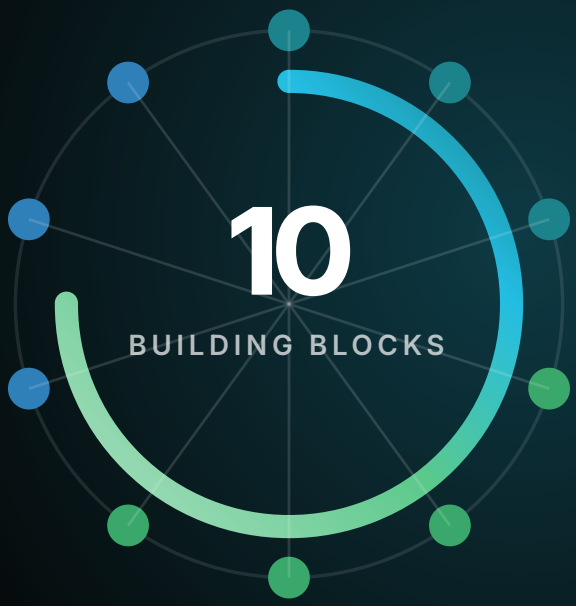
pb powerbunch



SAMPLE

Approval Toolkit for Microsoft Power Automate

Plan, build, and test approval processes

10 building blocks | 4 scenarios | Planner | Process description

Original pages from the 90-page handbook: Contents, chapters 01 and 02, the beginning of chapter 06 with the overview of the building blocks and the start of B01, and the purchase requisition scenario from chapter 07. The remaining pages are omitted; the page numbers refer to the complete handbook.

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Contents

01	**Welcome**	4
02	**The package at a glance**	5
03	**Six steps to an approval process**	7
04	**Basics: Approvals in Power Automate**	9
	The three actions	9
	The approval types	9
	Where approvers respond	9
	What Power Automate stores	10
	Limits you should know	10
	Markdown in the details	10
	Looking ahead: Multistage approvals with AI	11
05	**The data model**	12
	ApprovalRequests	12
	ApprovalLog	13
	ApprovalRules	14
	Delegations	14
06	**The ten building blocks**	16
	B01 Single-stage approval	17
	B02 Sequential multistage approval	24
	B03 Parallel approval	27
	B04 Determine approvers	31
	B05 Deadlines, reminders, and escalation	37
	B06 Delegation and absence	43
	B07 Request for information, revision, and withdrawal	46
	B08 Logging and traceability	49
	B09 Error handling and restart	54
	B10 Permissions and operations	58
07	**Four scenarios**	65
	Vacation request	66
	Purchase requisition	68
	Invoice approval	70
	Document and contract approval	73
08	**Licenses and limits**	77

What the Microsoft 365 license covers 77
When a premium license becomes necessary 77
Managed Environments 77
Request limits 78
SharePoint or Dataverse? 78
Data policies 78

09 **Test and accept** 79

The test environment 79
Shorten deadlines for testing 79
Run through the test cases 79
Acceptance 79
After go-live 79

10 **Frequently asked questions** 80

11 **If you would like support** 81

A **Appendix: Terms and sources** 82

B **Appendix: License terms** 84

01

Welcome

Approvals are among the processes that companies digitize most often with Power Automate: Vacation requests, purchase orders, invoices, contracts. I have been building such processes for companies since 2018, and the first flow is usually finished quickly. The hard part comes afterward in everyday use: An approval request sits unanswered during a vacation, nobody is reminded, a decision cannot be proven later, and the flow depends on the account of a single person.

With this toolkit, you plan an approval process before you build it, and you build it so that it holds up in operation. The planner guides you from the fact sheet through stages, deadlines, licenses, and permissions to the test log. The handbook describes ten building blocks as detailed step-by-step guides, from single-stage approval to escalation, delegation, logging, and error handling, and uses four scenarios to show how the building blocks fit together.

All building blocks work with the standard connectors included in the Microsoft 365 license. Where a premium license brings advantages, I say so explicitly. I cover general topics such as error handling, limits, and operations in my free guide "Power Automate Performance: 50 tips for fast and stable cloud flows". Each building block refers to the relevant tip.

Best wishes for planning and building your process,

Reiner Keller
Microsoft Power Platform expert
powerbunch GmbH

Who it is for

For teams in business units and IT who build approvals with Power Automate themselves, and for process owners who define and accept an approval process.

Prior knowledge

You have already built cloud flows, know dynamic content and simple expressions, and can create SharePoint lists.

Access

A Power Platform environment for testing, a SharePoint site where you are allowed to create lists, and at least three test accounts.

