

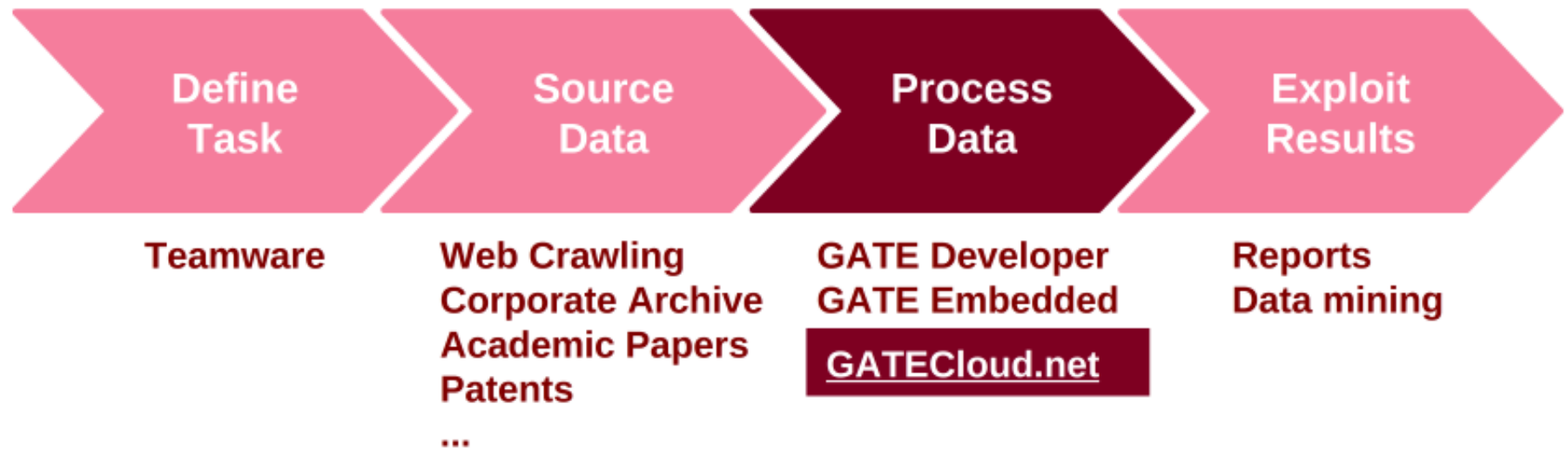


Module 4: Taking GATE to the Cloud

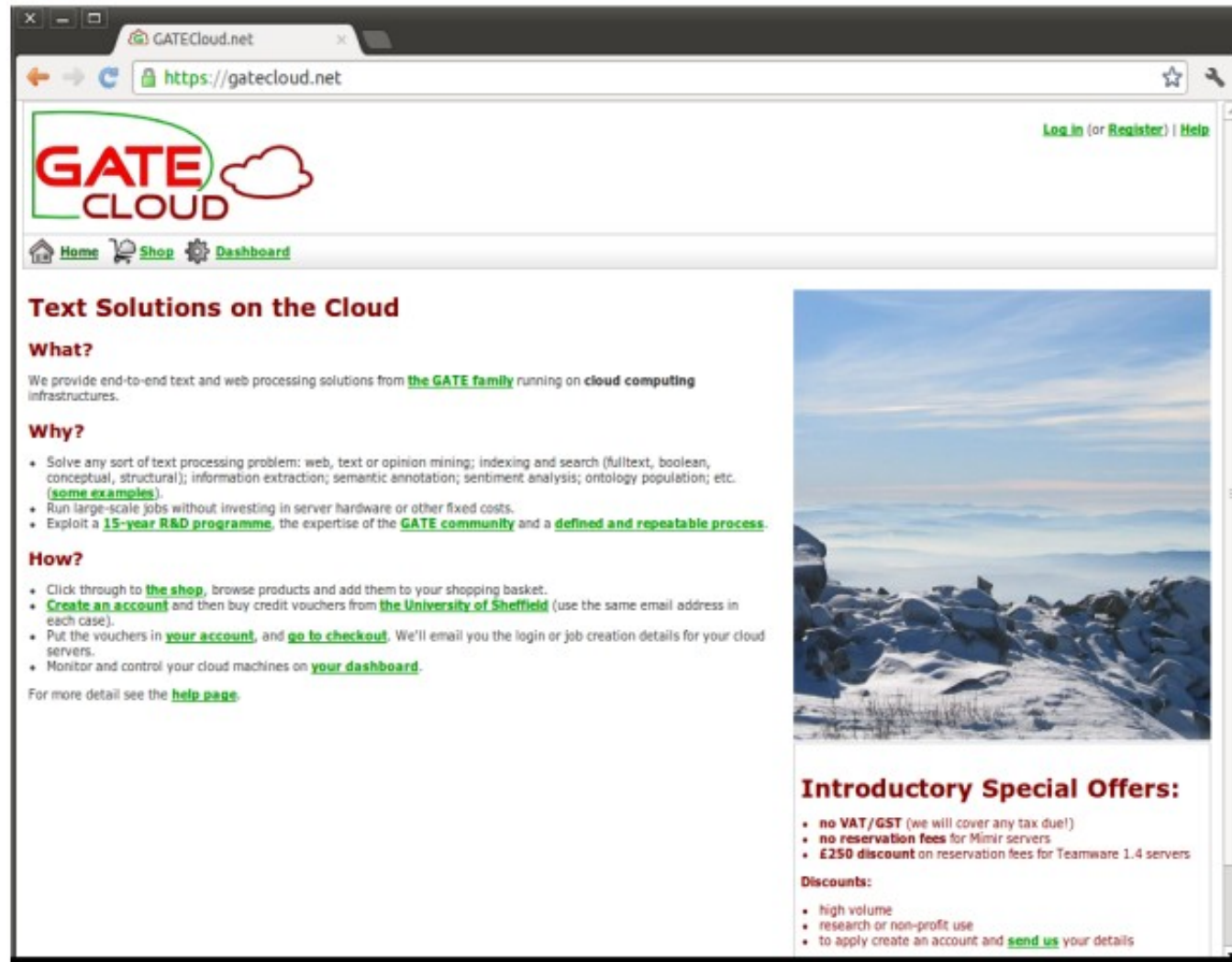
Part II: GATE Cloud

Text Mining Life Cycle

GATE



- A cloud based service from the GATE team
- Usual cloud benefits:
 - Pay-as-you-go, no upfront hardware costs
 - No sysadmin work
 - Web-based management tools
 - Always latest version, maintained by us
- Not-so-usual cloud benefits
 - Based on open-source software
 - Bring your own pipeline
 - No API required (all interaction is browser based)



The screenshot shows a web browser window with the URL https://gatecloud.net. The page features the GATE CLOUD logo, navigation links for Home, Shop, and Dashboard, and a main section titled "Text Solutions on the Cloud".

Text Solutions on the Cloud

What?

We provide end-to-end text and web processing solutions from [the GATE family](#) running on **cloud computing** infrastructures.


Why?

- Solve any sort of text processing problem: web, text or opinion mining; indexing and search (fulltext, boolean, conceptual, structural); information extraction; semantic annotation; sentiment analysis; ontology population; etc. ([some examples](#)).
- Run large-scale jobs without investing in server hardware or other fixed costs.
- Exploit a [15-year R&D programme](#), the expertise of the [GATE community](#) and a [defined and repeatable process](#).

How?

- Click through to [the shop](#), browse products and add them to your shopping basket.
- [Create an account](#) and then buy credit vouchers from [the University of Sheffield](#) (use the same email address in each case).
- Put the vouchers in [your account](#), and [go to checkout](#). We'll email you the login or job creation details for your cloud servers.
- Monitor and control your cloud machines on [your dashboard](#).

For more detail see the [help page](#).



