

# SVN (Subversion) Mastery Exam

Version Control Systems

Duration: 60 minutes

Total Points: 50

## Instructions

- Answer all questions clearly and concisely
- Write commands in proper syntax
- For command questions, assume you're in the working directory unless specified
- No external references allowed

## Section 1: Core Concepts (10 points)

1. Explain the difference between SVN's centralized model and Git's distributed model.  
(3 points)
2. What is the purpose of `trunk`, `branches`, and `tags` in SVN? (2 points)
3. Why is branching in SVN considered "heavyweight" compared to Git? (2 points)
4. How does SVN track file renames/moves? (3 points)

## Section 2: Commands & Workflows (20 points)

### A. Basic Operations

5. Write the command to:

- Check out only the `/trunk` directory from `http://svn.example.com/repo` (1 point)
- Commit a file `script.py` with the message "Added Python script" (1 point)
- Update your working copy to revision 150 (1 point)

### B. Branching & Merging

6. You need to:

- Create a branch named `feature-login` from `trunk` (2 points)
- Merge changes from `feature-login` back into `trunk` (2 points)
- Resolve a conflict in `config.xml` by accepting the server's version (2 points)

### C. Advanced Scenarios

7. Revert a committed change (revision 125) without affecting later revisions (3 points)
8. Recover a deleted file `styles.css` from revision 100 (3 points)
9. List all authors who modified `app.js` in the last 10 revisions (2 points)
10. Lock a binary file `image.png` to prevent others from editing it (2 points)

## Section 3: Problem Solving (15 points)

11. **Conflict Resolution:** After running `svn update`, you get a conflict in `index.html`. Describe the steps to resolve it. (5 points)
  
12. **Repository Migration:** How would you migrate an SVN repo to Git? List key steps. (4 points)
  
13. **Permissions:** Your team accidentally committed sensitive data (e.g., passwords) to `trunk`. How would you:
  - Remove the file from history? (3 points)
  
  - Prevent this in the future? (3 points)

## Section 4: Best Practices (5 points)

14. When would you use:
  - `svn lock` vs. `svn copy`? (2 points)
  
  - `svn externals`? (1 point)
  
15. Why should you avoid committing large binary files to SVN? (2 points)

## Bonus: Real-World Scenario (5 points)

16. **Debugging:** Your svn merge fails with "Tree conflicts". How do you diagnose and fix it? (5 points)