validating automation components early, defects can be detected and resolved efficiently.

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2. Purpose of Level 1 Testing

The primary purpose of Level 1 testing is to verify that the **automation logic functions as intended** under controlled conditions. This phase ensures that the backbone of the system—automation workflows—is reliable before proceeding to higher levels of testing.

The objectives include:

- Validating Flow Designer triggers
- Verifying execution order of flow actions
- Ensuring correct variable handling
- Confirming approval logic configuration
- Checking notification triggers

- Ensuring record updates occur accurately

This phase does not involve user interface testing or real-world usage scenarios.

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3. Scope of Level 1 Testing

3.1 In-Scope Components

The following components were included in Level 1 testing:

- Flow Designer workflows
- Trigger conditions for network requests
- Action logic for approvals
- Email notification logic
- Record creation and update logic
- Conditional decision paths within flows

3.2 Out-of-Scope Components

The following were excluded from Level 1 testing:

- User interface validation
- Cross-browser testing
- Load or performance testing
- Integration with external systems
- End-user experience validation

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4. Test Environment

Level 1 testing was conducted in a **controlled ServiceNow environment** to ensure consistency and repeatability of results.

Parameter	Description
Platform	ServiceNow Developer Instance
Testing Type	Automation Logic Testing
Modules Used	Service Catalog, Flow Designer
User Roles	Developer / Administrator
Network	Stable development network

The environment was configured to closely resemble the intended production logic while allowing safe testing.

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5. Testing Approach and Methodology

Level 1 testing followed a **white-box testing approach**, where the internal structure and logic of the automation workflows were directly examined.

Methodology Followed:

1. Individual Flow Designer workflows were identified
2. Triggers were manually executed
3. Each action within the flow was observed
4. Conditional paths were validated
5. Execution logs were reviewed
6. Errors and warnings were monitored

This approach ensured that each logic block was verified independently.

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6. Automation Logic Validation

6.1 Trigger Validation

The trigger initiates the workflow when a network request is submitted. Testing ensured that:

- The trigger fired correctly
- No duplicate executions occurred
- The trigger responded only to valid conditions

6.2 Variable Initialization

Variables used in the workflow were validated to ensure:

- Correct data capture from the request form
- Accurate data passing between flow actions
- No null or incorrect values

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7. Approval Logic Testing

Approval logic plays a critical role in governance and compliance.

Validation Focus:

- Correct identification of approvers
- Approval request generation
- Conditional approvals based on request type
- Proper handling of approval responses (Approve / Reject)

Each approval action was tested independently to ensure correctness.

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8. Notification Logic Testing

Notifications were tested to ensure timely and accurate communication.

Notifications Tested:

- Request submission confirmation
- Approval request notifications
- Approval decision notifications
- Status update notifications

Validation ensured that notifications:

- Were triggered at the correct stages
- Contained accurate information
- Were not duplicated or missed

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9. Record Update & Data Integrity Validation

This section focused on validating backend data operations.

Validation Points:

- Request records updated correctly
- Status fields changed as expected
- Approval results stored accurately
- Audit information maintained

Data integrity was verified by checking records before and after flow execution.

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10. Error Handling and Stability Testing

The system’s ability to handle unexpected conditions was also tested.

Scenarios Covered:

- Missing optional inputs

- Approval delays
- Conditional branching failures

The automation logic handled these scenarios gracefully without crashing or data loss.

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11. Test Results Summary

Test Area	Result
Trigger Execution	Pass
Variable Handling	Pass
Approval Logic	Pass
Notification Logic	Pass
Record Updates	Pass
Error Handling	Pass

No critical defects were identified during Level 1 testing.

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12. Observations

- Automation workflows executed smoothly
- Conditional logic performed as expected
- Early testing helped prevent downstream issues
- System demonstrated strong logical stability

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13. Limitations

- Testing was limited to a developer environment

- Real-world load was not simulated
- External integrations were not tested

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14. Conclusion

Level 1 testing successfully validated the **core automation logic** of the Automated Network Request Management system. This phase ensured that the foundation of the system is reliable, accurate, and ready for full functional testing.