Introductory Special Offers:

- **no VAT/GST** (we will cover any tax due!)
- **no reservation fees** for Mimir servers
- **£250 discount** on reservation fees for Teamware 1.4 servers

Discounts:

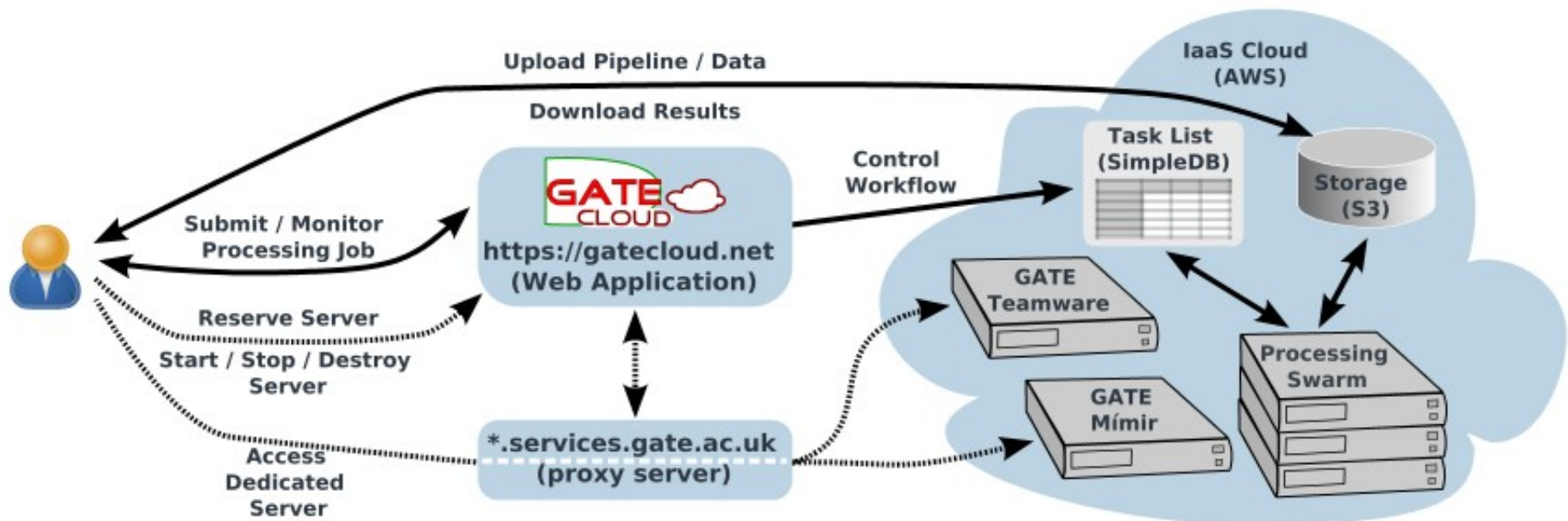
- high volume
- research or non-profit use
- to apply create an account and [send us](#) your details

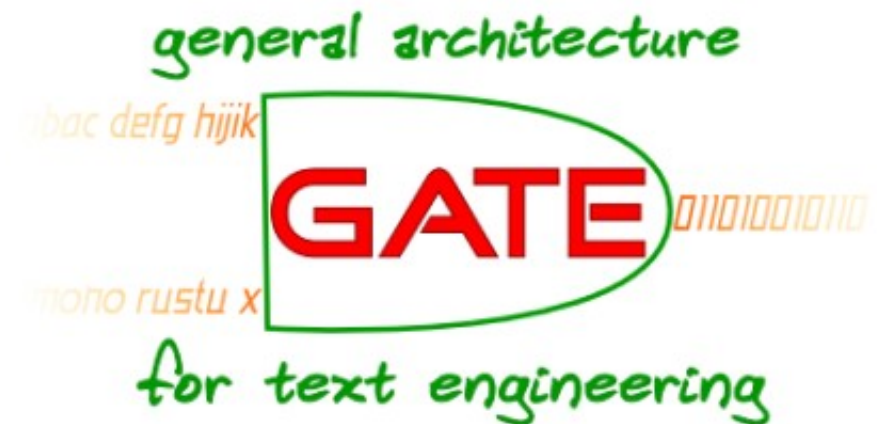
- On demand document processing (a.k.a. *Annotation Jobs*)
 - Massive parallelism
 - On-line job definition tool
 - Many output formats, including Mímir
- On demand servers
 - Teamware
 - Mímir

1. Bring your own documents
2. Bring your own pipeline (or use one of ours)
3. Automatically annotate the documents on a massively parallel infrastructure
 - Talk to us if you have special requirements
4. Use Teamware for pipeline fine-tuning and quality assurance
5. Use Mimir to power multi-paradigm search

System Architecture and Work-flow

GATE





Annotation Jobs

Large scale document annotation

- Parallel and distributed annotation of documents using GATE applications.
- Upload your own document archives (.zip, .tar.gz, .tar.bz2, .arc)
- Upload your own GATE pipeline, ...or use a pre-packaged one
- Download the outputs as .zip files, ...or send the annotated documents directly to Mimir for indexing

Annotation Jobs: Execution Environment

The logo for GATE (Global Architecture for Text Engineering) is displayed in the top right corner. It consists of the word "GATE" in a bold, red, sans-serif font, enclosed within a green, rounded rectangular border.

-
- Ubuntu Linux
 - 64 bit
 - SUN (Oracle) Java 1.6.0
 - 2 GB RAM / thread (on average)
 - GATE Embedded version 7.1
 - GATE Cloud Paralleliser version 2.3
 - Secure sandbox

Pick, Checkout, Buy

GATE

ANNNIE plus Measurem... x

https://gatecloud.net/shopfront/displayItem/8

BETA
GATE CLOUD

Valentin Tablan's account | Log out | Help

Home Shop Dashboard Basket (empty) Checkout

ANNNIE plus Measurements and Numbers (annotation service)

Upload your documents and run our pre-packaged named entity annotator with the Numbers and Measurements add-ons

£0.00 (plus £1.75 per hour) 1

Run ANNNIE named entity annotation with the **Numbers** and Measurements add-on, on the GATE Cloud

Annotate your documents on our servers using **ANNNIE** plus the **Numbers** and **Measurements** add-ons.

Features:

- **2GB RAM** per execution thread (on average)
- use the mature ANNNIE named entity recogniser
 - producing the typical ANNNIE annotations, such as *Person, Location, Organization, Date, Money, Address*, etc.
- also includes the **Numbers** add-on
 - produces Number annotations with normalised values
- also includes the **Measurements** add-on
 - produces Measurement annotations for scalar and interval measurements, covering **hundreds of measurement units**. Each measurement is annotated with a **normalised value and unit**.
- bring **your own documents** as .zip or .arc archives
- process any document format that GATE supports, including .txt, .html, .xml, .pdf.
- mix and match output formats, including GATE XML, inline XML, XCES
- send annotated documents directly to your Mimir server for indexing

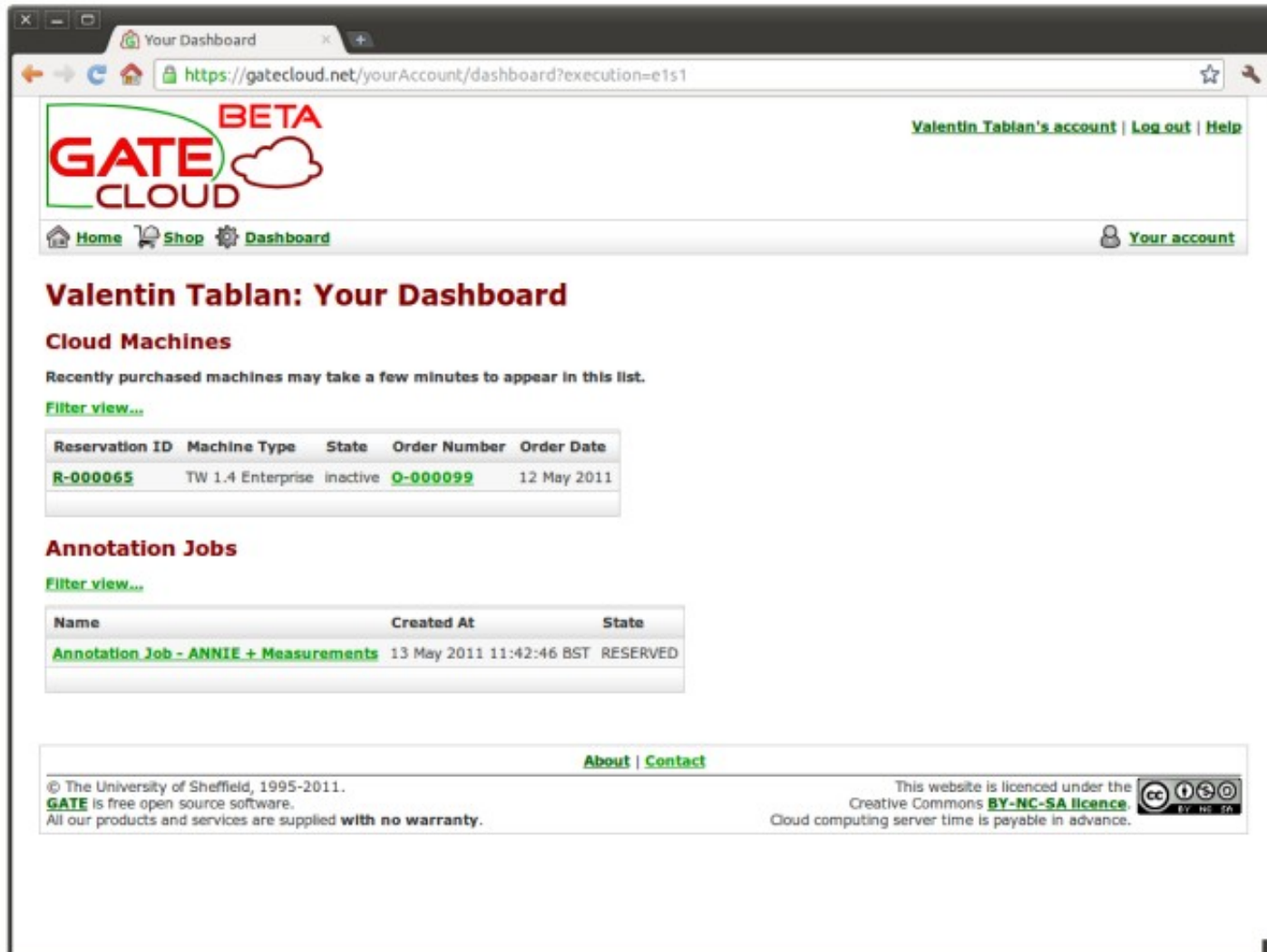
Usage is charged by the hour.

