

## Workflow Model for Chemical Plan Fire Incident – User Panel

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### Upload Existing Model

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- 1) Open webpage.
- 2) Click 'Upload Existing' option from the dialogue popup.
- 3) Choose previously created model saved as "file\_name".json.
- 4) Click open.

### Create New Workflow

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- 1) Open webpage.
- 2) Click 'Create New' option from the dialogue popup.
- 3) Choose Categories, Sub-Categories and Services from main dropdown lists. Add 'Cargo Truck Location' service from main dropdown lists:
  - a) Choose 'Fog Service' Category.
  - b) Choose 'Fog Service Device 01' Sub-Category.
  - c) Choose 'Cargo Truck Location' Service.
  - d) Click 'Add' button.
- 4) Click on 'Add Block' button to add multiple services before, after or before and after an existing service. To add block of services before 'Cargo Truck Location' service:
  - a) Choose Fog Service Category, Fog Service Device 01 sub-category and 'Cargo Truck' service from the dropdown lists.
  - b) Choose 'before' from 'before/after' dropdown list.
  - c) Choose 'Cargo Truck Location' from 'Existing Service' dropdown list.
  - d) Click 'Add to Block' button.
  - e) Click 'Finish' button.
- 5) Click on 'Add Block' button to add block of services before and after 'Cargo Truck Location' service:
  - a) If not already selected, Choose Fog Service Category, Fog Service Device 01 sub-category and 'Situation Assessment' service from the dropdown lists.
  - b) Choose 'before and after' from 'before/after' dropdown list.
  - c) Choose 'Cargo Truck Location' from 'Existing Service' dropdown list.
  - d) Click 'Add to Block' button.
  - e) Click 'Finish' button.
- 6) Click 'Copy Service' button to copy existing service. Click 'Copy Service' button to copy 'Situation Assessment' service:
  - a) Choose 'Situation Assessment' from 'Copy Service' dropdown list.
  - b) Choose 'after' from 'before/after' dropdown list.
  - c) Choose 'Situation Assessment {r}' from existing service dropdown list.
  - d) Click 'Copy' button.
- 7) Click on 'Add Block' button to add block of services before and after 'Situation Assessment' service:
  - a) If not already selected, Choose Fog Service Category, Fog Service Device 01 sub-category and 'Get Incident Information' service from the dropdown lists.
  - b) Choose 'before and after' from 'before/after' dropdown list.
  - c) Choose 'Situation Assessment\_{c}' from 'Existing Service' dropdown list.
  - d) Click 'Add to Block' button.
  - e) Click 'Finish' button.
- 8) Click on 'Add Block' button to add block of services after 'Situation Assessment' service:
  - a) If not already selected, Choose Fog Service Category, Fog Service Device 01 sub-category and 'Re-route Cargo Trucks' service from the dropdown lists.
  - b) Choose 'after' from 'before/after' dropdown list.

- c) Choose 'Situation Assessment\_{c}' from 'Existing Service' dropdown list.
  - d) Click 'Add to Block' button.
  - e) Click 'Finish' button.
- 9) Click on 'Add Block' button to add block of services before 'Situation Assessment' service:
- a) Choose Cloud Service Category, Cloud Service Device 01 sub-category and 'Plume Service' from the dropdown lists.
  - b) Choose 'before' from 'before/after' dropdown list.
  - c) Choose 'Situation Assessment\_{c}' from 'Existing Service' dropdown list.
  - d) Click 'Add to Block' button.
  - e) Click 'Finish' button.
- 10) Add 'Data Buffering and Integration' service from main dropdown lists:
- a) Choose 'Fog Service' Category.
  - b) Choose 'Fog Service Device 01' Sub-Category.
  - c) Choose 'Data Buffering and Integration' Service.
  - d) Click 'Add' button.
- 11) Click 'Copy Service' button to copy 'Plume Service':
- a) Choose 'Plume Service' from 'Copy Service' dropdown list.
  - b) Choose 'after' from 'before/after' dropdown list.
  - c) Choose 'Data Buffering and Integration' from existing service dropdown list.
  - d) Click 'Copy' button.
- 12) Click on 'Add Block' button to add block of services before 'Data Buffering and Integration' service:
- a) Choose Fog Service Category, Fog Service Device 01 sub-category and 'Office Data' service from the dropdown lists.
  - b) Choose 'before' from 'before/after' dropdown list.
  - c) Choose 'Data Buffering and Integration' from 'Existing Service' dropdown list.
  - d) Click 'Add to Block' button.
  - e) Click 'Finish' button.
- 13) Click 'Copy Service' button to copy 'Get Incident Information' service:
- a) Choose 'Get Incident Information' from 'Copy Service' dropdown list.
  - b) Choose 'after' from 'before/after' dropdown list.
  - c) Choose 'Plume Service\_{c}' from existing service dropdown list.
  - d) Click 'Copy' button.
- 14) Click on 'Add Block' button to add block of services before 'Get Incident Information\_{c}' service:
- a) Choose Fog Service Category, Fog Service Device 01 sub-category and 'Chemical Plant Fire Incident' service from the dropdown lists.
  - b) Choose 'before' from 'before/after' dropdown list.
  - c) Choose 'Get Incident Information\_{c}' from 'Existing Service' dropdown list.
  - d) Click 'Add to Block' button.
  - e) Click 'Finish' button.
- 15) Add 'Vehicle Location' service from main dropdown lists:
- a) If not already selected, Choose 'Fog Service' Category.
  - b) Choose 'Fog Service Device 01' Sub-Category.
  - c) Choose 'Vehicle Location' Service.
  - d) Click 'Add' button.