Completing this phase reduced implementation risk and provided confidence to proceed to Level 2 testing.

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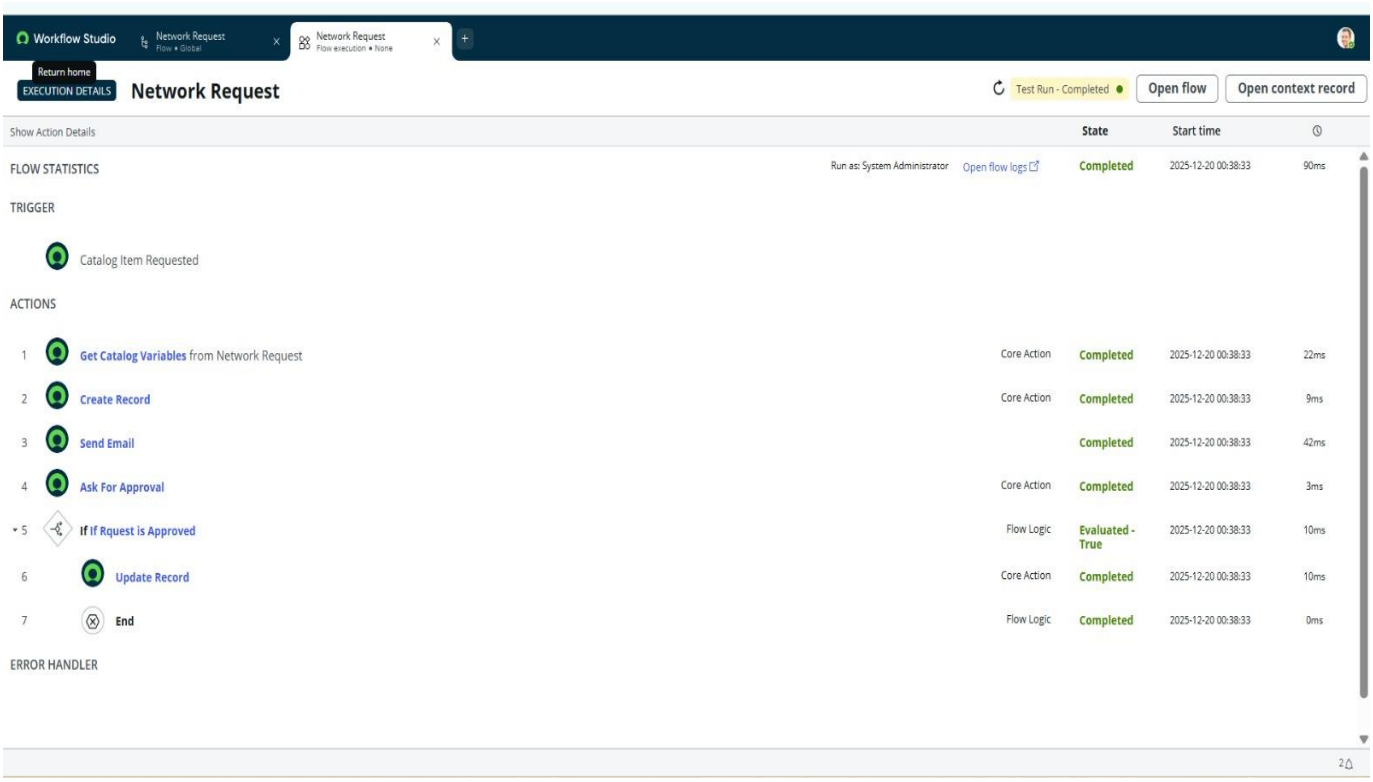
15. Evidence



Level 1 Testing – Flow Designer Automation Logic Execution