GATE Applications

- ANNNIE
- Language Resources
- Processing Resources
 - ANNE OrthoMatcher
 - ANNE NE Transducer
 - ANNE POS Tagger
 - ANNE Sentence Splitter
 - ANNE Gazetteer
 - ANNE English Tokeniser
 - Document Reset PR
- Databases

Add to basket

Your Dashboard



The screenshot shows a web browser window with the URL <https://gatecloud.net/yourAccount/dashboard?execution=e1s1>. The page features the GATE Cloud logo with a cloud icon and the word "BETA" in red. The user is logged in as "Valentin Tablan" and has links for "Log out" and "Help". A navigation bar includes "Home", "Shop", and "Dashboard" (the active page), along with a "Your account" link. The main content area is titled "Valentin Tablan: Your Dashboard" and contains two sections: "Cloud Machines" and "Annotation Jobs".

Cloud Machines

Recently purchased machines may take a few minutes to appear in this list.

[Filter view...](#)

Reservation ID	Machine Type	State	Order Number	Order Date
R-000065	TW 1.4 Enterprise	inactive	O-000099	12 May 2011

Annotation Jobs


[Filter view...](#)

Name	Created At	State
Annotation Job - ANNIE + Measurements	13 May 2011 11:42:46 BST	RESERVED

[About](#) | [Contact](#)

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Cloud computing server time is payable in advance.



Job Editor: Details

GATE

The screenshot shows a web browser window with the URL <https://gatecloud.net/jobManagement/jobDetails/103>. The page header includes the GATE Cloud logo with a 'BETA' tag and a user account for 'Valentin Tablan' with links for 'Log out' and 'Help'. A navigation bar contains 'Home', 'Shop', and 'Dashboard'.

Annotation Job "Annotation Job - ANNIE + Measurements"

Navigation tabs: **Details** | Inputs | Outputs | Execution Progress | Download Results | **Status**

Use this tab to specify details about your job.
The application for this job is predefined and cannot be changed.

Job Name: **Annotation Job - ANNIE + Measurements**

Application File: **ANNIE-Plus-Measurements-6.1.zip**

Job State: Job reserved but not yet defined.

ID: J-000103

UUID: 10c89416-7de6-4d73-bac5-ebfc0e1fde38

Date Created: 13 May 2011 11:42:46 BST

Status

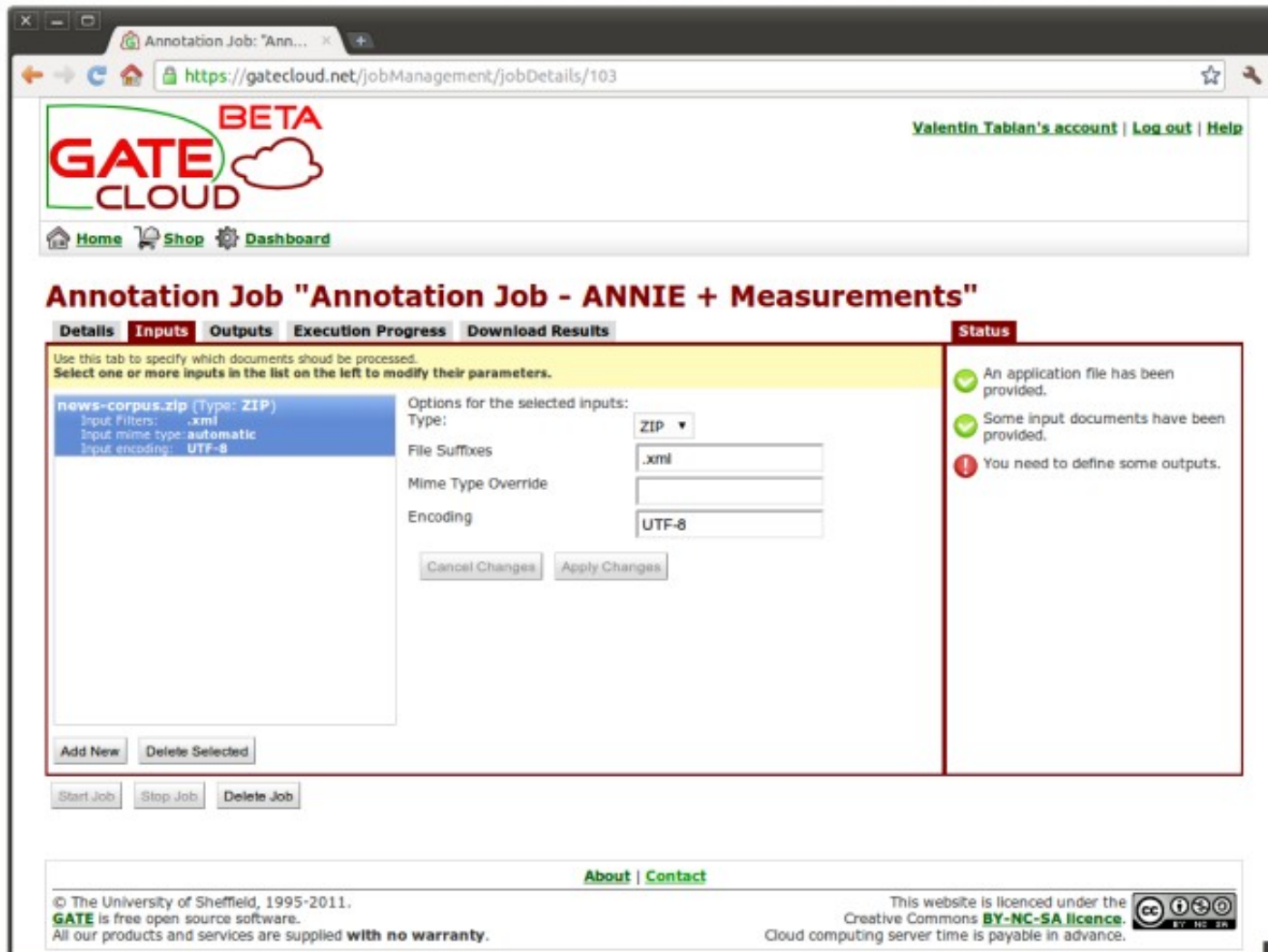
- An application file has been provided.
- You need to upload some input documents.
- You need to define some outputs.

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Job Editor: Inputs



The screenshot shows a web browser window with the URL <https://gatecloud.net/jobManagement/jobDetails/103>. The page header includes the GATE Cloud logo with a 'BETA' badge and navigation links for Home, Shop, and Dashboard. The user is logged in as 'Valentin Tablan'. The main content area is titled 'Annotation Job "Annotation Job - ANNIE + Measurements"' and has tabs for Details, Inputs, Outputs, Execution Progress, and Download Results. The 'Inputs' tab is active, displaying a list of inputs with 'news-corpus.zip' selected. A configuration panel for the selected input shows options for Type (ZIP), File Suffixes (.xml), Mime Type Override, and Encoding (UTF-8). A 'Status' panel on the right shows two green checkmarks for provided application and input files, and one red exclamation mark for missing outputs. At the bottom, there are links for 'About' and 'Contact', and a footer with copyright information and a Creative Commons license.

