Defect Reporting and Defect Life Cycle Management

Lesson 2: Overview of Defect Tracking Tools

Lesson Objectives

- To understand the following topics:
  - Introduction to Defect Tracking Tool
  - Introduction to Bugzilla
  - Features of Bugzilla
  - Bugzilla – User Interface
  - Introduction to Redmine
  - Features of Redmine
  - Redmine – User Interface
  - Introduction to JIRA
  - Features of JIRA
  - JIRA – User Interface
  - Introduction to Mantis
  - Features of Mantis
  - Mantis – User Interface

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 2

Lesson Objectives

- To understand the following topics:
  - Introduction to HP ALM
  - Features of HP ALM
  - HP ALM – User Interface
  - Introduction to IBM Rational ClearQuest
  - Features of IBM Rational ClearQuest
  - IBM Rational ClearQuest – User Interface
  - Introduction to Trac
  - Features of Trac
  - Trac – User Interface

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 3

1.1: Defect Tracking Tools

Introduction to Defect Tracking Tool

- Complex software systems typically have tens or hundreds or thousands of defects
- Managing, evaluating and prioritizing these defects is a difficult task
- Defect tracking systems are computer database systems that store defects and help people to manage them
- A bug tracking system is a software application that is designed to help quality assurance and programmers keep track of reported software bugs in their work
- It is a type of issue tracking system
- They are termed as the “hallmarks of a good software team”
- Bug tracking systems support the concept of the life cycle for a bug which is tracked through status assigned to the bug
- A major component of a bug tracking system is a database that records facts about known bugs
- The main benefit of a bug-tracking system is to provide a clear centralized overview of development requests and their state