## Set Specifications

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- 1) Hover cursor over a service to set its specifications.
  - a) Hover cursor over 'Cargo Trucks' service box.
  - b) A white button appears on top right corner of the box. Click that button.
  - c) A popup appears for specifications. Enter all specifications for Cargo Trucks' service.
  - d) Click 'Submit' button.
- 2) Likewise, enter specifications for all services. (Projected services ({c} / {r}) do not require specifications.)

## Delete Service

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- 1) Hover cursor over a service to set its specifications.
  - a) Hover cursor over 'Vehicle Location' service box.
  - b) A red button appears on top right corner of the box. Click that button to delete the service.

## Save Model

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- 1) Click 'Save Model' button
- 2) A popup appears for file name. Enter file name for example 'model'.
- 3) Click 'OK' button.

## Set Interactions & Create Workflow XML

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- 1) Click 'Set Interactions' button.
- 2) Click 'Yes, set interactions!' button to move to interaction interface (or 'Cancel' to stay on same interface.)
- 3) Hover over a service to see its connected service. Click on the service to set interaction with its connected service.
  - a) To set interaction between 'Cargo Trucks' and 'Cargo Trucks Location' services, hover over 'Cargo Trucks' service and click it.
  - b) Enter data for all fields.
  - c) Click 'Submit' button.
- 4) For multiple services or projected services ({r}) connected after a service, hover on 2<sup>nd</sup> service. Click on the service to set interaction with its connected service.
  - a) To set interaction between 'Situation Assessment {r}' and 'Cargo Trucks Location' services, hover over 'Situation Assessment {r}' service and click it.
  - b) Enter data for all fields.
  - c) Click 'Submit' button.
- 5) Set interactions off for any services which do not interact. This can be possible for projected service ({c}) and its connected service
  - a) To set interaction off between 'Situation Assessment\_{c}' and 'Data Buffering and Integration' services, hover over 'Situation Assessment\_{c}' service and click it.
  - b) Press 'Set Interactions' toggle button to change it to 'No'.
  - c) Click 'Submit' button.
- 6) Likewise, set interactions for all connected services.
- 7) Click 'Create Workflow' button.

## Note:

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- Specifications for projected services ( {c} / {r} ) are not needed to be entered. They are automatically referred to original service specifications.
- 'Save model' option only remains available before moving to setting interactions part.

## Service registration – Admin Panel

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### Add Category

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- 1) Select 'Add New Category' option from Category dropdown list.
- 2) Enter name of new category in input box.
- 3) Click 'add new category' button.

### Add Sub-Category

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- 4) Select a category for example 'Fog Service' from Category dropdown list.
- 5) Select 'Add New Sub-Category' option from Sub-Category dropdown list.
- 6) Enter name of new category in input box.
- 7) Click 'add new sub-category' button.

### Add and Register Service

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- 8) Select a category for example 'Fog Service' from Category dropdown list.
- 9) Select a sub-category for example 'Fog Service Device 02' from Sub-Category dropdown list.
- 10) Select 'Add New Service' option from Service dropdown list.
- 11) Enter name of new category in input box.
- 12) Click 'Add New Category' button.
- 13) A popup appears for specifications of new service.
- 14) Enter all specifications.
- 15) Click 'Submit' button.