Job Editor: Outputs

GATE

The screenshot shows the GATE Cloud web interface for editing an annotation job. The browser address bar shows <https://gatecloud.net/jobManagement/jobDetails/103>. The page title is "Annotation Job 'Annotation Job - ANNIE + Measurements'". The interface has several tabs: "Details", "Inputs", "Outputs" (selected), "Execution Progress", and "Download Results". A "Status" tab is also visible on the right.

Annotations List:

Annotation Set	Annotation Type
GATE_XML: \${filename}-gate.xml	Person
[Default]	Location
[Default]	Organization
[Default]	Measurement
MIMIR: http://lp-10-230-31-156.eu-west	Person
[Default]	Location
[Default]	Organization
[Default]	Measurement
[Default]	Money
[Default]	Date
[Default]	Ratio
[Default]	Sentence
XCES: \${filename}-measurements.xml	Measurement
[Default]	Measurement

Details for the selected output:

Type: MIMIR
Index URL: http://lp-10-230-31-156.eu-west
Username: [input field]
Password: [input field]

Output filters (which annotations should be saved):

Annotation Set:	Annotation Type:	Action
[Default]	Person	Delete
[Default]	Location	Delete
[Default]	Organization	Delete
[Default]	Measurement	Delete
[Default]	Money	Delete
[Default]	Date	Delete

Status:

- ✓ An application file has been provided.
- ✓ Some input documents have been provided.
- ✓ Some outputs have been defined.

Buttons: Add New, Delete Selected, Start Job, Stop Job, Delete Job.

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Job Editor: Progress

GATE

The screenshot displays the GATE Cloud web interface for an annotation job. The browser address bar shows the URL <https://gatecloud.net/jobManagement/jobDetails/103>. The page header includes the GATE Cloud logo with a 'BETA' tag and a cloud icon, along with user information for 'Valentin Tablan's account' and links for 'Log out' and 'Help'. Navigation links for 'Home', 'Shop', and 'Dashboard' are also present.

Annotation Job "Annotation Job - ANNIE + Measurements"

Navigation tabs: **Details** | Inputs | Outputs | **Execution Progress** | Download Results | **Status**

On this tab you can review the execution progress of your job.
No need to refresh: the execution log is **refreshed automatically**.

Job progress: 17%

Execution Log

Time	Message
2011 May 13 17:48:38 UTC+1	Task 'split' completed with an exit status of 'success', execution time: 1 minute 3 seconds.
2011 May 13 17:43:07 UTC+1	Job started
2011 May 13 11:42:46 UTC+1	Job purchased.

Status

✓ The job has been started.

Buttons: Start Job | Stop Job | Delete Job

Footer: [About](#) | [Contact](#)
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Job Editor: Done!

GATE

The screenshot displays the GATE Cloud web interface for an annotation job. The browser address bar shows the URL <https://gatecloud.net/jobManagement/jobDetails/103>. The page header includes the GATE Cloud logo with a 'BETA' badge, the user name 'Valentin Tablan's account', and links for 'Log out' and 'Help'. A navigation bar contains 'Home', 'Shop', and 'Dashboard'.

Annotation Job "Annotation Job - ANNIE + Measurements"

Navigation tabs: **Details** | Inputs | Outputs | **Execution Progress** | Download Results | Status

On this tab you can review the execution progress of your job.
No need to refresh: the execution log is **refreshed automatically**.

Job progress: 100%

Time	Message
2011 May 13 18:14:43 UTC+1	Task 'join' completed with an exit status of 'success', execution time: 2 seconds.
2011 May 13 18:14:43 UTC+1	Job completed.
2011 May 13 18:13:42 UTC+1	Task 'gcp' completed with an exit status of 'success', successful documents: 326, failed documents: 0, execution time: 1 minute 31 seconds.
2011 May 13 18:12:42 UTC+1	Task 'gcp' completed with an exit status of 'success', successful documents: 3998, failed documents: 0, execution time: 11 minutes 19 seconds.
2011 May 13 18:01:41 UTC+1	Task 'gcp' completed with an exit status of 'success', successful documents: 3930, failed documents: 0, execution time: 11 minutes 57 seconds.
2011 May 13 17:48:38 UTC+1	Task 'split' completed with an exit status of 'success', execution time: 1 minute 3 seconds.
2011 May 13 17:43:07 UTC+1	Job started

Buttons:

Footer: [About](#) | [Contact](#)
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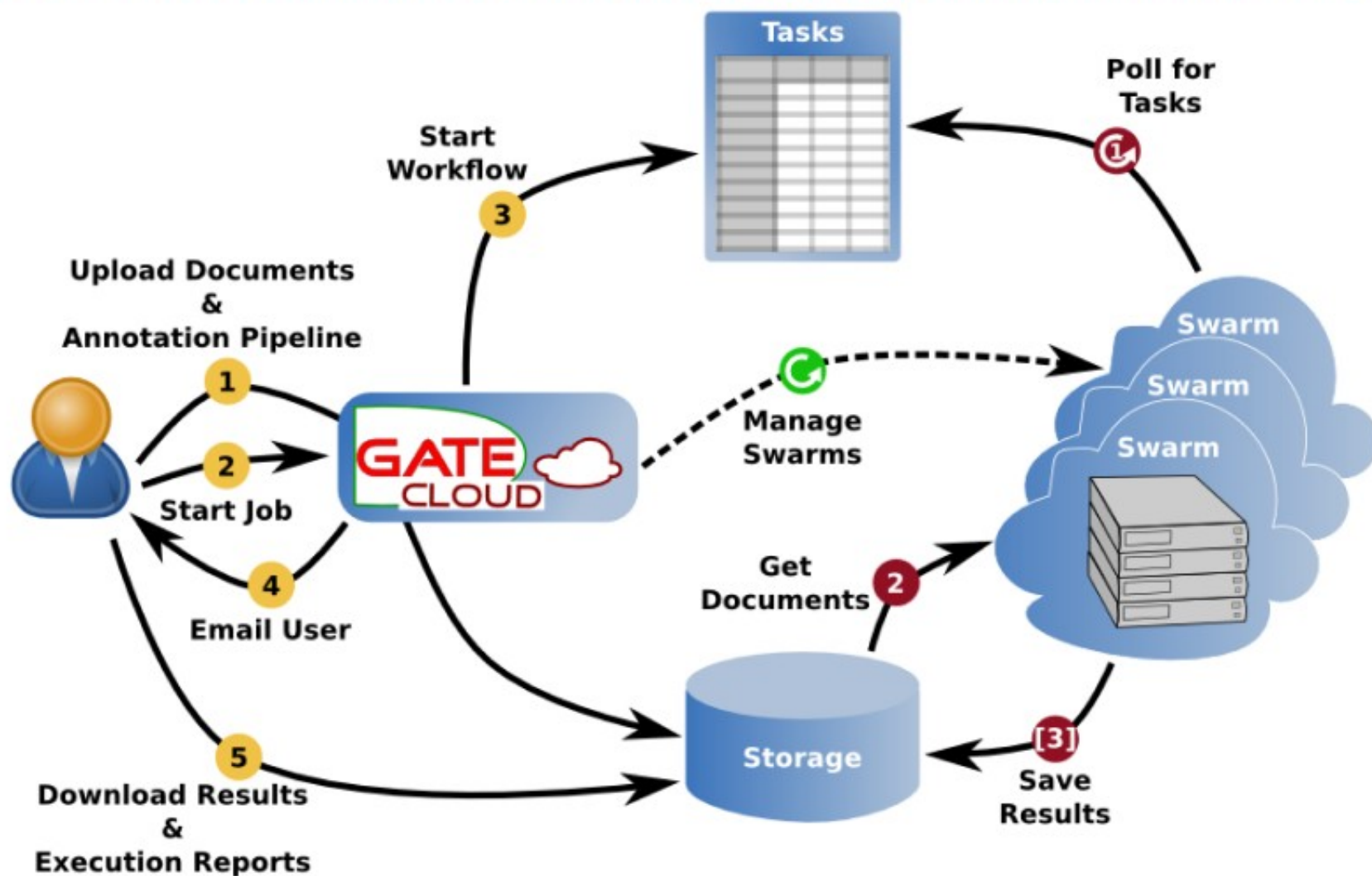
Job Editor: Results