Time required

Allow about two hours for planning a process and about one day for building a single-stage process with logging and error handling. Each additional stage takes considerably less time because it follows the same pattern.

02

The package at a glance

XLSX

Planner (Excel)

Document the process, define stages and deadlines, choose the right building blocks, check licenses, plan the data model and permissions, and record all test cases.

`Approval-Toolkit-Power-Automate_Planner.xlsx`

DOCX

Process description and acceptance (Word)

Structured template that describes the finished approval process: Roles, process flow, rules, data, permissions, technology, operations, test result, and acceptance.

`Approval-Toolkit-Power-Automate_Process-Description.docx`

PDF

Handbook (PDF)

Step-by-step procedure, approval basics, ten building blocks as detailed step-by-step guides, and four scenarios from vacation request to contract approval.

`Approval-Toolkit-Power-Automate_Handbook.pdf`

The sheets of the planner

Start	Procedure, legend, and an example.
Fact sheet	Participants, trigger, volumes, environment (including whether it is managed), service account, and retention.
Stages	Up to six stages with condition, approvers, approval type, deadline, reminder, escalation, and delegation. The planner warns when the deadlines add up to 28 days and compares the duration with the fact sheet.
Pattern selection	Twelve questions that lead to the right building blocks, with references to the handbook and a comparison with the stages.
Licenses	The connectors used, standard or premium, and whether the Microsoft 365 license is enough, including in Managed Environments.
Data model	All lists and columns with internal name, type, and purpose, marked to match your building blocks.
Roles and permissions	Who submits, sees, and decides on requests, and who reads the log and edits the flow.
Test log	The test cases of your building blocks with expected result, finding, and date.
Overview	Status of each sheet with a traffic light and the open items before building and acceptance.
Expressions	All expressions from the building blocks and scenarios for copying - quotation marks and line breaks are preserved.

> The sheets of the planner are protected so that formulas are not overwritten by mistake. There is no password: You can remove the protection at any time under Review › Unprotect Sheet. Filtering, column widths, and row heights also work with protection on.

System requirements

- Microsoft Excel 2016 or later, or Microsoft 365, on Windows or macOS, or alternatively Excel for the web
- Microsoft Word 2016 or later, or Microsoft 365, for the process description
- A program for reading PDF files, for this handbook
- For building: Power Automate with a license that includes standard connectors (for example, Microsoft 365, Premium in Managed Environments), a SharePoint site, and a Power Platform environment
- LibreOffice also opens the planner and the template - some elements may look different

License at a glance

- ✓ Use by all employees and other persons acting on behalf of the purchasing company for any number of that company's own projects
- ✓ Affiliated companies need their own license - client projects require a consultant license unless the product description permits them without one
- ✓ The company may adapt the templates and use them as its own documents, but may not pass them on or sell them as templates
- ✓ The company may publish work products internally and provide them to third parties for its own purposes
- ✓ The company may incorporate code and formulas into its own software, flows, and apps and may also distribute or sell them, including as open source
- ✓ Offer for businesses only, no entitlement to updates, no training of AI models with the product

The complete license terms are in the appendix.

06

The ten building blocks

Each building block is a step-by-step guide: When you need it, what must be in place beforehand, the steps with the names of the actions, the expressions, the pitfalls, and the test cases.

Building block	Purpose	Group
B01 Single-stage approval	Basic pattern: Trigger with a status column, one approval, write back the outcome, and notify.	Approval patterns
B02 Sequential multistage approval	Further stages one after the other, each only when needed, for example from a certain amount.	Approval patterns
B03 Parallel approval	Several people or business units at the same time: One is enough, everyone must approve, or separate branches.	Approval patterns
B04 Determine approvers	Managers from Microsoft Entra ID, responsibilities from the ApprovalRules list, fallback approver, and two-person review.	Control
B05 Deadlines, reminders, and escalation	Time limit per stage, escalation after the deadline, and a daily reminder flow.	Control
B06 Delegation and absence	Include the delegate from the Delegations list in the approval request and allow reassignment by approvers.	Control
B07 Request for information, revision, and withdrawal	Custom responses with "Request Info" for requests for information, resubmission, and withdrawal during the review.	Control
B08 Logging and traceability	Each event as an entry in the ApprovalLog list, protected against changes.	Evidence and operations
B09 Error handling and restart	Try and Catch for approvals: Status "Error", message with a link to the run, restart through the status.	Evidence and operations
B10 Permissions and operations	Solution, service account, permissions, a watcher flow for manual changes, and monitoring.	Evidence and operations

The building blocks build on each other. B01 creates the flow with trigger, status, and one approval stage. Each further building block states where it extends the flow. You do not have to build all of them: The Pattern selection sheet in the planner shows which ones your process needs.

