Agile Software

Development Practices

SOF2412 / COMPSAIGNment Project Exam Help

Team Dynamics; Tools and

Technologies for Team Work

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School Computer Science

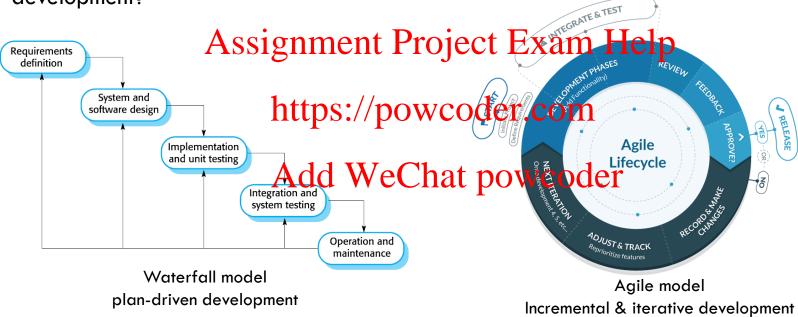


Agenda

- Teams in Software Development Models
- Teams in Agile Development Project Exam Help
- Team Dynamics
- Effective Teams and Pean Work oder.com
- Issue Tracking Add WeChat powcoder
- Tools for Issue Tracking and Teamwork

Software Development Models - Teams

Do software development models influence team structure and interactions in software development?



https://blog.capterra.com/agile-vs-waterfall/

Waterfall Model - Teams

Development activities	Teams
Divide the work into stage nment Pro	Separate death of specialists for each stage
At each stage, the work is httsps: from poew team to another Add WeCh: At the end of all of the stages, you have a software product ready to ship	handoff from team to team – using "documents" As each team finishes, they are assigned to a new product

Teams under different SDLC models

- In a traditional structure how do teams work?
 - As work is planned and allocated, it can be divided into pieces that should be more-ordess independent Project Exam Help
 - Specialist teams

 - Project management and resource reallocation
 Clear authority lines, so disagreements can be resolved
 - Problems?
 - Single points Add UWe Chat powcoder
 - Inflexibility
 - Lack of feedback

– And in Agile teams?

Agile Manifesto – Revisit

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration Customer collaboration Project Fixam Help
- Responding to change over following a plan https://powcoder.com

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Agile Manifesto –

Individuals and interactions over processes and tools

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- Why Agile values individuals and interactions over processes and tools? Discuss https://powcoder.com

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Agile Manifesto – Why Individuals and Interactions?

- Why Agile values individuals and interactions over processes and tools?
 - People tend so ignoreste Projectly Faramake minakes
 - "A great tool can sometimes help people to do the wrong thing faster"
 Tools or best practices are not enough people who need to use it
 - Tools or best practices are not enough people who need to use it should buy into it to realize its benefits
 - People needs to see the Value bridge of the practices

 It is important to recognize that you are working with a group of people who have different motivations, ideas and preferences

Agile Principles 1 - People

- Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done ASSIGNMENT Project Exam Help
- The most efficient and effective method of **conveying information** to and within a development is **lace to face to not station**
- At regular intervals, the learn reflects to pow to leave more effective, then tunes and adjusts its behavior accordingly

Agile Principles 1 - People

- Group Discussion:
 - Briefly discuss how the following agile principles perceive teams and teamwork in ggile development oject Exam Help
- Build projects around motivated individuals. Give them the environment and support they need, and trust them be get the oblique. COM
- The most efficient and effective method of control of the matter of th
- At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly

Agile Principles 2 – People

- Business people and developers must work together daily throughout the project
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- The best architectures, requirements, and designs emerge from selforganizing teams https://powcoder.com
- Our highest priority is to daily for the australia of t

Agile Principles 2 – People

- Group discussion
 - briefly discuss how the following agile principles perceive teams and teamwork in grip development oject Exam Help
- The best architectures, requirements, and designs emerge from self-organizing teams
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- Our highest priority is to satisfy the customer through early and continuous delivery of valuable software

Teams - Individuals and Collaboration

 Common problem experienced in software development teams "throw it over the wall"

