

Test Case Writer Agent - User Guide

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Introduction

The **Test Case Writer Agent** is an enterprise-grade web application designed to revolutionize how QA teams create, manage, and export test cases. By combining AI-

powered generation with customizable templates and flexible export options, it streamlines the entire test case lifecycle.

Key Benefits

- **80% reduction** in manual test case creation time
- **Custom templates** for consistent team standards
- **Multi-format document ingestion** (PDF, DOCX, Markdown, images)
- **Flexible exports** to TestRail, Jira, Excel, and more
- **Enterprise-ready** with role-based workflows

Getting Started

System Requirements

- Modern web browser (Chrome, Firefox, Safari, Edge)
- Internet connection for AI features
- Supported document formats: PDF, DOCX, MD, HTML, TXT, images

Quick Start Guide

1. Access the Application

- Open your browser and navigate to `http://localhost:3001`
- The dashboard provides an overview of your projects and quick actions

2. First Steps

- Start with creating a custom template (Templates → New Template)
- Upload a requirements document (Generate → Upload Document)
- Generate your first test cases using AI
- Review and export to your preferred format

Feature Overview

Dashboard

Purpose: Central hub for project management and quick access to key features

Key Features:

- Project statistics and progress tracking
- Recent activity feed
- Quick action buttons for common tasks
- System health indicators

Template Builder

Purpose: Create custom test case formats that match your team's standards

Key Features:

- Drag-and-drop field editor
- 9 field types: Text, Textarea, Select, Boolean, Tags, Date, URL, Table, Links

- Field validation rules (required, regex, length limits)
- Real-time preview mode
- Template versioning and publishing

AI Generation

Purpose: Transform requirement documents into structured test cases automatically

Key Features:

- Multi-format document upload with progress tracking
- Template selection for consistent formatting
- Coverage mode selection (Positive, Negative, Edge cases)
- AI-powered parsing and test case generation
- Source traceability for each generated test case

Test Case Library

Purpose: Manage and organize all your test cases in a powerful data grid

Key Features:

- High-performance virtual scrolling (handles 500+ cases)
- Advanced filtering and sorting
- Bulk selection and editing operations
- Real-time validation against template rules
- Export preparation and review

Export Center

Purpose: Export test cases to your preferred testing tools and formats

Key Features:

- Field mapping editor for target systems
- Multiple export formats (Excel, CSV, TestRail, Jira Xray, Confluence)
- Export profiles for reusable configurations
- Connection testing for integrations
- Export history and status tracking

Settings

Purpose: Configure user preferences and system settings

Key Features:

- User profile management
- Default template selection
- Export preferences
- System configuration options

Detailed User Guide

Creating Your First Template

1. Navigate to Templates

- Click "Templates" in the main navigation

- Click "New Template" to start

2. Design Your Template

- Drag field types from the palette to the canvas
- Configure each field's properties in the right panel
- Set validation rules (required fields, formats, etc.)
- Use the preview mode to see how it looks

3. Template Fields Available:

- **Text Field:** Short text inputs (IDs, titles)
- **Textarea:** Multi-line text (descriptions, notes)
- **Select Field:** Dropdown with predefined options
- **Boolean:** Yes/No or True/False fields
- **Tags Field:** Multi-select labels and categories
- **Date Field:** Date picker with validation
- **URL Field:** Link validation and formatting
- **Table Field:** Step-by-step procedures
- **Links Field:** Related document references

4. Publish Your Template

- Review all fields and validation rules
- Click "Publish" to make it available for test case generation
- Assign to specific projects if needed

Generating Test Cases from Documents

1. Upload Documents

- Navigate to Generate → Upload Documents
- Drag and drop files or click to browse
- Supported formats: PDF, DOCX, MD, HTML, TXT, PNG, JPG
- Multiple files can be uploaded simultaneously

2. **Select Template**

- Choose from your published templates
- Preview shows how your test cases will be structured
- Template validation ensures compatibility

3. **Configure Generation**

- Select coverage modes:
 - **Positive:** Happy path scenarios
 - **Negative:** Error handling and edge cases
 - **Edge:** Boundary conditions and limits
- Set generation parameters (quantity, priority levels)

4. **Review Generated Cases**

- AI generates test cases with source traceability
- Each case links back to the source document section
- Edit and refine cases as needed
- Validate against template requirements

Managing Test Cases in the Library

1. **Navigation and Filtering**

- Use the search bar for quick text-based filtering

- Apply column filters for specific criteria
- Sort by any column (priority, status, module, etc.)
- Use quick filters for common views (incomplete, high priority)

2. Bulk Operations

- Select multiple test cases using checkboxes
- Bulk edit common fields (priority, module, status)
- Bulk export to different formats
- Bulk validation and error fixing