The action names match those shown in Power Automate with English language settings. If you use another interface language, use the English names as a reference when identifying the corresponding actions.

Name each action exactly as stated in the step, for example "Approval Stage 1". Power Automate inserts this name into expressions with underscores instead of spaces, for example `outputs('Approval_Stage_1')`. If the names do not match, the expressions fail.

About the expressions: Enter expressions in the field using the fx button or the "/" character and "Insert expression", and enter trigger conditions in the trigger settings under "Trigger conditions". Replace sample addresses such as `approvals@contoso.com` with your own. All expressions are also available for copying on the Expressions sheet of the planner.

B01 Single-stage approval

The basic pattern on which all other building blocks are based: A request is submitted, one party decides, the outcome is recorded in the request, and the requester is notified by email.

1 Status "Submitted" > 2 Take over request > 3 Request approval > 4 Apply the decision > 5 Run still valid? > 6 Status and email

When you need it

- As the starting point for every approval process
- On its own, when a single party decides, for example the front office for room bookings
- As the basis for multiple stages (B02), multiple approvers (B03), and all other building blocks

Prerequisites

- ✓ ApprovalRequests list with the columns marked "always" in chapter 05
- ✓ Status column with all values and the default value "Submitted"
- ✓ One approver for testing (email address)
- ✓ The account that owns the connections of the flow (service account, B10), approvals@contoso.com in the examples. Test manual changes with a different account.

The flow starts as soon as an item has the status "Submitted" and no review is running. It takes over the request: It sets the status to "In Review" so that its own changes do not trigger a new run, and it enters the ID of the run. It keeps the outcome of the approval in variables and writes it back in one step at the end. This separation makes it easy to add more stages later.

Between submission and completion, a lot can happen to the request: It is changed, withdrawn, or resubmitted, sometimes almost at the same time as a write by the flow. That is why the flow never writes without a condition. Before each write, it reads the request and checks whether it still belongs to this run. The write uses the state that was read as a condition: If the request has changed in the meantime, SharePoint rejects the write. This way, only the run whose ID is in the request writes, and only as long as nobody other than the service account has changed the request.

How to build it

1 Create the flow with a trigger

SHAREPOINT **When an item is created or modified**

Create an automated cloud flow, ideally in a solution right away (B10), and name it "Approval - Process Name". As the trigger, choose the SharePoint trigger for created or modified items.

Site Address	Your SharePoint site
List Name	ApprovalRequests

The trigger for created or modified items is important: Only this way can a request be resubmitted after a request for information (B07) or an error (B09).

2 Set the trigger condition

Open the trigger settings and, under "Trigger conditions", use "Add" to enter the following expression. The flow then starts only when the status is "Submitted" and "CurrentApprovers" is empty, that is, no review is running. All changes the flow makes itself set a different status and do not trigger a run.

TRIGGER CONDITION

```
@and(
    equals(triggerOutputs()?['body/Status/Value'], 'Submitted'),
    empty(triggerOutputs()?['body/CurrentApprovers'])
)
```

3 Create variables

VARIABLES **Initialize variable**

Directly below the trigger, create four variables of the type "String". Variables can only be created at the top level, not in scopes or conditions. That is why they are at the very top, even though B09 later puts the rest into a scope.

Approvers	Email address of the approver (from B04 on, the flow determines it)
Outcome	empty
DecidedBy	empty
Comment	empty

4 Read the request and its current state

SHAREPOINT **Send an HTTP request to SharePoint**

"Update item" always writes, even if the request changed a second earlier. The flow therefore writes with "Send an HTTP request to SharePoint". The action belongs to the SharePoint connector and is standard, unlike the premium HTTP connector. Every write to the request consists of three actions: Read, check, and write conditionally. Steps 4 to 6 show the pattern at the start, steps 9 and 10 at completion.

Name the action "State At Start". It reads the request together with its ETag, an identifier for the current version that changes whenever the item changes, and the person who last modified it.

Site Address	Your SharePoint site
Method	GET
Uri (URI)	see expression below
Headers (Header)	Accept with the value `application/json;odata=verbose`

URI · STATE AT START (ADJUST THE LIST NAME)

```
_api/web/lists/getbytitle('ApprovalRequests')/items(@{triggerOutputs()?['body/ID']})?
$select=Status,CurrentApprovers,RunId,Modified,OData__UIVersionString,Editor/EMail&$expand=Editor
```

The response body contains the data under "d", with columns identified by their internal names (chapter 05). The following expressions read these values, for example `body('State_At_Start')?['d']?['Status']`.