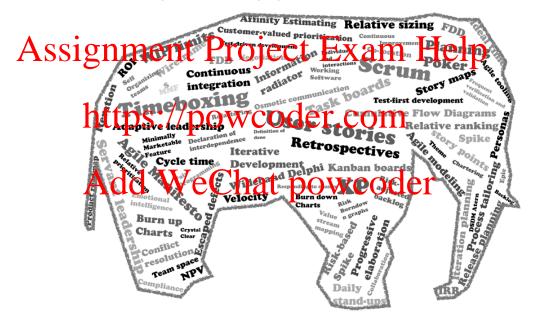
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- Team members are busy thinking about their own project work and problems
 - Different views/persperctiveswcoder.com
- Teams are divided, and collaboration is killed

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Agile Practices - The Agile Elephant

The agile elephant is made up of many practices



^{*}Agile practices and Scrum method (most of these presented in this figure) will be discussed in more details in future lectures. The focus of the discussion here is on teams and the adoption of Agile practice

Agile Teams - Individual Practices

 When adopting agile practices, team members may adopt practices individually:

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 Each person uses only the practices that impact their work; developers focus on automated tests and build, team leads on task boards, project velocity and burn-down charts, business users on user stories
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 Adopting practices individually will improve things, but this may lead to a self-contradictory effect

Teams – Individual Practices

- When adopting agile practices, team members may follow the same thinking:
 - Each person uses and build, team leads on task boards, project velocity and burn-down charts, business users on user stories https://powcoder.com
 - Adopting practices individually will improve things, but this may lead to a selfcontradictory effected WeChat powcoder
 - Each person sees the part of agile that affects their specific work (attitudes: "see! I was right all along")
 - Agile is made up of day-to-day practices, but it's much bigger than those practices

Understanding the Agile Elephant

finity Estimating Relative sizing En If you only sees the practices that directly affect your place. Project then you will see the one small piece of agile https://pc Retrospectives Cycle time Development Kanban boards Wideband Delphi Kanban boards Add WeC





Team Dynamics

- "Team dynamics are the unconscious, psychological forces that influence the direction of a team's behaviour and performance"

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- Factors that lead to team dynamics:
 - Personalities and https://powcoder.com
 - Knowledge and skills
 - Organization culture dry werehat powcoder
 - Cultural differences, background

S. P. Myers, 2013 https://www.teamtechnology.co.uk/team/dynamics/definition/

Team Dynamics – Good or Bad?

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In Agile development, is team dynamics a good or bad thing?
Discuss

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Team Dynamics – Pros and Cons

- Can be good
 - E.g., Improve overall team performance (productive conflict, different perspective Assignment Project Exam Help
- Can be bad
 - Can lead to unproductive conflict can demotivate and prevent team from achieving its goals Add WeChat powcoder

S. P. Myers, 2013 https://www.teamtechnology.co.uk/team/dynamics/definition/

Team Dynamics - Tuckman Team Development Model



Image: https://www.atlassian.com/agiie/teams

Tuckman's stages of group development - https://en.wikipedia.org/wiki/Tuckman%27s_stages_of_group_development

Team Dynamics - Identification and Resolution

- Result from the interaction of many factors
 - E.g., Personalities, work style, roles, culture, organizational structure
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- Investigate the root causes of conflict or poor team performance
 - Structured interview to his missing was a structured in the his missing was a structured with the his missing was a structur
- Identify potential improvements Chat powcoder
 - E.g., change in office layout, team development workshops (practices, personality dynamics, cultural change programs)

Source: https://mysoftwarequality.wordpress.com/2014/09/04/cross-dysfunctional-teams

Agile Teams - Skills

- It's claimed that agile teams work with the best developers. However, this is not necessing the report Project Exam Help
 - Every project neets per project neets per project competent lead person (Critical Success Factor)
 - Each experienced and competent person on the team permits the presence of 4-5 "average" or learning peoplet POWCOGET
 - With that skill mix, agile techniques have been shown to work many times

Teams Culture

- Consider the following scenarios:
 - Developer: "It works in our environments, it's operations responsibility to make it work in property in a property
 - Tester: "Listen, it worked in User Acceptance Testing, it must be a configuration issue, or a missing fire pulling on testing..."
 - Customer: "Hello! Nothing Wrk: Chinat." powcoder
- Are these statements signs of team dynamics?
- Should this kind of culture exist in agile teams?