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 4

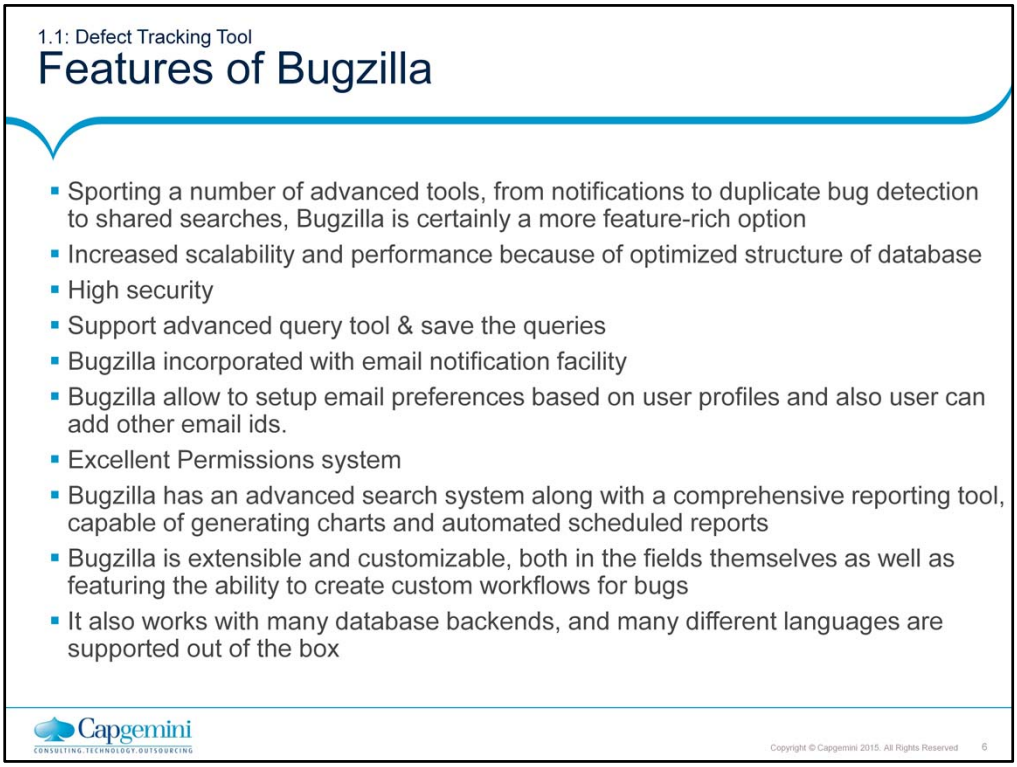
1.1: Defect Tracking Tool

Introduction to Bugzilla

- Bugzilla is a popular development tool with issue tracking capabilities
- Bugzilla is a web-based project management software that is being published as an Open Source Software
- Bugzilla was originally created by the Mozilla Foundation to track bugs in the development
- Bugzilla is powerful & commanding tool that will allow your team to get organized and communicate effectively
- It is allow tracking the bugs & code changes efficiently
- This Bug Tracking Tool is used many of top rated organizations like Mozilla, Facebook, NASA, Open Office, RedHat etc.

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 5


1.1: Defect Tracking Tool
Features of Bugzilla
Sporting a number of advanced tools, from notifications to duplicate bug detection to shared searches, Bugzilla is certainly a more feature-rich option
Increased scalability and performance because of optimized structure of database
High security
Support advanced query tool & save the queries
Bugzilla incorporated with email notification facility
Bugzilla allow to setup email preferences based on user profiles and also user can add other email ids.
Excellent Permissions system
Bugzilla has an advanced search system along with a comprehensive reporting tool, capable of generating charts and automated scheduled reports
Bugzilla is extensible and customizable, both in the fields themselves as well as featuring the ability to create custom workflows for bugs
It also works with many database backends, and many different languages are supported out of the box
Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING
Copyright © Capgemini 2015. All Rights Reserved
6

1.1: Defect Tracking Tool

Bugzilla – User Interface

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 7

1.1: Defect Tracking Tool

Introduction to Redmine

- Redmine is a web based most commonly used project management tool.
- Redmine is a popular issue tracking tool built on Ruby on Rails in 2006
- Redmine is capable of managing multiple projects and integrates with a number of version control systems
- In addition to basic issue tracking, Redmine also offers forums, wikis, time tracking tools, and the ability to generate Gantt charts and calendars to track progress
- Redmine is fairly flexible in its setup, supporting numerous database backends and dozens of languages, and is customizable as well, featuring the ability to add custom fields to issues, users, projects and more
- It can be further customized with a number of community-created plugins and themes
- Redmine is licensed as open source under the GPL version 2, the source code can be found in the project's subversion repository or mirrored on GitHub

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 8

1.1: Defect Tracking Tool

Features of Redmine

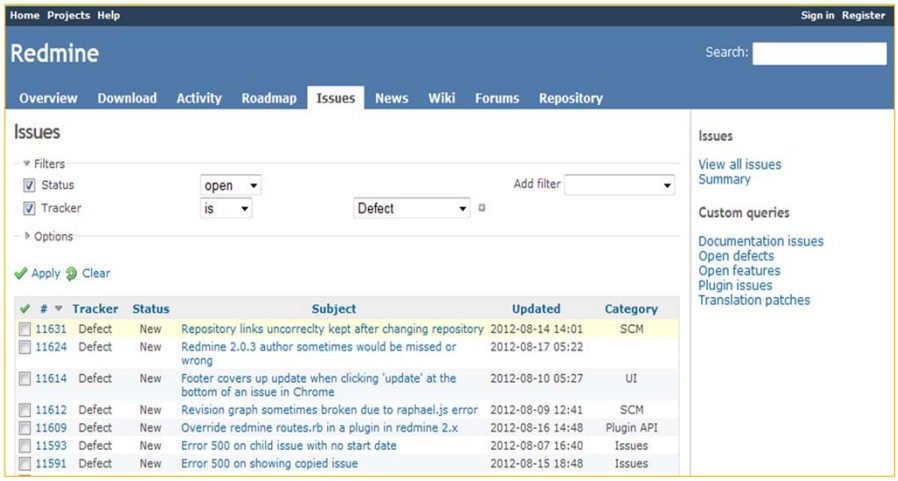
- It supports multiple projects on same time
- Strong role based access control
- Issue tracking system is more flexible
- Gantt chart and calendar give support to the illustration of projects and their deadlines
- Superior files and documents management
- Email notifications based on projects
- Efficient Time tracking
- It support self-registration for users
- Support Multiple languages
- Support multiple platforms with multiple databases

