

test preparation lehman college Document

Test preparation Lehman College: Your Comprehensive Guide to Success

Preparing for exams can be a daunting task, but with the right strategies and resources, students at Lehman College can maximize their performance and achieve their academic goals. Whether you're gearing up for a standardized test, a comprehensive course exam, or a professional certification, understanding how to effectively prepare is essential. This guide provides detailed insights into test preparation at Lehman College, including available resources, study strategies, and tips to help you succeed.

Understanding the Importance of Test Preparation at Lehman College

Effective test preparation is vital for academic success and can significantly impact your grades and future opportunities. Lehman College encourages students to develop disciplined study habits and utilize campus resources to enhance their readiness.

Some benefits of proper test preparation include:

- Improved understanding of course material
- Reduced test anxiety
- Higher exam scores
- Better time management skills
- Increased confidence

Resources Available for Test Preparation at Lehman College

Lehman College offers numerous resources tailored to meet diverse student needs. Familiarizing yourself with these tools can streamline your study process and improve overall performance.

Academic Support Centers

Lehman College's Academic Support Centers provide free tutoring services, workshops, and study groups. These centers focus on various subjects, including math, science, writing, and social sciences.

Services include:

- Individual and group tutoring sessions
- Review workshops before exams
- Study skills seminars
- Assistance with research and writing

Library Resources

The Lehman College Library is a treasure trove of study materials, including textbooks, academic journals, and online databases. Students can also access quiet study zones and computer labs.

Library resources for test prep:

- Practice exams and study guides
- Reference materials
- Research assistance from librarians
- Access to e-books and online learning modules

Online Learning Platforms and Tools

Lehman College leverages digital tools to support student learning. Platforms such as Blackboard and Canvas host course materials, quizzes, and discussion forums.

Key online resources include:

- Practice quizzes and assignments
- Recorded lectures
- Virtual office hours with instructors
- Study groups via discussion boards

Workshops and Seminars

Throughout the academic year, Lehman College organizes workshops focused on test-taking strategies, time management, and stress reduction. Attending these sessions can boost your confidence and effectiveness.

Topics covered:

- Preparing for standardized tests (e.g., GRE, LSAT)

- Effective note-taking
- Managing exam anxiety
- Creating personalized study plans

Effective Test Preparation Strategies at Lehman College

Success in exams depends not only on resources but also on implementing proven study techniques. Here are some strategies tailored for Lehman College students:

Developing a Study Schedule

Creating a structured timetable helps ensure consistent study habits and prevents last-minute cramming.

Tips for effective scheduling:

- Break down topics into manageable sections
- Allocate specific time slots for each subject
- Include regular breaks to maintain focus
- Prioritize areas where you feel less confident

Utilizing Active Learning Techniques

Passive reading is often less effective than active engagement with the material.

Active learning methods include:

- Summarizing information in your own words
- Teaching concepts to peers
- Creating flashcards for key terms
- Practicing with past exams and sample questions

Mastering Test-Taking Skills

Knowing how to approach different question types can enhance your performance.

Strategies include:

- Reading instructions carefully
- Managing your exam time wisely
- Eliminating obviously incorrect options in multiple-choice questions
- Guessing intelligently when necessary

Managing Test Anxiety and Stress

Staying calm is crucial for optimal performance.

Relaxation techniques:

- Deep breathing exercises
- Visualization of success
- Adequate sleep before the exam
- Balanced nutrition and hydration

Specific Tests Commonly Prepared for at Lehman College

Students at Lehman College often prepare for a variety of assessments, from college-entry exams to professional certifications.

Standardized Tests

- SAT and ACT: For recent high school graduates seeking college admission
- GRE: For graduate school applicants
- LSAT: For law school hopefuls
- MCAT: For prospective medical students

Course and Program Exams

- Midterms and finals for various courses
- Certification exams related to specific majors or professional tracks

Specialized Certification Tests

- TESOL certification
- Teaching certification exams

- IT and computer certifications (e.g., Microsoft, Cisco)

Tips for Success in Test Preparation at Lehman College

Here are some final tips to help you make the most of your test preparation efforts:

- Start Early: Give yourself ample time to review and absorb material.
- Set Clear Goals: Define what you want to achieve with each study session.
- Stay Consistent: Regular study sessions are more effective than sporadic cramming.
- Seek Support: Don't hesitate to contact tutors, professors, or peers when needed.
- Practice Under Exam Conditions: Simulate test environments to build endurance and familiarity.
- Review Mistakes: Analyze errors to avoid repeating them in the actual exam.
- Maintain a Healthy Lifestyle: Adequate sleep, exercise, and nutrition support cognitive function.