Source: https://mysoftwarequality.wordpress.com/2014/09/04/cross-dysfunctional-teams

Effective Teamwork

- Teamwork comprises of the right tools, the right people ad the right practices
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- Effective teamwork in every property of the spension lity
- Large software organization realization teams in the company legal across different departments (engineering, design, sales/marking, legal)

Use team building activities to build effective teams

Team Building

- "Various types of activities used to enhance social relations and define roles within teams, significantly polyely that the polyely at the
- There is an evidence https://pwww.gdffectps:tively team effectiveness

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https://en.wikipedia.org/wiki/Team_building

Team Building Activities

- Goal setting: emphasizes the importance of clear objectives and individual and team goalssignment Project Exam Help
 - E.g., objectives and key results (Atlassian)
- Interpersonal relation to the convert skill nauch as giving and receiving support, communication and sharing information
- Standup meetings Add WeChat powcoder
- Roles and responsibilities (Atlassian)

Team Building – Roles and Responsibilities

- Define the roles and responsibilities that will make your team successful Assignment Project Exam Help
- Clarify expectations as a team
 https://powcoder.com
- Helps to move a team from "storming" to "norming", or help "performing" teams to get back or Ardek WeChat powcoder

Roles and Responsibilities – How?

- Create a table of roles and responsibilities
 - Responsibilities from own perspective
 - Responsibilités signament merojes de Espan Help

https://powcoder.com			
Name	Role	Responsibility (own)	Responsibility (other's)
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		•	

Roles and Responsibilities – How?

- Identify roles
 - E.g., team lead, developers, designers
 - Coarse-grained Signment Project Exam Help
 - Add to the role's column
- Clarify own responsibility https://powcoder.com
 - Think of top 3-5 tasks impriority order powcoder
 - Write on sticky notes
- Think of teammate's responsibilities
 - Write 1-2 responsibilities for each role from your perspective
 - Write responsibilities you may think that don't have a clear owner

Roles and Responsibilities – How?

- Refine and consolidate (optional)
 - Talk teammates with similar roles and refine responsibilities
- Discuss all roles
 - Role owner(s) describe their role and place their sticky notes in own responsibility column
 - Other teammate's role rescription in the other column
 - Owner to accept/decline the responsibilities by other teammates (suggest role to own it). Define primary owner for overlooping poles?
 - Add "unassigned responsibilities" to
- Summarize roles and responsibilities
 - All to agree
 - Owner to document it and how to fill skill gaps

High-Performing Agile Teams

- Cross-functional; engineers, designers, architects, sales
- Mutual respect and mutual respensibility Exam Help

 Not blaming culture, and/or "throw it over the wall"
- Sound engineering phatics (tposychoder month)
- Value and belief of paid principle of
- Apply agile practices effectively as individuals and as a team
- Receive continuous training (technical and non-technical) and team monitoring/coaching

How much can you find out?

- Search for:
 - Team effectiveness
 - Self-managessignment Project Exam Help

 - Group conflictTeam efficacy...https://powcoder.com
- Learn about the theory of teams! powcoder

Tools and Technologies for Teamwork

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Issue Tracking Systems

- A software that manages and maintains lists of issues
- Used to create, update and resolve reported issues internally or externally Assignment Project Exam Help
- Bug (defect) Tracking System: keeps track of reported software bugs in software development projects https://powcoder.com

 - Centralized overview of development requests and their states

 - May assigned a priority, status, severity and/or complexity
 Prioritized list of pending items (Backlog)

 - Typically integrated with other tools or software management systems.