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 9

1.1: Defect Tracking Tool

Redmine – User Interface



Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 10

1.1: Defect Tracking Tool

Introduction to JIRA

- Atlassian JIRA, primarily an incident management tool is also commonly used for bug-tracking
- It provides the complete set of recording, reporting, workflow and other convenience related features
- It is a tool that integrates directly with the code development environments thus making it a perfect fit for developers as well
- Also, due to its capability to track any and all kinds of issues, it is not necessarily concentrated to only software development industry and renders itself quite efficiently to help desks, leave management systems etc.
- It supports agile projects also
- It is a commercial licensed product with many add-ins that support extensibility

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 11

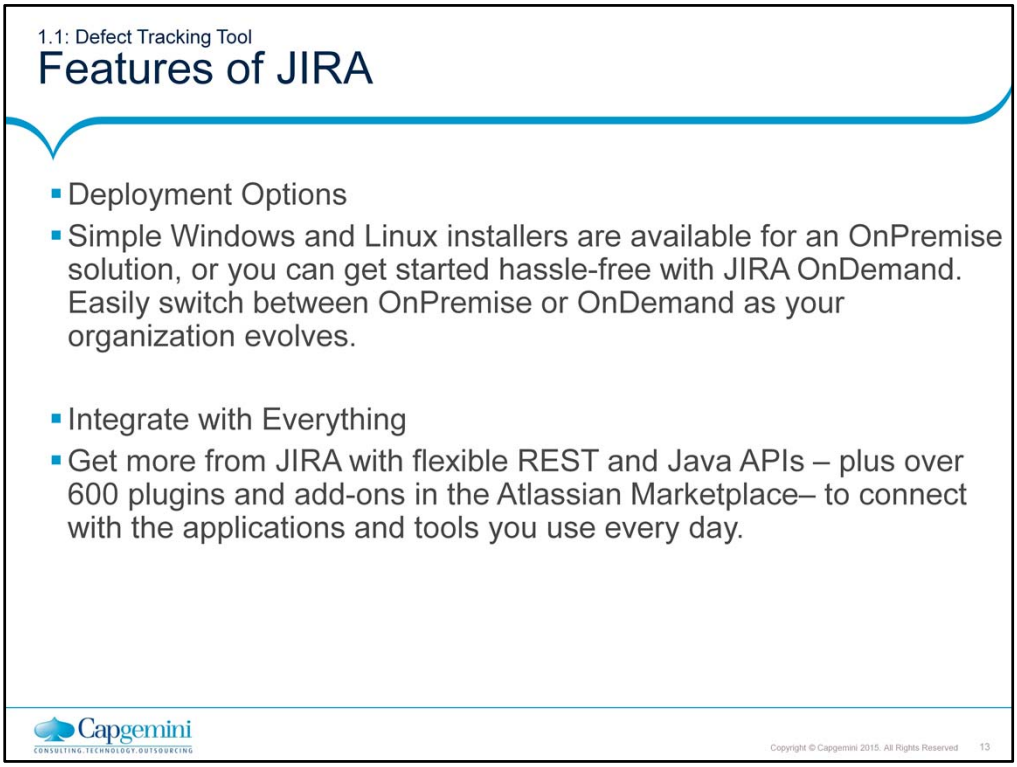
1.1: Defect Tracking Tool

Features of JIRA

- Agile at Scale - Scrum and Kanban improve project success and deliver value iteratively. JIRA and JIRA Agile scale Agile across your organization. JIRA also integrates with GitHub to link issues to commits.
- Industry Leading Workflow Engine - Don't let your issue tracking software dictate your process. With JIRA's workflow engine you can easily build the process that fits your team.
- Polished User Experience - Create, update, and work through issues using a fast and intuitive web interface with lightning-quick keyboard shortcuts.
- Flexible Dashboards - Create a personalized view of JIRA. Share dashboards to track project status, create custom reports, and monitor team wallboards.
- Powerful Searching and Reporting - Use JIRA's Query Language (JQL) with simple autocomplete to build advanced queries. Create a personalized view of JIRA and share dashboards to track project status, create custom reports, and monitor team progress with wallboards.

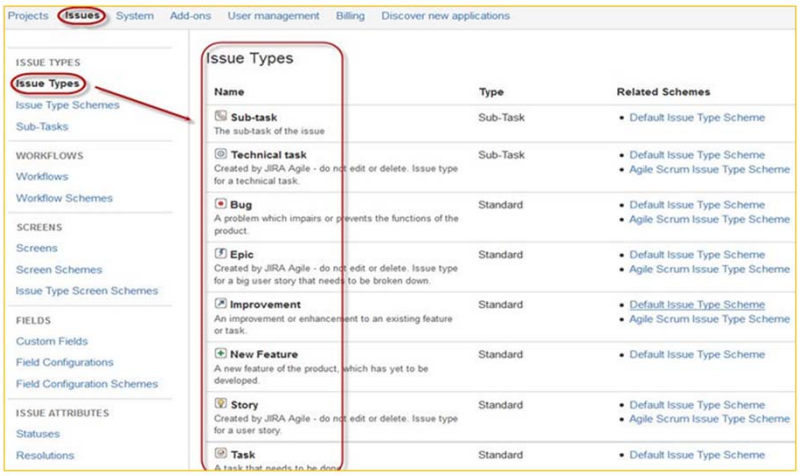
Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 12


1.1: Defect Tracking Tool
Features of JIRA
Deployment Options
Simple Windows and Linux installers are available for an OnPremise solution, or you can get started hassle-free with JIRA OnDemand. Easily switch between OnPremise or OnDemand as your organization evolves.
Integrate with Everything
Get more from JIRA with flexible REST and Java APIs – plus over 600 plugins and add-ons in the Atlassian Marketplace– to connect with the applications and tools you use every day.
Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING
Copyright © Capgemini 2015. All Rights Reserved
13

1.1: Defect Tracking Tool

JIRA – User Interface



Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 14

1.1: Defect Tracking Tool

Introduction to Mantis

- Mantis Bug Tracker is a open source web-based Bug Tracking System
- It is written in PHP and works with multiple databases like MS SQL, MySQL, and PostgreSQL
- Mantis has multiple items & dived into multi-level hierarchy as follows:
- Projects -> Sub Projects -> Categories -> Bugs
- Based on user access & permission rights user can contribute to each item
- Mantis is powerful tool integrated with few applications like time tracking, chat, wiki, RSS feeds & many more
- Another bug tracker with support for many different revision control systems and an event-driven notification system
- Mantis is licensed as open source under the GPL version 2; you can browse its source code on GitHub or check out the self-hosted roadmap for future plans