GATE

The screenshot displays a web browser window with the URL <https://gatecloud.net/jobManagement/jobDetails/103>. The page features the GATE Cloud logo with a 'BETA' badge and a cloud icon. A navigation bar includes links for Home, Shop, and Dashboard. The main content area is titled 'Annotation Job "Annotation Job - ANNIE + Measurements"'. Below the title are tabs for Details, Inputs, Outputs, Execution Progress, Download Results, and Status. The 'Download Results' tab is active, showing a message: 'On this tab you can download the results of your job, after the execution completes. This annotation job has finished running; download your results using the links below.' Below this message are three download links: [report.html](#), [bbcnews-20110419.tar.gz-part001-out.zip](#), [bbcnews-20110419.tar.gz-part002-out.zip](#), and [bbcnews-20110419.tar.gz-part003-out.zip](#). The 'Status' tab shows a green checkmark and the text 'The job has finished running.' At the bottom of the page, there are buttons for 'Start Job', 'Stop Job', and 'Delete Job', and a footer with 'About | Contact' and copyright information.

Running an Annotation Job

GATE



Hands on: Create your own account

The logo for GATE, consisting of the word "GATE" in red, uppercase letters, enclosed within a green, rounded rectangular border.

- Navigate to <http://gatecloud.net>
- Create a new account
 - Make sure to use a valid email address that you can access!
- Use the voucher you received to add some funds to the account.
- Visit your account page and check your balance.

Hands on: Run the ANNIE pipeline

- Choose the pre-packaged ANNIE pipeline
- Use `news-corpus-small.zip` as input
- Output to GATE XML format
 - from the default annotation set
 - with all annotation types included
- Download the annotated documents, and inspect them using GATE Developer.
- Look at the execution reports.

Extra Hands on: Run your custom pipeline

- In GATE Developer:
 - modify the ANNIE pipeline to also annotate 'payments', e.g. `{Person}({Token})[0,5]{Money}`
 - Export the modified pipeline for GATECloud.net
- On GATECloud.net
 - Create a new custom annotation job
 - Upload [news-corpus-small.zip](#) as input
 - Upload the modified pipeline
 - Output to XCES format, from the default annotation set, including only `{Person}`, `{Money}`, `{Payment}`
- Download the annotated documents, and inspect them using a text editor.
- Look at the execution reports.



Severs (Machines)

Rent ready-made GATE-based virtual servers.

Create a new Machine Reservation

- A new data volume is created and reserved for you.
- A new machine appears on your dashboard.
- You pay the one-off price.
- The reservation is in the '*inactive*' state.

Start an Instance

Start-up a virtual server (a.k.a. Instance) based on a reservation.

- The reserved server is started and you can use it like any other server.
- You pay the hourly price for as long as the server is running.
- Your reservation is now *'active'*

Stop a Running Instance

Stop the running instance

- The started server is shut down.
- You stop paying hourly charges.
- Your reservation is once again *'inactive'*.

Create a backup

Make a copy of your data volume.

- You can only do that while the reservation is *'inactive'*.
- You can restore this backup back onto your data volume whenever you want.
 - Doing so overwrites the current state of the data volume.

Destroy a Machine Reservation

Destroy all data associated with the reservation.

- The equivalent to destroying an actual server.
- Your data volume and all the backups are deleted.
- This cannot be undone.

Making a Reservation:

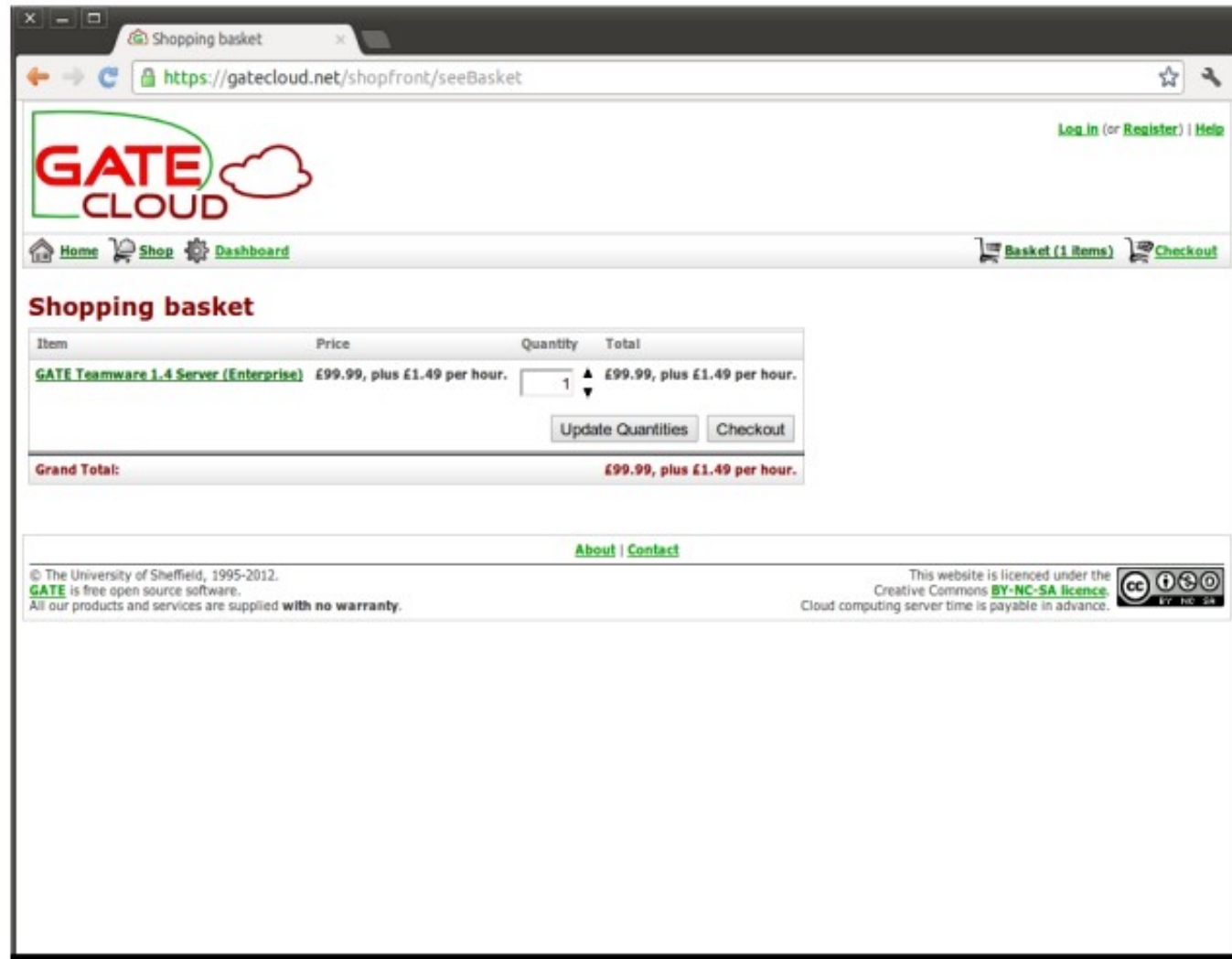
1) Find Required Server

GATE

The screenshot shows a web browser window with the URL <https://gatecloud.net/shopfront/displayItem/9>. The page features the GATE Cloud logo with a 'BETA' badge and navigation links for Home, Shop, and Dashboard. A shopping basket icon shows 1 item, and a Checkout button is visible. The main product is 'GATE Teamware 1.4 Server (Enterprise)', described as a 'Web-based collaborative corpus and document annotation tool'. The price is listed as £349.99 (reduced from £99.99) plus £1.49 per hour. The product description includes features: 20 GB data partition, five backups, and 64 bit installation. A preview of the GATE Teamware interface is shown, including a 'Welcome' message and a list of links: Open Annotation Editor, Edit Profile, Projects, My Tasks (1), and Group Tasks (0). The page footer contains copyright information for The University of Sheffield (1995-2011) and a license notice.