Bug/Issue Tracking Part of other Systems

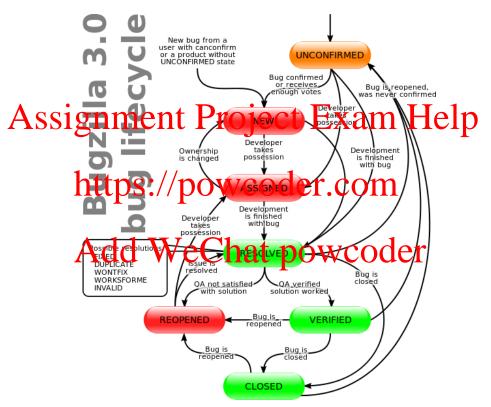
- Part of integrated project/software development management systems
- It helps integrating issue/bug tracking with other activities
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- Distributed bug tracking tools are designed to be used with distributed revision control software https://powcoder.com

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Bugzilla - Bug Tracking Tool

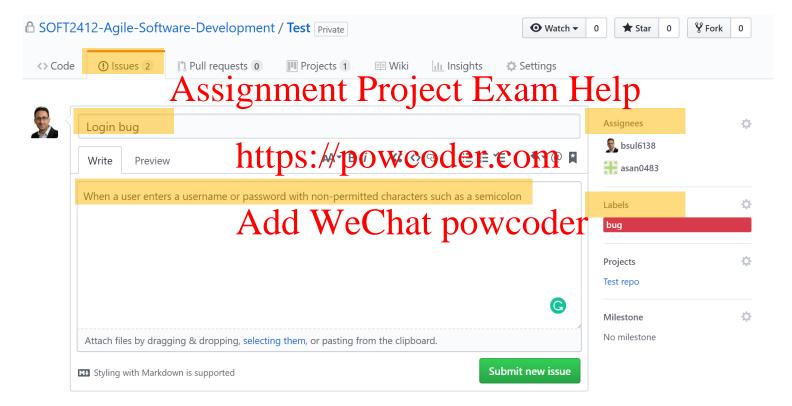
- Open-source web-based bug tracker and testing tool by Mozilla project
- Bug (or feature) requests can be submitted by anyone and will be assigned to a particular developesignment Project Exam Help
- Various status updates for poch/byowcoder.com
 - E.g., Bugzilla itself allows the public to file bugs it assigns all bugs to a
 gatekeeper whose job is to assign responsibility and priority level
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Bugzilla – Bug Lifecycle

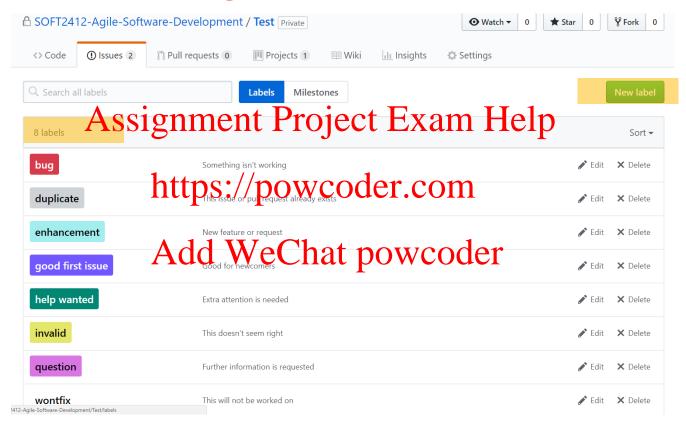


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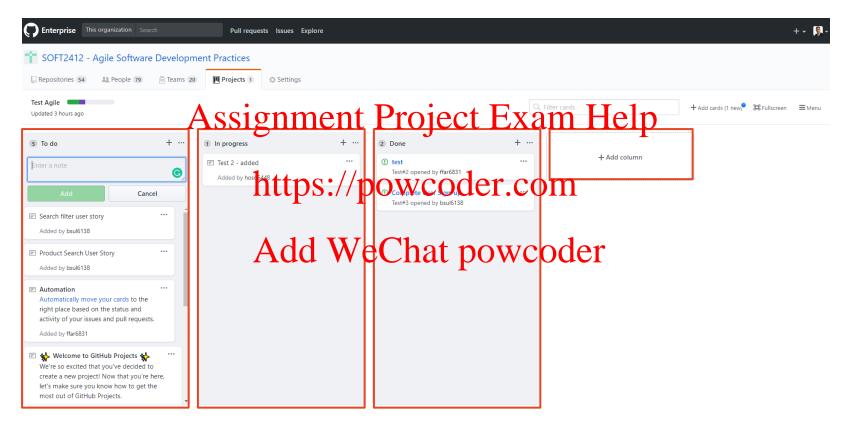
Issue Tracking – GitHub