S2 Purchase requisition

Purchase requisitions are approved in up to three stages depending on the amount: Cost center, purchasing, and, at or above a high amount, executive management.

Anyone who wants to order something needs one or more approvals, depending on the amount. Without a fixed process, nobody knows where a requisition currently stands, and thresholds are interpreted differently.

The toolkit puts the responsibilities into the ApprovalRules list. This way, process owners change the approvers without touching the flow, and with the variant from B02 also the thresholds.

Building blocks

B01 Single-stage · B02 Multistage · B03 Parallel · B04 Approvers · B05 Deadlines · B08 Log · B09 Errors · B10 Operations

Trigger

New or modified item in the ApprovalRequests list with status "Submitted"

License

Standard connectors only - the Microsoft 365 license is enough (except in Managed Environments, chapter 08).

Stages and rules

Stage	Applies when	Approvers	Approval	Deadline
1	Always	Owners of the cost center (ApprovalRules)	First to respond	3 days, escalation to the division head
2	Amount of €5,000 or more	Purchasing (Microsoft 365 group)	First to respond	2 days, escalation to the head of purchasing
3	Amount of €25,000 or more	Executive management (two people)	Everyone must approve	5 days, without escalation

Additional columns

Column	Type	Purpose
`CostCenter`	Single line of text	Cost center to be charged (also create it in the ApprovalRules list)
`Supplier`	Single line of text	Name of the supplier
`Quote`	Link	Link to the quote, for example in a document library

How to put it together

1. Create the CostCenter, Supplier, and Quote columns in the ApprovalRequests list, and the CostCenter column also in the ApprovalRules list.
2. For each cost center, create a rule for stage 1, plus one rule each for stage 2 (amount of 5,000 or more) and stage 3 (amount of 25,000 or more).
3. Build the flow according to B01, then add stages 2 and 3 according to B02. The condition for stage 2 is an amount of €5,000 or more, for stage 3 an amount of €25,000 or more. If the thresholds should be stored only in the list, use the variant "Thresholds from the ApprovalRules list" from B02.

4. Read the approvers for each stage from the ApprovalRules list according to B04. For stage 1, the query filters by cost center instead of by amount (example below).
5. Stage 3 with "Approve/Reject - Everyone must approve" according to B03, so that both members of executive management must approve. This stage ends after the deadline without escalation (B05, variant "Deadline without escalation") - otherwise, a single response would be enough.
6. Deadlines and escalation according to B05 with the values from the table above - logging, error handling, and permissions according to B08 to B10.
7. Be sure to build the watcher flow from B10: It withdraws a request whose amount is changed during the review, and it resets an approved request after a change.

FILTER QUERY FOR STAGE 1 (GET ITEMS IN THE APPROVALRULES LIST)

```
Title eq 'PurchaseRequest' and Stage eq 1 and CostCenter eq '@{replace(coalesce(triggerOutputs()?['body/CostCenter'], ''), decodeUriComponent('%27'), decodeUriComponent('%27%27'))}'
```

Points to watch

- Define whether amounts are net or gross, and note it in the description of the Amount column. "€5,000 or more" means "greater than or equal to 5,000" in the flow.
- Splitting circumvents any threshold: Two requisitions of €4,900 each instead of one of €9,800. No flow solves this, but the log makes it visible.
- Without the watcher flow (B10), an amount can be changed during or after the approval. The version history shows it, but only when someone looks.
- If there is no rule for a cost center, the flow finds neither approvers nor a fallback approver, and the request ends with "Error" (B09). Therefore, always create the rules first for each new cost center.
- Text values in filter queries must double single quotation marks. For O'Brien, the filter contains O''Brien - the expression above takes care of this. Preserve the escaping when you copy the filter into the variant with thresholds from the list. Make the CostCenter column required so that no request is submitted without it.

Additional test cases

Test case	Expected
Amount exactly €5,000	An approval request is sent for stage 2.
Cost center without a rule	Status "Error" and a message to support (B09). After the rule is created, the request restarts with "Submitted".
Amount increased manually after the approval	The watcher flow resets the request to "Submitted", and the review starts again.
Amount changed during the review	The watcher flow withdraws the request, and the approvers are informed by email.
Cost center with an apostrophe, for example "O'Brien", with a matching rule	The rule is found, and the filter reports no error.

› Microsoft Learn: SharePoint connector