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 15

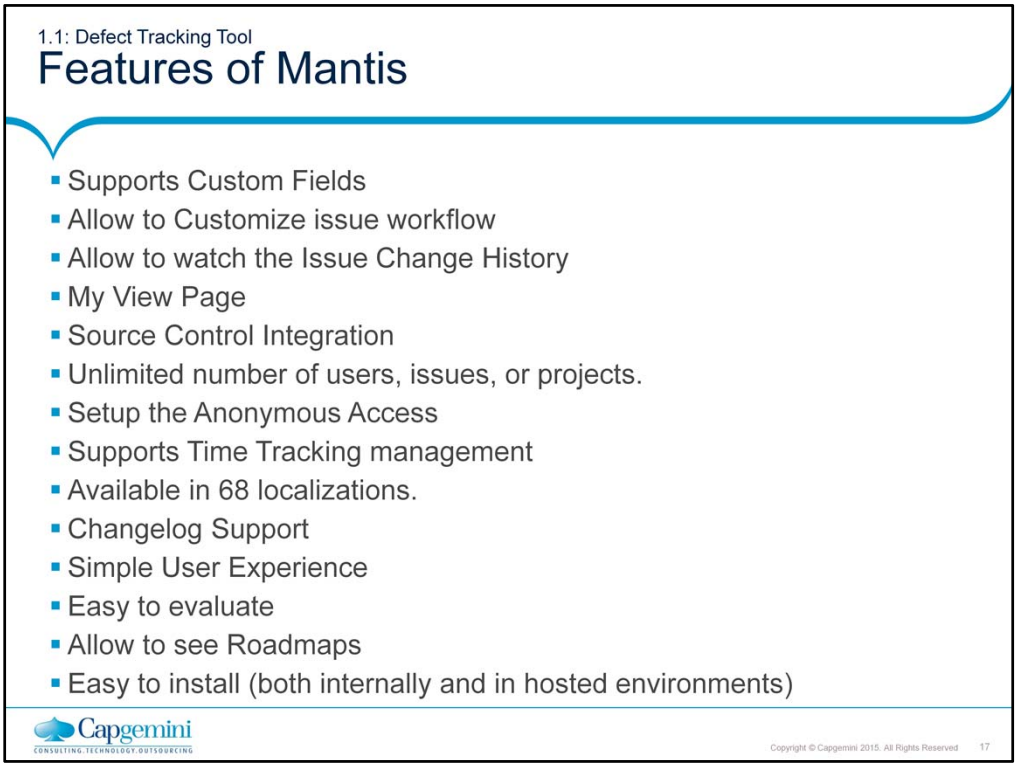
1.1: Defect Tracking Tool

Features of Mantis

- Open source tool (GPL License)
- Supports any platform that runs PHP (Windows, Linux, Mac, Solaris, AS400/i5, etc)
- Customizable Issue Pages
- Users can have a different access level per project
- Support for Projects, Sub-Projects, and Categories.
- Supports comprehensive Email notifications
- Search and Filter – Simple/Advanced Filters, Full Text Search, Shared Filters (across users / projects)
- Supported Reporting with reports and graphs
- Multiple Projects per instance

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 16


1.1: Defect Tracking Tool
Features of Mantis
Supports Custom Fields
Allow to Customize issue workflow
Allow to watch the Issue Change History
My View Page
Source Control Integration
Unlimited number of users, issues, or projects.
Setup the Anonymous Access
Supports Time Tracking management
Available in 68 localizations.
Changelog Support
Simple User Experience
Easy to evaluate
Allow to see Roadmaps
Easy to install (both internally and in hosted environments)
Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING
Copyright © Capgemini 2015. All Rights Reserved
17