GitHub Issue Tracking – Edit Labels



GitHub Issue Tracking - Project Management



Version Control Systems - GitHub Revisit

- GitHub allows groups of people to collaborate across many projects at the same time in organizations account
- Organization's members can be: Project Exam Help
 - Owner: complete administrative access to the organization
 - Member: default role to peryope Wcoder.com
- Owners can manage Andrew by the controls of the controls of the controls

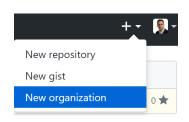
 Can add collaborators from outside of the organization (consultant) to have access to one or more organization repos. without bring a member of the organization

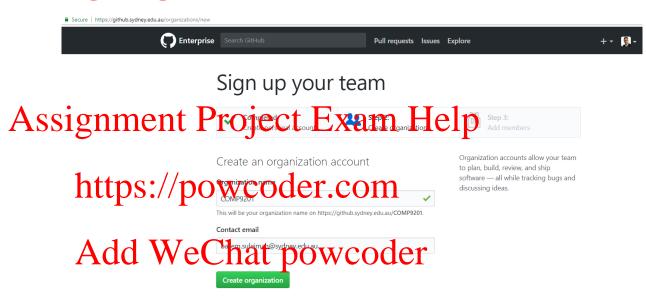
GitHub - Organization Access Control (Revisit)

Organization action	Owners	Members	Organization action	Owners	Members
Invite people to join the organization	X		Create teams	х	x
Edit and cancel invitations to join the organization	X		See all organization members and teams	х	X
Remove members from the organization ASSIGNM	ent	Pro	jecto Exxam Help	X	X
Reinstate former members to the organization	X		Can be made a team maintainer	X	X
Add and remove people from all teams	0 • ¥ /*		Transfer repositories	X	
Promote organization members to team maintainer	S_{x}^{*}/I	JOWO	Cool Gisct board and and reorganize its cards and columns	Х	X
Add collaborators to all repositories	X		Create or delete a project board and edit its description	X	X
Access the ergenization qualities	Ŵ	eCh	Automate actions for project brands Automate actions for project brands	Х	X
			View and post private team discussions to all teams (see "About team discussions" for details)	Х	
Delete all teams	X		Edit and delete team discussions in all teams (for more information, see	х	
Delete the organization account, including all repositories	X		"Managing disruptive comments		

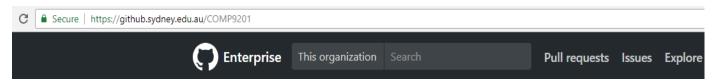
- Examples of access permissions for organization's owners and members

GitHub - Creating Organization (Revisit)