Conclusion

Effective test preparation at Lehman College combines utilizing available campus resources, adopting strategic study techniques, and maintaining a disciplined approach. By leveraging the academic support centers, library resources, online platforms, and workshops, students can significantly enhance their readiness. Remember, consistent effort, active learning, and proper stress management are key to achieving academic success. With these tools and strategies, Lehman College students are well-equipped to excel in their exams and pursue their academic ambitions confidently.

Start your test preparation today and turn your academic goals into reality!

Test Preparation Lehman College: Your Comprehensive Guide to Success

Preparing for tests at Lehman College can seem overwhelming, but with the right strategies and resources, you can approach your exams confidently and effectively. Whether you're a freshman navigating your first semester or a senior aiming to boost your scores, understanding how to prepare for your tests at Lehman College is essential for academic success. In this comprehensive guide, we'll explore the key components of effective test preparation, tailored specifically for Lehman College students, to help you excel in your coursework and achieve your academic goals.

Why Test Preparation Matters at Lehman College

Lehman College, part of the City University of New York (CUNY), offers a diverse range of programs and courses. With a vibrant student body and a rigorous academic environment, effective test preparation is crucial. Proper planning and study techniques can:

- Improve your understanding of course material
- Reduce test anxiety
- Enhance your time management skills
- Increase your confidence during exams
- Lead to higher grades and academic achievement

Understanding the unique aspects of Lehman College's academic expectations can help you tailor your test prep strategies accordingly.

Step 1: Understand the Test Format and Expectations

Know Your Course and Instructor Expectations

Each course and instructor may have different testing formats?multiple choice, essay, short answer, or practical applications. To prepare effectively:

- Review the syllabus and any provided study guides
- Clarify the format of upcoming exams with your instructor
- Note the key topics emphasized during lectures and assignments

Familiarize Yourself with Standardized Tests (if applicable)

If you're preparing for standardized assessments such as the GRE, TOEFL, or others as part of your academic or professional goals:

- Obtain official practice tests and study materials
- Understand the scoring criteria
- Identify the sections where you need improvement

Step 2: Organize Your Study Materials

Gather Your Resources

Effective test prep begins with organized materials:

- Class notes and textbooks
- Past quizzes, exams, and assignments
- Study guides, flashcards, and supplementary materials

- Online resources and academic databases

Create a Study Folder or Digital Directory

Keep all relevant materials accessible to streamline your review process. Consider digital tools like OneNote, Evernote, or Google Drive for easy organization.

Step 3: Develop a Realistic Study Schedule

Plan Ahead

Start your preparation well in advance of the exam date?ideally several weeks prior. A typical schedule might include:

- Daily study sessions focusing on specific topics
- Weekly review of accumulated material
- Mock exams to simulate test conditions

Break Down Study Sessions

Divide your study time into manageable blocks, such as:

- 25-30 minute focused sessions (Pomodoro Technique)
- Short breaks to improve retention
- Vary subjects to avoid fatigue

Prioritize Difficult Topics

Identify areas where you struggle and allocate more time to mastering those concepts.

Step 4: Use Effective Study Techniques

Active Learning Strategies

Passive reading isn't enough. Engage with the material through:

- Summarizing information in your own words
- Teaching concepts to a study partner

- Creating mind maps or diagrams
- Developing flashcards for key terms and definitions

Practice with Past Exams

Simulating test conditions helps improve time management and reduces anxiety. Seek out:

- Past Lehman College exams (if available)
- Practice questions from textbooks or online sources
- Sample problems and quizzes

Join Study Groups

Collaborative learning can enhance understanding. Consider:

- Forming or joining study groups with classmates
- Discussing difficult topics
- Quizzing each other

Utilize Campus Resources

Lehman College offers various academic support services:

- Academic Support Centers: For tutoring and workshops
- Writing Center: For essay and writing help
- Libraries: Access to research materials and quiet study spaces

Step 5: Prepare for Test Day

Rest and Nutrition

- Get adequate sleep the night before
- Eat a healthy meal before the exam
- Stay hydrated

Gather Necessary Materials

- Pens, pencils, erasers
- Student ID and exam admission ticket
- Allowed calculators or other permitted tools

Arrive Early

Arriving at least 15-30 minutes before your exam begins reduces stress and allows time to settle.