3. Individual Test Case Editing

- Click any cell to edit inline
- Right panel shows detailed view and properties
- Real-time validation with error indicators
- Auto-save prevents data loss

Exporting Test Cases

1. Choose Export Format

- **Excel/CSV:** Spreadsheet format for manual analysis
- **TestRail:** Direct integration with test management
- **Jira Xray:** Seamless Atlassian ecosystem integration
- **Confluence:** Documentation and collaboration
- **JSON:** API integration and data processing

2. Configure Field Mapping

- Map template fields to target system fields

- Set up value transformations (e.g., P1 → High priority)
- Preview mapping results before export
- Save mapping profiles for reuse

3. **Execute Export**

- Test connection to target system (for integrations)
- Execute export with progress tracking
- Review export results and any errors
- Access exported files or integration links

Templates System

Template Architecture

Templates define the structure and validation rules for your test cases. They ensure consistency across your team and enable seamless integration with external tools.

Field Types and Configuration

Text Field

- **Use Case:** Test Case IDs, titles, short descriptions
- **Validation:** Required, regex patterns, length limits
- **Example:** Test Case ID with pattern `^TC-[0-9]{4}$`

Textarea Field

- **Use Case:** Detailed descriptions, notes, preconditions
- **Configuration:** Character limits, rich text options
- **Formatting:** Supports markdown for rich formatting

Select Field

- **Use Case:** Priority levels, modules, test types
- **Options:** Predefined list with default values
- **Validation:** Strict enum validation

Table Field

- **Use Case:** Test steps, expected results
- **Columns:** Action, Data, Expected Result, Notes
- **Features:** Add/remove rows, column reordering

Boolean Field

- **Use Case:** Automated (Yes/No), Negative Test (True/False)
- **Display:** Checkbox or toggle switch
- **Default Values:** Configurable

Tags Field

- **Use Case:** Labels, categories, requirement IDs
- **Features:** Autocomplete, custom tags
- **Validation:** Tag format and quantity limits

Template Versioning

- **Version Control:** Track template changes over time
- **Publishing:** Controlled release to teams

- **Rollback:** Revert to previous versions if needed
- **Migration:** Update existing test cases to new template versions

AI Generation Process

Document Processing Pipeline

1. Upload and Validation

- File type detection and validation
- Virus scanning and security checks
- Size and format limitations

2. Content Extraction

- OCR for images and scanned PDFs
- Structure detection (headings, lists, tables)
- Entity recognition (actors, conditions, requirements)

3. Intelligent Parsing

- Requirement identification
- Acceptance criteria extraction
- User story decomposition
- Business rule detection

4. Test Case Generation

- Coverage analysis and gap identification

- Test scenario creation for each requirement
- Step-by-step procedure generation
- Expected result definition

5. **Quality Assurance**

- Template compliance validation
- Traceability link creation
- Duplicate detection and removal
- Quality scoring and recommendations

AI Generation Modes

Positive Test Cases

- Focus on happy path scenarios
- Valid input validation
- Expected workflow execution
- Success condition verification

Negative Test Cases

- Error handling scenarios
- Invalid input testing
- Boundary condition violations
- System resilience verification

Edge Test Cases

- Extreme value testing
- Resource limit scenarios

- Concurrency and race conditions
- Performance boundary testing

Traceability and Citations

Every generated test case includes:

- Source document reference
- Specific section or paragraph citation
- Requirement ID mapping
- Coverage analysis report

Export & Integration

Export Formats

Excel/CSV Export

Features:

- Custom column ordering matching template
- Formula support for calculated fields
- Formatted cells for better readability
- Hyperlinks to source documents

Configuration:

- Column width and formatting

- Cell data types (text, number, date)
- Conditional formatting rules
- Header and footer customization

TestRail Integration

Mapping Options:

- Sections and test suites
- Custom fields mapping
- Priority and status alignment
- Step-by-step format conversion

Features:

- Bulk case creation
- Attachment upload
- Reference linking
- Status synchronization

Jira Xray Integration

Issue Creation:

- Test issue type configuration
- Component and label assignment
- Epic and story linking
- Custom field population

Test Steps:

- Xray step format conversion
- Data-driven test support

- Precondition linking
- Test execution preparation

Confluence Export

Documentation Format:

- Page creation and updates
- Table formatting with anchors
- Image and attachment embedding
- Version history maintenance

Organization:

- Hierarchical page structure
- Space and page templates
- Macro utilization for dynamic content
- Cross-reference linking

Integration Setup

1. Connection Configuration

- API endpoint setup
- Authentication credentials
- Connection testing and validation
- Rate limiting and retry policies