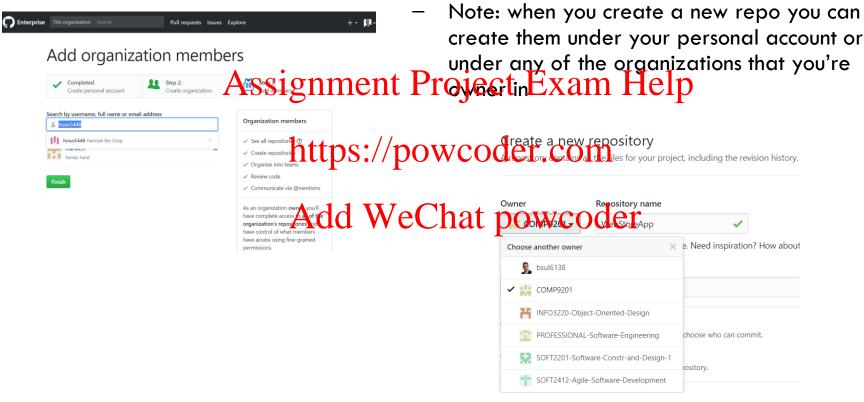




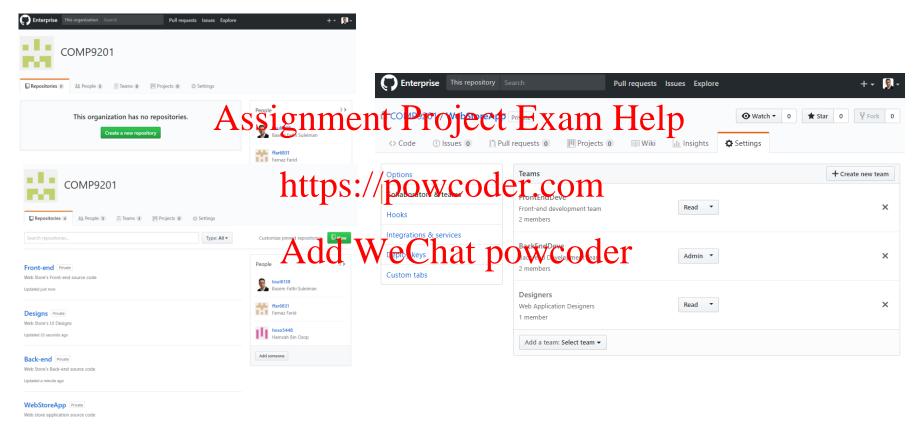
Organizational accounts have a namespace where all their projects exist



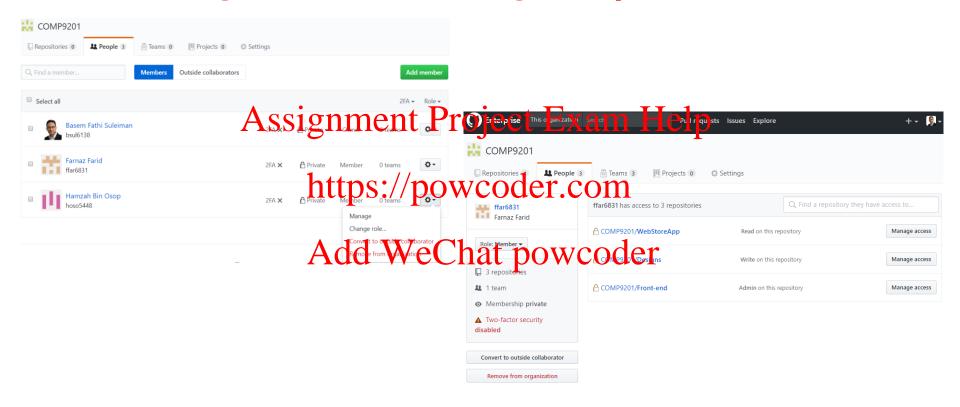
GitHub - Add Members to Organization (Revisit)



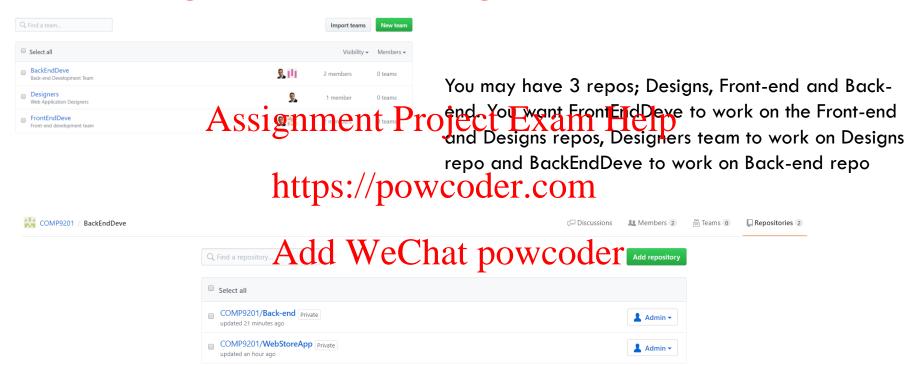
GitHub Organization – Manage Repos. (Revisit)