Step 6: Manage Test Anxiety and Stress

Practice Relaxation Techniques

- Deep breathing exercises
- Progressive muscle relaxation
- Visualization of success

Maintain a Positive Mindset

- Focus on your preparation rather than fears
- Use affirmations to boost confidence

During the Test

- Read instructions carefully
- Budget your time per question
- Stay calm and move on if you get stuck

Additional Resources for Lehman College Students

Lehman College offers numerous resources to support your test preparation journey:

- Academic Support Center: Offers tutoring, workshops, and study skills seminars
- Counseling Center: Provides stress management and mental health support
- Library Services: Access to study guides, online databases, and quiet study spaces
- Online Learning Platforms: Utilize Blackboard, CUNY Assessments, and other digital tools

Conclusion: Achieving Success at Lehman College Through Effective Test Prep

Effective test preparation at Lehman College involves understanding the exam format, organizing your materials, creating a realistic study plan, employing active learning techniques, and taking care of your well-being. By incorporating these strategies into your routine, you'll be well-equipped to approach your exams with confidence, reduce anxiety, and achieve the academic success you desire.

Remember, consistent effort and smart study habits are key. Leverage campus resources, stay motivated, and maintain a positive attitude throughout your test prep journey. Your dedication will pay off, paving the way for academic excellence at Lehman College.

Question What are the best strategies for preparing for tests at Lehman College? Effective strategies include creating a study schedule, reviewing lecture notes regularly, practicing with past exams, joining study groups, and utilizing campus resources like tutoring centers and academic workshops. **Does Lehman College offer any test preparation resources for students?** Yes, Lehman College provides various resources such as tutoring services, writing centers, study guides, and workshops to help students prepare for exams effectively. **When should I start preparing for finals at Lehman College?** It's recommended to start preparing at least 2-3 weeks before finals, allowing ample time to review material, complete practice exams, and seek assistance if needed. **Are there any online test preparation tools recommended by Lehman College?** Lehman College recommends using online platforms like Khan Academy, Quizlet, and the College Board's resources to supplement your study plan and enhance your test readiness. **How can I manage test anxiety while preparing for exams at Lehman College?** To manage test anxiety, practice relaxation techniques, maintain a healthy study routine, get enough sleep, and seek support from campus counseling services if needed. **What is the most effective way to review course material before Lehman College exams?** Active review methods like summarizing notes, teaching concepts to others, creating flashcards, and taking practice quizzes are highly effective for consolidating knowledge. **Are there any specific workshops or seminars at Lehman College focused on test-taking strategies?** Yes, Lehman College periodically hosts workshops and seminars on test-taking skills, time management, and effective study techniques, which are typically advertised through campus announcements and the academic support center.

Related keywords: Lehman College exam prep, Lehman College tutoring, Lehman College study guides, Lehman College practice tests, Lehman College test strategies, Lehman College academic resources, Lehman College entrance exams, Lehman College test registration, Lehman College academic support, Lehman College test tips

Microsoft test manager tutorial

Microsoft Test Manager Tutorial: A Comprehensive Guide to Efficient Test Management

In the world of software development, ensuring the quality and reliability of your applications is paramount. Microsoft Test Manager (MTM) is a powerful tool designed to streamline the testing process, enabling teams to plan, execute, and track testing efforts with ease. Whether you're a beginner or looking to enhance your testing workflows, this **Microsoft Test Manager tutorial** will provide you with a step-by-step guide to harnessing MTM's full potential for your projects.

Understanding Microsoft Test Manager

Before diving into the tutorial, it's essential to grasp what Microsoft Test Manager is and how it integrates into the broader Visual Studio ecosystem.

What is Microsoft Test Manager?

Microsoft Test Manager is a test management tool integrated with Visual Studio Team Services (VSTS) and Azure DevOps. It provides an intuitive interface for managing test plans, creating and executing test cases, and tracking testing progress. MTM supports both manual and exploratory testing, making it versatile for various testing scenarios.