1.1: Defect Tracking Tool

Mantis – User Interface

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 18

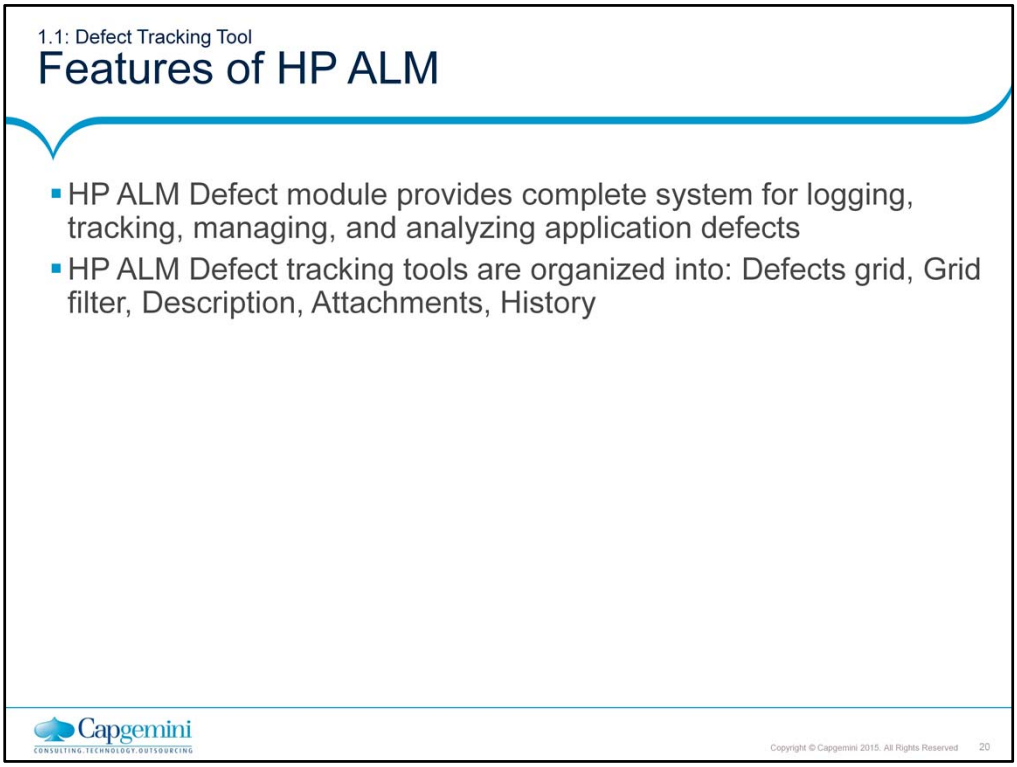
1.1: Defect Tracking Tool

Introduction to HP ALM

- HP ALM is an end-to-end test management solution with a robust integrated bug tracking mechanism within it
- HP ALM's bug tracking mechanism is easy, efficient and everything you can ask for
- It supports Agile projects too
- It is one of the pricey tools available in the market, which continues to be a prime source of criticism along with the fact that it is not very friendly with all the web browsers
- Defect module in HP ALM not only helps users to post the defects but also enables them to track and gives the overall quality of the release at any stage of the development process

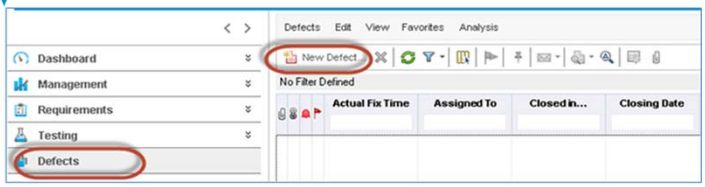
Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

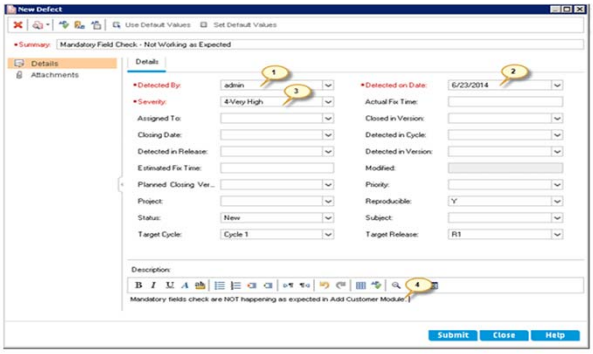
 19


1.1: Defect Tracking Tool
Features of HP ALM
HP ALM Defect module provides complete system for logging, tracking, managing, and analyzing application defects
HP ALM Defect tracking tools are organized into: Defects grid, Grid filter, Description, Attachments, History
Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING
Copyright © Capgemini 2015. All Rights Reserved
20