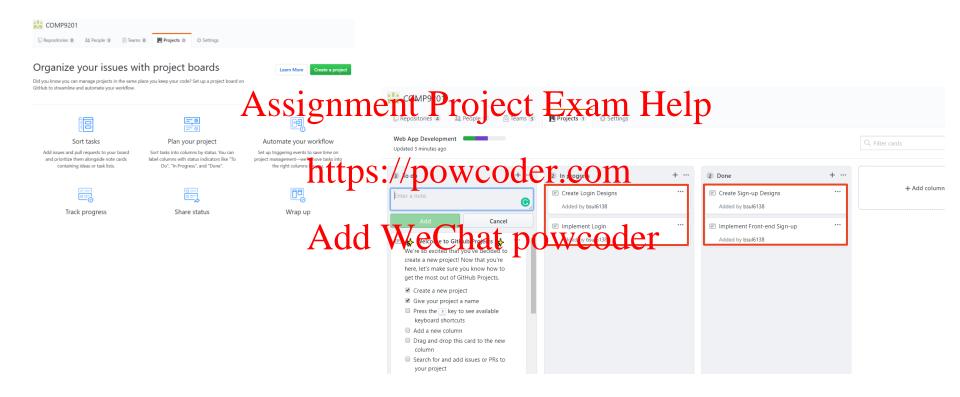
GitHub Organization - Manage People (Revisit)



GitHub Organization - Manage Teams (Revisit)

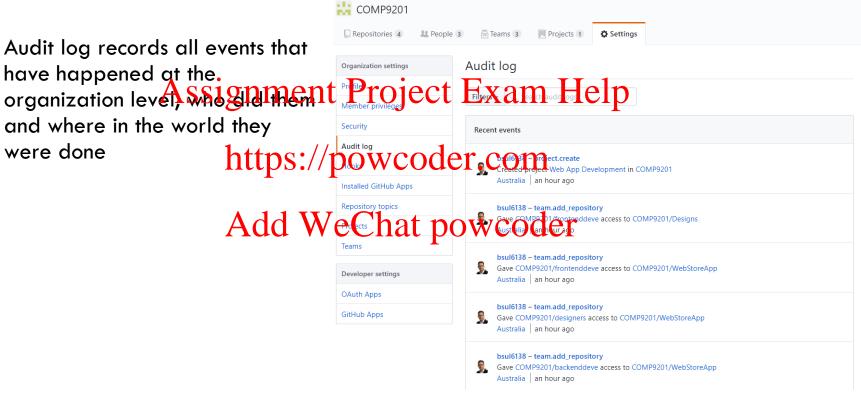


GitHub Organization - Manage Projects (Revisit)



GitHub Organization — Audit Log (Revisit)

Audit log records all events that have happened at the. and where in the world they were done



Jenkins

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Jenkins - CI / CD

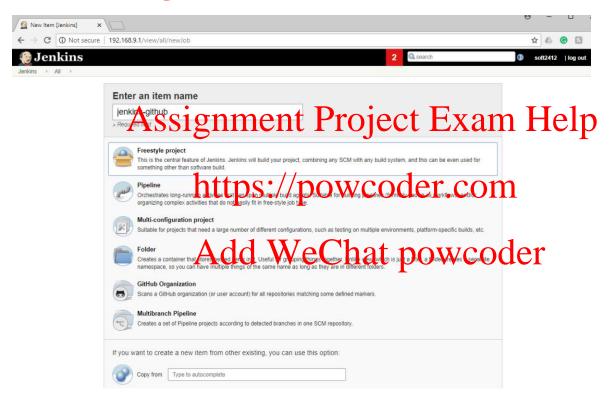


- "Jenkins is a self-contained, open source automation server which can be used to automatesall sorts of topical to building. Testing, and delivering or deploying software."