Key Features of Microsoft Test Manager

- Test Planning: Create and organize test plans, test suites, and test cases.
- Test Execution: Execute manual tests and record results efficiently.
- Test Tracking: Monitor testing progress and generate detailed reports.
- Exploratory Testing: Conduct ad-hoc testing sessions with session-based testing capabilities.
- Integration: Seamlessly connects with Azure DevOps for continuous testing workflows.

Setting Up Microsoft Test Manager

Getting started with MTM involves installing and configuring the tool for your environment.

Prerequisites

- Visual Studio Enterprise or Professional edition (with test management features).
- Azure DevOps account or TFS (Team Foundation Server) setup.
- Appropriate permissions to access test management features.

Installing Microsoft Test Manager

- Download the Visual Studio Installer from the official Microsoft website.
- Choose the edition that includes testing tools (e.g., Visual Studio Enterprise).
- During installation, select the "Testing Tools" workload to install MTM.
- Complete the installation and launch Visual Studio.
- Connect to your Azure DevOps project or TFS server within Visual Studio.

Creating and Managing Test Plans

A well-structured test plan is the foundation of successful testing. MTM simplifies organizing your testing efforts through test plans and suites.

Creating a Test Plan

- Open Microsoft Test Manager from Visual Studio or the Azure DevOps portal.
- Navigate to the "Test Plans" section.
- Click "New Test Plan" and provide a descriptive name, description, and start/end dates.
- Associate the test plan with a specific build or release if needed.
- Save the test plan to begin adding test cases.

Organizing Test Suites

Test suites help categorize test cases based on features, modules, or testing strategies.

- **Static Test Suites:** Manually organize test cases into logical groups.
- **Requirement-Based Test Suites:** Link test cases to specific requirements or user stories.
- **Query-Based Test Suites:** Dynamically generate test cases based on queries.

Adding Test Cases

- Within your test suite, click "New Test Case" or import existing cases.
- Define the test case steps, expected results, and associated requirements.
- Assign priority, owner, and other metadata to facilitate management.
- Save the test case to include it in your suite.

Executing Tests with Microsoft Test Manager

Once your test cases are organized, the next step is executing tests and recording results.

Manual Test Execution

- Open the test plan and select the test suite to execute.
- Click "Run" on the test case you wish to execute.
- Follow the test steps as documented, marking each step as "Passed" or "Failed."
- If a test fails, record detailed bug information directly from the test runner.
- Complete the test run, and the results will be saved automatically.

Using Action Recording and Data Collection

MTM allows capturing detailed logs and screenshots during test execution, aiding in defect analysis and reproducibility.

Exploratory Testing

For ad-hoc testing, MTM offers session-based testing:

- Schedule a testing session with session details.
- Conduct testing while documenting observations and findings.
- Record bugs and issues discovered during the session.

Tracking and Reporting Testing Progress

Effective test management requires insight into testing status and quality metrics.

Monitoring Test Results

- Navigate to the "Test Results" section in MTM or Azure DevOps.
- Review individual test case outcomes and overall progress.
- Filter results by tester, status, or test plan for detailed analysis.

Generating Reports

MTM provides various built-in reports to visualize testing status:

- Test Results Summary
- Test Case Progress and Trends

- Bugs and Defects Reports

Integrating with Bug Tracking

During testing, bugs can be logged directly from MTM, linked to specific failed test cases, ensuring traceability and quick resolution.

Advanced Tips and Best Practices

Maximize your testing efficiency with these expert tips:

Automate Repetitive Tests

Integrate MTM with automated testing frameworks like MSTest, NUnit, or Selenium to run automated tests alongside manual efforts.

Maintain Test Cases Regularly

Keep your test cases updated with application changes to ensure relevance and accuracy.

Use Tags and Filters

Leverage tags and filters to quickly locate and execute specific test cases based on criteria like priority, feature, or owner.

Collaborate Effectively

Encourage team collaboration by sharing test plans and results, and conducting regular review meetings to discuss testing progress.

Conclusion

Microsoft Test Manager is an essential tool for teams aiming to implement structured and efficient testing workflows. From creating comprehensive test plans and organizing test suites to executing tests and tracking outcomes, MTM provides a centralized platform that enhances test visibility and quality assurance. By following this **Microsoft Test Manager tutorial**, you can streamline your testing process, improve defect detection, and deliver higher-quality software products. Remember to stay updated with the latest features and best practices to maximize your testing success with MTM.