1.1: Defect Tracking Tool

HP ALM – User Interface





Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 21

1.1: Defect Tracking Tool

Introduction to IBM Rational ClearQuest

- IBM Rational ClearQuest is a fully customizable database workflow application development and production system
- It provides flexible change and defect tracking, customizable processes, near real-time reporting and lifecycle traceability for better visibility and control of the software development lifecycle
- IBM Rational ClearQuest provides scalable, multiplatform support to any size organization so you can continue to customize processes as your development needs evolve
- It provides integration with various automation tools which can be considered an additional feature
- Other than that, it has an end-to-end, customizable defect tracking systems
- It is a commercial product and can seem a little costly, you can try it free for 30 days

Rational. ClearQuest

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 22

1.1: Defect Tracking Tool

Features of IBM Rational ClearQuest

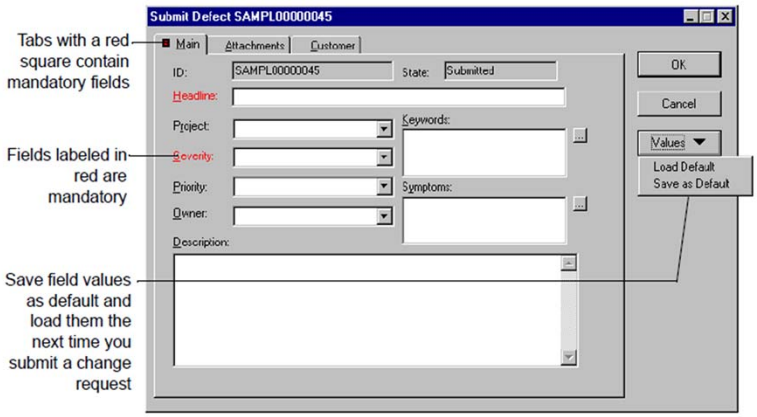
- Enhance software quality with built-in defect and change-tracking capabilities
- Customize and automate workflows for greater efficiency and predictability
- Simplify compliance management with tools that help you efficiently manage compliance processes and track approvals.
- Gain visibility into projects with near real-time reports for better decision making
- Exploit enhanced integrations with several other IBM lifecycle products

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 23

1.1: Defect Tracking Tool

IBM Rational ClearQuest– User Interface



Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

1.1: Defect Tracking Tool

Introduction to Trac

- The Trac is web based, open source software
- Trac system is developed by Edgewall Software
- Written in Python, Trac tightly integrates its bug tracking capabilities with its wiki system and a revision control system of your choice

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 25

1.1: Defect Tracking Tool

Features of Trac

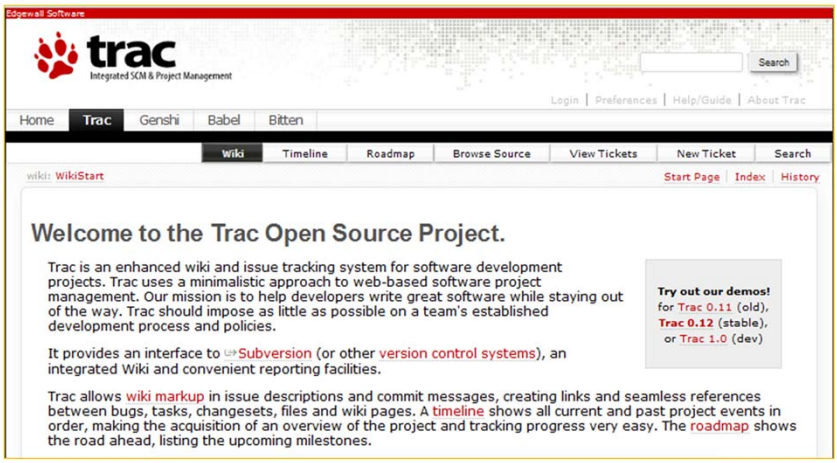
- It supports multiple platforms like Linux, Unix, Mac OS X, Windows
- Trac allows wiki markup in issue descriptions and commit messages, creating links and seamless references between bugs, tasks, changesets, files and wiki pages
- It features project management capabilities like generating milestones and roadmaps, a customizable reporting system, timelines, support for multiple repositories, built-in spam filtering, and is available in many common languages
- A timeline shows all current and past project events in order, making the acquisition of an overview of the project and defect tracking software progress very easy
- The roadmap shows the road ahead, listing the upcoming milestones
- It has a number of plugins available for it extending its base feature set even further
- Trac is made available as open source under a modified BSD license, though older versions were released under the GPL