Making a Reservation:

2) Add to Basket



The screenshot shows a web browser window with the URL <https://gatecloud.net/shopfront/seeBasket>. The page features the GATE CLOUD logo and navigation links for Home, Shop, and Dashboard. The shopping basket contains one item: GATE Teamware 1.4 Server (Enterprise) priced at £99.99, plus £1.49 per hour. The quantity is set to 1. The grand total is £99.99, plus £1.49 per hour. The page also includes a footer with copyright information and a Creative Commons license.

Shopping basket

[Home](#) [Shop](#) [Dashboard](#) [Basket \(1 Items\)](#) [Checkout](#)

Shopping basket

Item	Price	Quantity	Total
GATE Teamware 1.4 Server (Enterprise)	£99.99, plus £1.49 per hour.	<input type="text" value="1"/>	£99.99, plus £1.49 per hour.


[Update Quantities](#) [Checkout](#)

Grand Total: £99.99, plus £1.49 per hour.

[About](#) | [Contact](#)

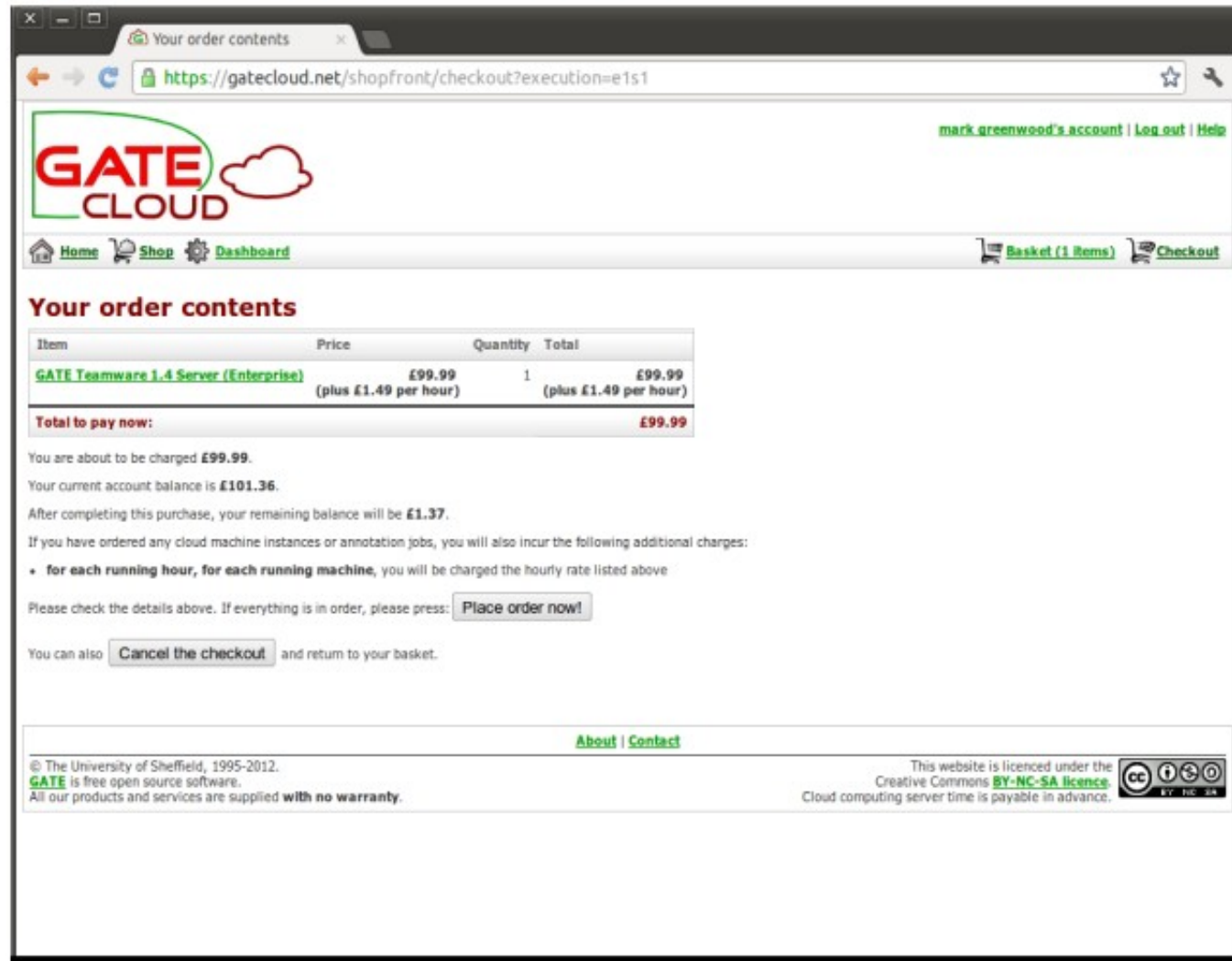
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Cloud computing server time is payable in advance.



Making a Reservation:

3) Checkout



The screenshot shows a web browser window with the URL <https://gatecloud.net/shopfront/checkout?execution=e1s1>. The page header includes the GATE CLOUD logo, a user account link for 'mark_greenwood's account', and navigation links for Home, Shop, and Dashboard. A shopping basket icon shows 'Basket (1 Items)' and a Checkout button.

Your order contents

Item	Price	Quantity	Total
GATE Teamware 1.4 Server (Enterprise)	£99.99 (plus £1.49 per hour)	1	£99.99 (plus £1.49 per hour)
Total to pay now:			£99.99

You are about to be charged **£99.99**.
Your current account balance is **£101.36**.
After completing this purchase, your remaining balance will be **£1.37**.

If you have ordered any cloud machine instances or annotation jobs, you will also incur the following additional charges:

- **for each running hour, for each running machine**, you will be charged the hourly rate listed above


Please check the details above. If everything is in order, please press:

You can also and return to your basket.

[About](#) | [Contact](#)

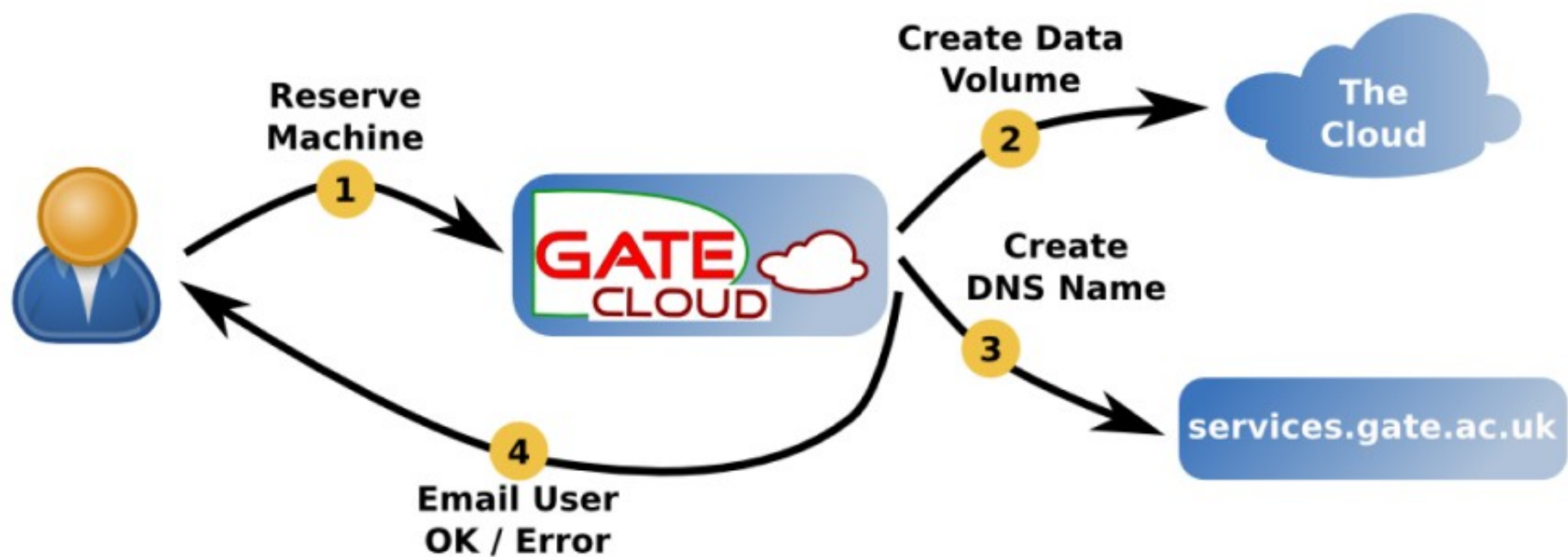
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Reserving a Server

GATE



Your Dashboard

GATE

The screenshot shows a web browser window with the URL <https://gatecloud.net/yourAccount/dashboard?execution=e1s1>. The page features the GATE Cloud logo with a 'BETA' badge and a cloud icon. The user's name, 'Valentin Tablan', is displayed in the top right corner along with links for 'Log out' and 'Help'. A navigation bar includes 'Home', 'Shop', and 'Dashboard' (the active page), and a 'Your account' link with a user icon. The main content area is titled 'Valentin Tablan: Your Dashboard' and contains two sections: 'Cloud Machines' and 'Annotation Jobs'. The 'Cloud Machines' section includes a note about recently purchased machines and a table with one entry. The 'Annotation Jobs' section has a 'Filter view...' link and an empty table. The footer contains copyright information, a Creative Commons license, and a disclaimer.