Microsoft Test Manager tutorial: A Comprehensive Guide to Streamlining Your Testing Process

Microsoft Test Manager (MTM) is a powerful tool integrated within the Azure DevOps suite, designed to facilitate efficient test planning, management, and execution. Whether you are a QA professional, a developer, or a project manager, mastering MTM can significantly enhance your testing workflows, improve defect detection rates, and ensure higher quality software releases. This tutorial aims to provide an in-depth overview of Microsoft Test Manager, guiding you through its features, setup, best practices, and real-world applications.

Introduction to Microsoft Test Manager

Microsoft Test Manager is a dedicated testing management environment that helps teams plan, execute, and track testing activities seamlessly. Originally part of Visual Studio Test Professional, MTM is now integrated within Azure DevOps, offering a unified platform for Agile testing, exploratory testing, and manual test case management.

Key Features of Microsoft Test Manager

- Test Planning: Create and organize test plans, test suites, and test cases.
- Test Execution: Run manual tests, record results, and capture screenshots.
- Test Management: Track defects, manage test configurations, and generate reports.
- Integration: Seamlessly connect with Azure DevOps for continuous integration and automated testing workflows.
- Exploratory Testing: Record exploratory sessions with detailed notes and recordings.

Setting Up Microsoft Test Manager

Before diving into testing, proper setup of MTM is essential.

Prerequisites

- A valid Azure DevOps account with appropriate permissions.
- Installed Visual Studio Test Professional or access via Azure DevOps.
- Access to a test environment or lab machines.

Installation and Configuration

- Download and Install: Download Microsoft Test Manager from the Visual Studio downloads page or via Azure DevOps.
- Connect to Azure DevOps: Launch MTM and connect it to your Azure DevOps project by

signing in with your credentials.

- Configure Test Environments: Set up test machines, configurations, and network environments to align with your testing needs.

Tips for Effective Setup

- Organize your test plans hierarchically for easier management.
- Maintain a clear mapping between test environments and real-world configurations.
- Regularly update test artifacts to ensure they reflect current application versions.

Creating and Managing Test Plans

Test planning is the foundation of effective testing.

Creating a Test Plan

- In MTM, navigate to the "Test Plans" section.
- Click "New Test Plan" and provide a descriptive name, start/end dates, and any relevant details.
- Assign ownership and stakeholders.

Organizing Test Suites

- Static Test Suites: Manually added test cases grouped logically.
- Requirement-based Suites: Linked to user stories or requirements for traceability.
- Query-based Suites: Dynamic grouping based on queries.

Best Practices

- Break down large test plans into smaller, manageable suites.
- Link test cases to user stories or bugs for better traceability.
- Regularly review and update test plans to reflect current project scope.

Designing and Managing Test Cases

Creating effective test cases is critical to uncovering defects early.

Writing Test Cases

- Clear, concise steps with expected results.
- Use descriptive titles and tags for easy filtering.
- Include preconditions and postconditions.

Reusing Test Cases

- Modularize test steps for reuse across different test cases.
- Attach relevant documentation, screenshots, or scripts.

Organizing Test Cases

- Group related test cases into shared test suites.
- Use labels and tags for categorization.

Tips for Effective Test Cases

- Prioritize test cases based on risk and impact.
- Keep test cases up-to-date with application changes.
- Incorporate exploratory testing notes within test cases or as separate sessions.

Test Execution and Result Recording

Executing tests efficiently and accurately recording results is vital.

Running Manual Tests

- Select a test case from your test suite.
- Follow each step, observing the actual behavior.
- Record outcomes: Passed, Failed, Blocked, or Not Applicable.
- Capture screenshots or record videos if needed.

Recording Defects

- Link defects directly to failed test cases.
- Provide detailed descriptions, steps to reproduce, and severity.
- Attach logs or screenshots to aid debugging.

Managing Test Runs

- Use test configurations to run multiple test cases under different environments.
- Schedule and assign test runs to team members.
- Monitor real-time progress and results.

Pros and Cons of Test Execution Features

Pros:

- Streamlined process for manual testing.
- Rich media capture for detailed documentation.
- Easy defect linkage and traceability.

Cons:

- Manual process can be time-consuming for large test suites.
- Limited automation capabilities within MTM itself.