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 26

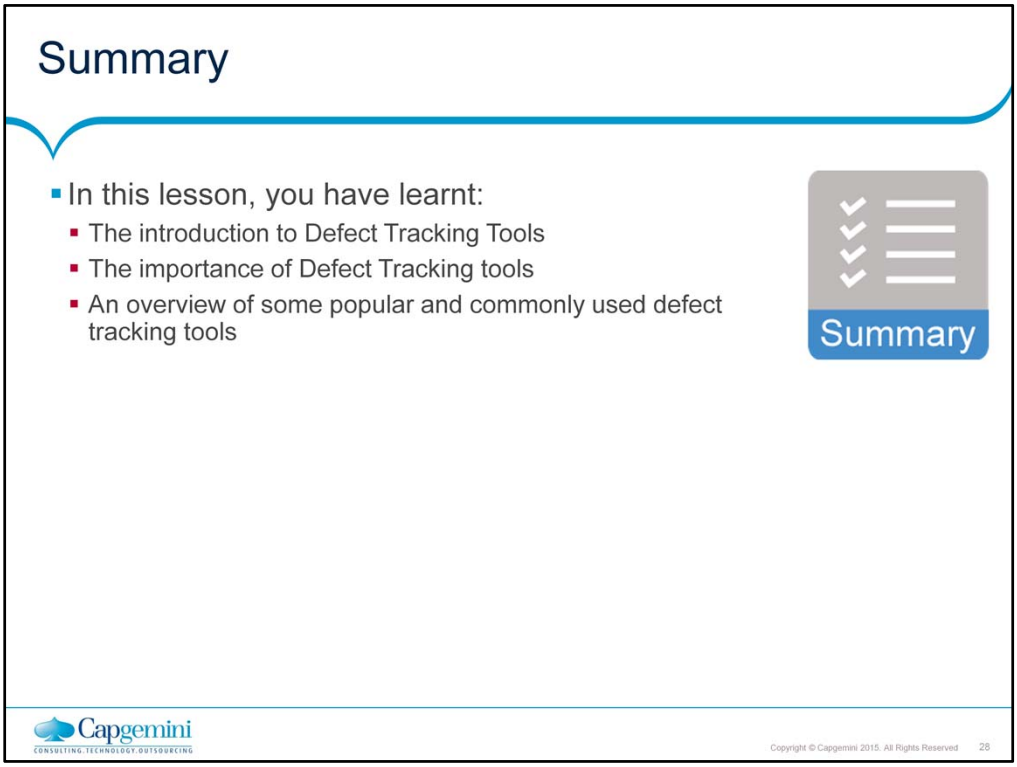
1.1: Defect Tracking Tool

Trac– User Interface



Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 27



Add the notes here.

Review Question

- Question1: _____ are computer database systems that store defects and help people to manage them
- Question 2: Which of the following defect tracking tool is built on Ruby on Rails?
  - Redmine
  - Bugzilla
  - HP ALM
  - JIRA
- Question 3: Adding attachments is easy if we are using any tool to log the defect
  - True/ False
- Question 4: Which of the following is a commercial defect tracking tool?
  - Bugzilla
  - Trac
  - IBM Rational ClearQuest
  - None of the above

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

 29