Valentin Tablan: Your Dashboard

Cloud Machines

Recently purchased machines may take a few minutes to appear in this list.

[Filter view...](#)

Reservation ID	Machine Type	State	Order Number	Order Date
R-000065	TW 1.4 Enterprise	inactive	O-000099	12 May 2011

Annotation Jobs

[Filter view...](#)

Name	Created At	State
------	------------	-------

[About](#) | [Contact](#)

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Your Machine Reservation

GATE

The screenshot shows a web browser window with the URL <https://gatecloud.net/yourAccount/machineReservationDetails/65>. The page title is "Machine Reservation R-000065".

Machine Reservation R-000065

ID	R-000065	Destroy Reservation
Machine type	GATE Teamware 1.4 Server (Enterprise)	
Hourly price	£1.49	
State	inactive	Start Instance
Instance ready	no	

Backups

Slot 1	<empty>	Create new backup
Slot 2	<empty>	Create new backup
Slot 3	<empty>	Create new backup
Slot 4	<empty>	Create new backup
Slot 5	<empty>	Create new backup

Reservation Details:

URL1:	https://twe-havaaw1sjs.services.gate.ac.uk/teamware/executive/
Admin account name:	admin
Admin account password2:	██████████

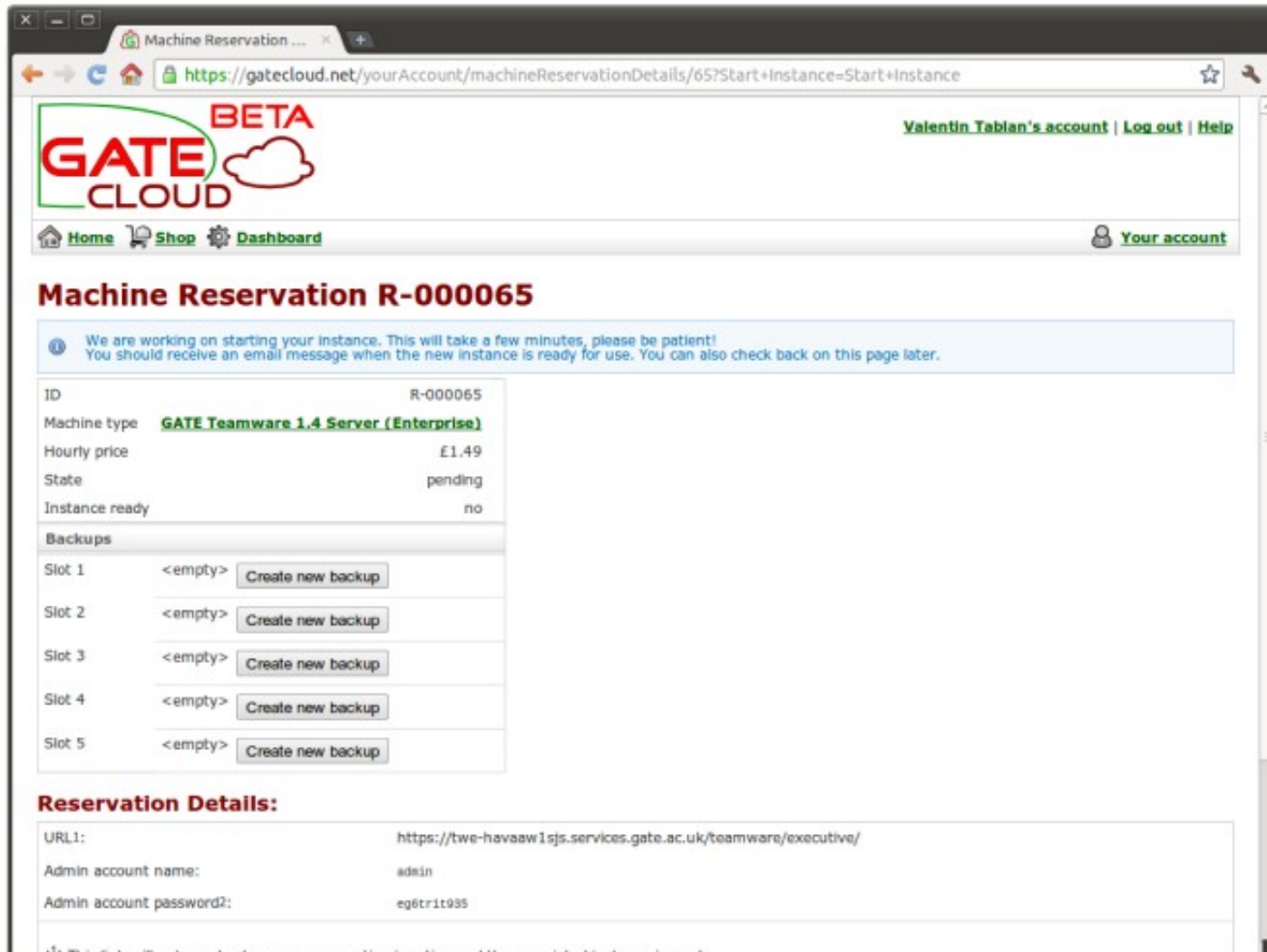
⁽¹⁾ This link will only work when your reservation is active and the associated instance is ready.

⁽²⁾ This password is the value that was generated and used when the reservation was originally made. If you have changed the password for the admin account in the mean time, then please use the new value that you set yourself. We do not have access to the new password, so we cannot display it here. If you have lost the password, please [contact us](#) and we can reset it for you.

Starting a Server:

1) Press Start

GATE



The screenshot shows a web browser window with the URL <https://gatecloud.net/yourAccount/machineReservationDetails/65?Start+Instance=Start+Instance>. The page header includes the GATE Cloud logo (with a 'BETA' tag), the user's account name 'Valentin Tablan's account', and links for 'Log out' and 'Help'. A navigation bar contains 'Home', 'Shop', and 'Dashboard' links, along with a 'Your account' profile icon.

Machine Reservation R-000065

ⓘ We are working on starting your instance. This will take a few minutes, please be patient!
You should receive an email message when the new instance is ready for use. You can also check back on this page later.

ID	R-000065
Machine type	GATE Teamware 1.4 Server (Enterprise)
Hourly price	£1.49
State	pending
Instance ready	no

Backups

Slot 1	<empty>	Create new backup
Slot 2	<empty>	Create new backup
Slot 3	<empty>	Create new backup
Slot 4	<empty>	Create new backup
Slot 5	<empty>	Create new backup

Reservation Details:

URL1:	https://twe-havaaw1sjs.services.gate.ac.uk/teamware/executive/
Admin account name:	admin
Admin account password2:	eg6tr1t935

2) Wait for the Email (or refresh the page)

GATE

The screenshot shows a web browser window displaying the GATE Cloud interface. The page title is "Machine Reservation R-000065". The browser address bar shows the URL: <https://gatecloud.net/yourAccount/machineReservationDetails/65?Start+Instance=Start+Instance>. The GATE Cloud logo is in the top left, and the user's account name "Valentin Tablan's account" is in the top right. The page features a navigation menu with "Home", "Shop", and "Dashboard".