Integrating Automated Testing with Microsoft Test Manager

While MTM excels at manual testing, integration with automated testing frameworks enhances overall efficiency.

Integration with Visual Studio Test Automation

- Use Visual Studio Test tools to develop automated test scripts.
- Link automated tests to test cases in MTM.
- Run automated tests as part of continuous integration pipelines.

Benefits of Integration

- Reduces manual effort.
- Ensures consistency between manual and automated testing.
- Facilitates comprehensive test coverage.

Limitations

- Setup can be complex for beginners.
- Requires scripting knowledge for automation.

Reporting and Tracking

Effective reporting provides insights into testing progress and quality metrics.

Built-in Reports

- Test Run Summary
- Test Results Trend
- Defect Status and Age
- Requirements Traceability Matrix

Custom Reports

- Use Azure DevOps Analytics or Power BI for tailored dashboards.
- Export data for external analysis.

Best Practices

- Regularly review reports to identify bottlenecks.
- Use metrics to prioritize testing efforts.
- Maintain up-to-date dashboards for stakeholder visibility.

Best Practices for Using Microsoft Test Manager

- Plan Early: Incorporate testing early in the development lifecycle.
- Maintain Test Artifacts: Keep test cases and plans updated with application changes.
- Leverage Linkages: Connect requirements, test cases, defects, and build versions.
- Automate Where Possible: Use automation to handle repetitive and regression testing.
- Collaborate: Engage team members through shared test plans and results.
- Review Regularly: Conduct test reviews and retrospectives for continuous improvement.

Common Challenges and How to Overcome Them

Challenge: Managing Large Test Suites

Solution: Break down into smaller, manageable suites; use query-based suites for dynamic grouping.

Challenge: Keeping Test Cases Up-to-date

Solution: Establish a review cycle aligned with development sprints; assign ownership.

Challenge: Integration Complexity

Solution: Invest in automation and continuous integration pipelines; use documentation and training.

Challenge: Limited Automation within MTM

Solution: Use external automation tools integrated with Azure DevOps, such as Selenium or Coded UI.

Conclusion

Microsoft Test Manager is a robust tool that, when used effectively, can significantly boost your testing efficiency, coverage, and traceability. Its comprehensive features for test planning, execution, defect management, and reporting make it indispensable for teams adopting Agile and DevOps practices. While there are challenges, especially around automation and managing large test repositories, with proper setup, training, and best practices, MTM can become a cornerstone of your software quality assurance process.

By following this tutorial, you should now have a clear understanding of how to leverage Microsoft Test Manager to streamline your testing operations, improve collaboration, and ultimately deliver higher quality software to your users. Remember, continuous learning and adaptation are key to maximizing the benefits of MTM in your projects.

Question What are the main features of Microsoft Test Manager (MTM)? Microsoft Test Manager (MTM) provides features such as test planning, manual test execution, test case management, bug tracking integration, and collaboration tools to streamline the testing process within Visual Studio and Azure DevOps. How do I create and organize test plans in Microsoft Test Manager? In MTM, you can create test plans by navigating to the 'Test Plans' hub, clicking 'New Test Plan,' and defining its name and details. You can then add test suites and test cases to organize tests based on requirements, features, or test types for better management. Can I

automate tests using Microsoft Test Manager, and how is it integrated with other tools? While MTM primarily supports manual testing, it integrates seamlessly with Visual Studio and Azure DevOps, enabling automation through test scripts and frameworks like MSTest, Selenium, or CodedUI. Automated tests can be linked to test cases for comprehensive test management. What are the best practices for using Microsoft Test Manager effectively? Best practices include maintaining detailed and reusable test cases, organizing tests into logical suites, utilizing shared steps for common actions, integrating with bug tracking, and regularly updating test plans based on project changes to ensure thorough testing coverage. Is Microsoft Test Manager suitable for Agile development environments? Yes, MTM is well-suited for Agile teams as it supports iterative testing, easy integration with Azure DevOps Agile tools, and flexible test planning, allowing teams to adapt testing activities to sprint cycles and continuous delivery workflows.

Related keywords: Microsoft Test Manager, TFS testing, test planning, test case management, automated testing, test execution, bug tracking, test lab management, test reporting, test automation tools

Read the full article online: [Microsoft test manager tutorial](#)