- https://powcoder.com

 Jenkins pipeline is a suite of plugins which supports implementing and integrating continuous deliver whitelings into whiteler
 - A continuous delivery pipeline is an automated expression of your process for getting software from version control right through to end users/customers
 - Typically written in Jenkinsfile which is checked in a project's source code repository

Jenkins – Integration with GitHub (1)



Jenkins – Integration with GitHub (2)

ource Code Ma	lanagement	
None		
Git		
Repositories	Repository URL https://github.sydney.edu.au/sOFT2412-Agile-Software-Development/git-local5.git Assignment Project Exam_Adf_ Add Repository URL https://github.sydney.edu.au/sOFT2412-Agile-Software-Development/git-local5.git	Hel ository
Branches to build	Branch Specifier (blank for 'any') */master */powcoder.com */	X Paranch
Repository browser	(Auto)	•
Additional Behaviours	S Add →	
Subversion	Add WeChat powcode	r
Build Trigger	rs	
Trigger builds ren	emotely (e.g., from scripts)	
Build after other p	projects are built ①	
Build periodically	•	
GitHub Branches	s	
GitHub Pull Requ	quests	
GitHub hook trigg	ger for GITScm polling	
Poll SCM	•	

Jenkins – Integration with GitHub (3)

• Webhooks to set up GitHub applications to subscribe to certain events on GitHub ASSIgnment Project Flanches

• Events is triggered, HTTP POST payload will be sent to the webhook's attition of the webhook's

• Webhooks can be used to under two Chat powco external issue tracker, trigger Cl builds,

update a backup mirror

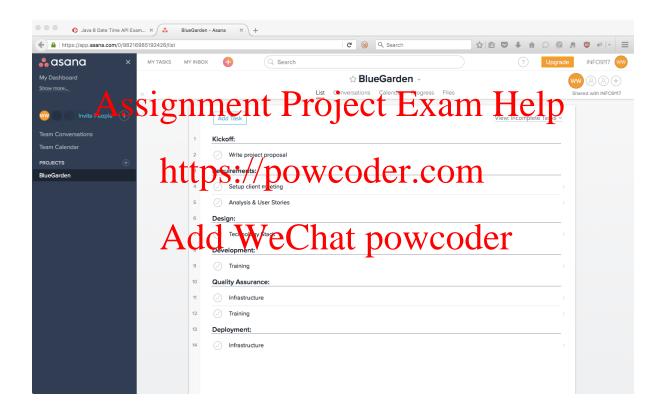
Enterprise This repository Search Pull requests Issues Explore △ SOFT2412-Agile-Software-Development / git-local6 Private O Watch → 0 ★ Star 0 Y Fork 0 (i) Issues 1 in Pull requests 0 III Projects 0 IIII Wiki III Insights & Settings Integrations & services http://pc-226-2.staff.svdnev.edu.au/github-webhook/ which events would you like to trigger this webhook? Send me everything. Let me select individual events. Commit comments Branch or tag creation Commit or diff commented on. Branch or tag created. Branch or tag deletion Deployments Branch or tag deleted. Repository deployed. Deployment statuses ■ Forks Deployment status updated from the APL Repository forked. Issue comments Wiki page updated. Issue comment created, edited, or deleted. Issue opened, edited, closed, reopened, assigned, | Labels unassigned labeled unlabeled milestoned or Label created, edited or deleted.

https://developer.github.com/webhooks/

Teamwork Collaboration Tools

- What tools would you use to help support your team?
- Examples:
 - Dropbox Assignment Project Exam Help
 - Google Docs
 - Skype https://powcoder.com
 - Trello
 - Slack
 Add WeChat powcoder
 - Basecamp
 - Asana
 - ... other

Other Tools - Asana - Project Management



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– Hackman J. R., Katz N. "Group behavior and performance". In Fiske ST, Gilbert DT, Lindzey G Handbook of social psychology (5th ed.) New York: Wiley; 2010. pp. 1208-1251. DOI: 10.1002/97804703WFP.35cpsy002032

Tutorial: Continuous Integration with Jenkins / Docker

Team Dynamics - Team Building

Activities

Lecture: Agile Methods, Scrum

at powcoder