Machine Reservation R-000065

ID	R-000065
Machine type	GATE Teamware 1.4 Server (Enterprise)
Hourly price	£1.49
State	active <input type="button" value="Stop Instance"/>
Instance ready	yes

Backups

Slot 1	<empty>	<input type="button" value="Create new backup"/>
Slot 2	<empty>	<input type="button" value="Create new backup"/>
Slot 3	<empty>	<input type="button" value="Create new backup"/>
Slot 4	<empty>	<input type="button" value="Create new backup"/>
Slot 5	<empty>	<input type="button" value="Create new backup"/>

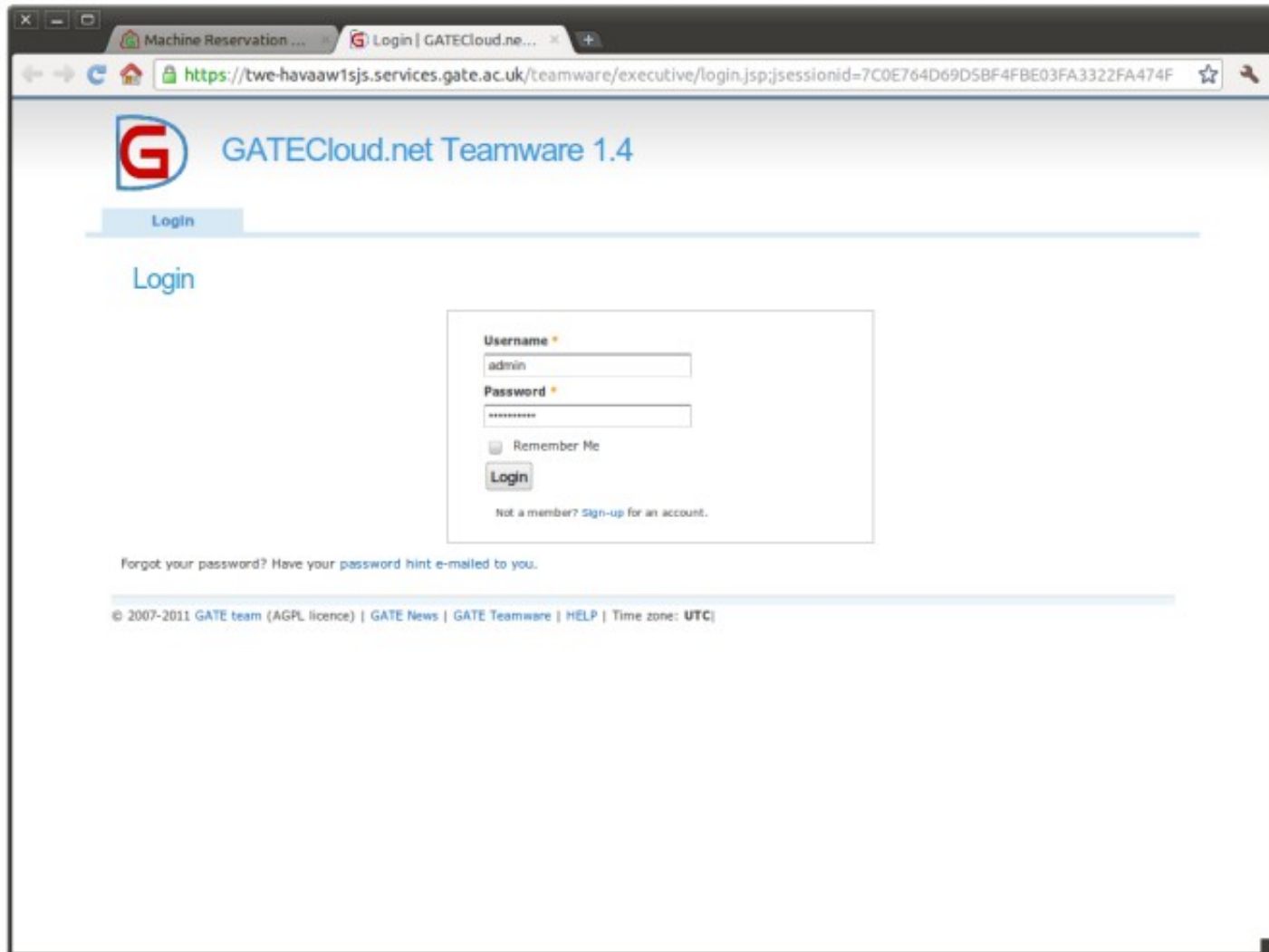
Reservation Details:

URL1:	https://twe-havaaw1sis.services.gate.ac.uk/teamware/executive/
Admin account name:	admin
Admin account password2:	██████████

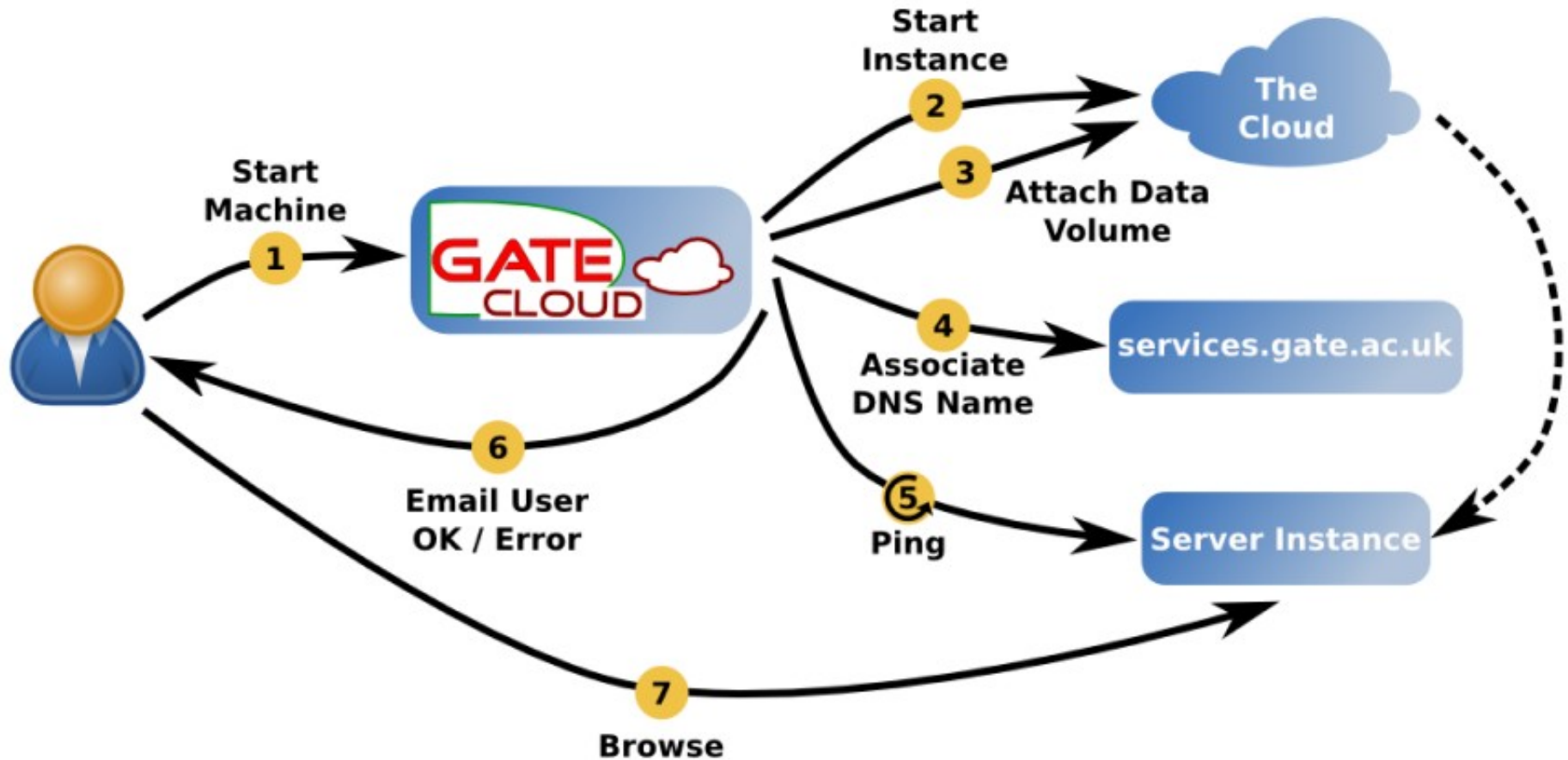
⁽¹⁾ This link will only work when your reservation is active and the associated instance is ready.
⁽²⁾ This password is the value that was generated and used when the reservation was originally made. If you have changed the password for the admin account in the

3) There is no “3”: Your Server is Ready

GATE



Starting a Server



Questions?

The logo for GATE, consisting of the word "GATE" in red, bold, uppercase letters, enclosed within a green, rounded rectangular border.

<http://gate.ac.uk>

<http://gatecloud.net>