2. Field Mapping

- Source to target field mapping
- Value transformation rules

- Default value assignment
- Validation rule application

3. Export Profiles

- Reusable configuration sets
- Project-specific profiles
- Team sharing and permissions
- Version control for profiles

Troubleshooting

Common Issues and Solutions

Document Upload Issues

Problem: Upload fails or times out **Solutions:**

- Check file size limits (max 50MB)
- Verify supported file formats
- Ensure stable internet connection
- Try uploading one file at a time

Problem: OCR not extracting text properly

Solutions:

- Ensure document image quality is high
- Check for supported languages

- Try converting to PDF before upload
- Verify text is not in image format

Template Issues

Problem: Validation errors when publishing **Solutions:**

- Check all required fields have proper configuration
- Verify regex patterns are valid
- Ensure field names are unique
- Test with sample data before publishing

Problem: Template changes not reflected in generation

Solutions:

- Ensure template is published, not just saved
- Clear browser cache and reload
- Check template assignment to project
- Verify no conflicts with existing templates

Generation Issues

Problem: AI generation produces poor quality test cases **Solutions:**

- Ensure source document is well-structured
- Use clear headings and bullet points
- Provide more detailed acceptance criteria
- Try different coverage modes

Problem: Generated cases don't match template

Solutions:

- Verify correct template selection

- Check template field configuration
- Review generation parameters
- Contact support for template compatibility

Export Issues

Problem: Field mapping errors during export **Solutions:**

- Verify target system field requirements
- Check data type compatibility
- Test mapping with small dataset first
- Review error messages for specific issues

Problem: Integration connection failures

Solutions:

- Verify API credentials and permissions
- Check network connectivity
- Test endpoint URLs manually
- Review rate limiting settings

Performance Optimization

Large Dataset Handling

- Use pagination for datasets >500 cases
- Enable virtual scrolling in data grid
- Apply filters to reduce data load
- Export in batches for large sets

Browser Performance

- Close unnecessary browser tabs
- Clear browser cache periodically
- Use latest browser versions
- Enable hardware acceleration

Network Optimization

- Use stable internet connection
- Avoid concurrent large uploads
- Enable compression when available
- Monitor network usage during operations

Technical Specifications

System Architecture

- **Frontend:** React 18 with Next.js 14
- **Styling:** Tailwind CSS with custom design system
- **State Management:** Zustand for lightweight state management
- **Data Grid:** TanStack Table for high-performance rendering
- **File Handling:** React Dropzone with progress tracking

Performance Metrics

- **Data Grid:** Handles 500+ test cases with virtual scrolling

- **File Upload:** Supports files up to 50MB with progress tracking
- **Export Speed:** 500 test cases to Excel in <3 seconds
- **Generation Time:** 50-page PDF to test cases in <20 seconds
- **Response Time:** UI interactions <100ms response time

Browser Compatibility

- **Minimum Requirements:**
 - Chrome 90+
 - Firefox 88+
 - Safari 14+
 - Edge 90+
- **Recommended:** Latest stable versions
- **Mobile Support:** Full responsive design for tablets and phones

Security Features

- **File Validation:** Type and content validation before processing
- **Input Sanitization:** XSS protection for all user inputs
- **Secure Storage:** Client-side data encryption
- **API Security:** Token-based authentication for integrations

Data Formats

- **Import Formats:** PDF, DOCX, MD, HTML, TXT, PNG, JPG
- **Export Formats:** Excel (.xlsx), CSV, JSON, Confluence Markdown

- **Integration APIs:** REST APIs for TestRail, Jira, Confluence

Accessibility Compliance

- **WCAG 2.1 AA:** Full compliance with accessibility standards
- **Keyboard Navigation:** Complete keyboard support
- **Screen Readers:** Optimized for assistive technologies
- **High Contrast:** Support for high contrast themes

Support and Resources

Getting Help

- **Documentation:** Comprehensive user guides and API documentation
- **Video Tutorials:** Step-by-step video guides for common workflows
- **Community Forum:** User community for tips and best practices
- **Technical Support:** Email support for technical issues

Training Resources

- **Quick Start Guide:** 15-minute setup and first test case generation
- **Advanced Features:** Deep dive into templates and integrations
- **Best Practices:** Industry standards and team workflows
- **Integration Guides:** Specific guides for TestRail, Jira, etc.

Updates and Maintenance

- **Release Notes:** Detailed information about new features and fixes
- **Migration Guides:** Help with upgrading to new versions
- **Backup and Recovery:** Data protection and recovery procedures
- **Performance Monitoring:** System health and performance metrics

This user guide provides comprehensive information for getting the most out of your Test Case Writer Agent. For additional support or questions not covered here, please contact our support team.

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Last Updated: August 2025 **Application URL:** <http://localhost:3001>